

SILURIAN TIMES

NEWSLETTER OF
THE INTERNATIONAL SUBCOMMISSION ON SILURIAN STRATIGRAPHY (ISSS)
(INTERNATIONAL COMMISSION ON STRATIGRAPHY, ICS)

No. 26 (*for* 2018)

Edited by ZHAN Renbin



INTERNATIONAL UNION OF GEOLOGICAL SCIENCES

President: CHENG Qiuming (Canada)

Vice-Presidents: Kristine ASCH (Germany)

William CAVAZZA (Italy)

Secretary General: Stanley C. FINNEY (USA)

Treasurer: Hiroshi KITAZATO (Japan)

INTERNATIONAL COMMISSION ON STRATIGRAPHY

Chairman: David A.T. HARPER (UK)

Vice-Chairman: Brian T. HUBER (USA)

Secretary General: Philip GIBBARD (UK)

SUBCOMMISSION ON SILURIAN STRATIGRAPHY

Chairman: Petr ŠTORCH (Czech Republic)

Vice-Chairman: Carlo CORRADINI (Italy)

Secretary: ZHAN Renbin (China)

Other titular members:

Anna ANTOSHKINA (Russia)

Carlton E. BRETT (USA)

Bradley CRAMER (USA)

David HOLLOWAY (Australia)

Jisuo JIN (Canada)

Anna KOZŁOWSKA (Poland)

Jiří KRÍŽ (Czech Republic)

David K. LOYDELL (UK)

Peep MÄNNIK (Estonia)

Michael J. MELCHIN (Canada)

Axel MUNNECKE (Germany)

Silvio PERALTA (Argentina)

Thijs VANDENBROUCKE (Belgium)

WANG Yi (China)

Živilė ŽIGAITĖ (Lithuania)

Silurian Subcommission website: <http://silurian.stratigraphy.org>

CONTENTS

CHAIRMAN'S CORNER	3
ANNUAL REPORT OF SILURIAN SUBCOMMISSION FOR 2018	6
INTERNATIONAL COMMISSION ON STRATIGRAPHY	
STATUTES	14
REPORTS OF ACTIVITIES IN 2018	24
1. Report from the Base of the Aeronian GSSP Restudy Working Group	24
2. Report from the Base of the Wenlock GSSP Restudy Working Group	24
3. Report on the post congress field excursion associated with International Sedimentological Congress	24
4. Report on the 8 th International Brachiopod Congress	26
GUIDELINES FOR THE ISSS AWARD: KOREN' AWARD	28
ANNOUNCEMENTS OF MEETINGS and ACTIVITIES	29
1. STRATI 2019-Scientific Program: Guidelines for the Convenors	29
2. 15 th International Symposium on Early and Lower Vertebrates	30
SILURIAN RESEARCH 2018: NEWS FROM THE MEMBERS	36
RECENT PUBLICATIONS ON THE SILURIAN RESEARCH	69
MEMBERSHIP NEWS	80
1. List of all Silurian workers and interested colleagues	80
2. Brief introduction of new Silurian workers	85
3. Condolence to Dr. Joanne Kluessendorf	88

Cover photo

Group photo of the preconference field excursion to eastern Spain of the 8th International Brachiopod Congress (Milano Italy, September 2018) led by Prof. Fernando Garc ía Joral (Complutense University of Madrid), Prof. Enrique Villas (University of Zaragoza), and Prof. José Francisco Baeza-Carratalá (University of Alicante). Delegates were in the courtyard of a traditional house in Eastern Iberian Chain before they went to visit the Ordovician and Silurian rocks and fossils in that area (guided by Enrique).

Silurian Times 26 for 2018 distributed March 2019

Copyright © IUGS 2019

SILURIAN TIMES Number 26 (for 2018)

CHAIRMAN'S CORNER

Dear Silurian Colleagues,

There was no major activity of the ISSS in 2018 but an important business meeting will be held soon in Milano at 3rd International Congress on Stratigraphy (STRATI 2019) **in July 2–5**. ISSS voting and corresponding members are sincerely encouraged to participate on this business meeting and thematic scientific session entitled „A Silurian odyssey towards advanced stratigraphy and correlation“ and devoted to all aspects of Silurian stratigraphy, including a focus on our recent efforts to establish new GSSPs for some of the Silurian Stages and Series.

Until the ISSS business meeting in Milano, our three respective working groups for base Aeronian, base Telychian and base Sheinwoodian GSSPs should submit more official proposals for potential GSSPs. Unfortunately, it is not going to happen with respect to the present state of art. I have to point out that, according to Ogg *et al.* (2016), „A majority of international stage boundaries (GSSPs) should be established by 2020 when a major comprehensive update of the Geologic Time Scale should be published in collaboration with Elsevier Publishing. Time has been passing quickly and our Subcommission did not follow its own plans. We planned to vote on proposed new Aeronian and Telychian GSSPs in 2019. Along with current work on the Aeronian, Telychian and Sheinwoodian GSSPs, any advances in the work on other problematic boundaries (Sheinwoodian/Homerian and Homerian/Gorstian) would also be welcomed.

A working group for the base of the Aeronian Stage has been the most active one. First formal proposal – the Hlášná Třebaň Section in the Barrandian area of the Czech Republic was published in Lethaia (Štorch *et al.*, 2018) being followed by a comprehensive study on high-resolution stratigraphy, palaeobiogeography, proposed anagenetic changes and speciation events in the lower Aeronian monograptids of the genus *Demirastrites* (Štorch and Melchin, 2018). FAD of *Demirastrites triangulatus* is the most appropriate marker indicating base of the Aeronian Stage. Further field work conducted by Fan Junxuan *et al.* continued on Yuxian section in Sichuan province of China. Work on formal proposal is in progress. Preliminary report on classic Rheidol Gorge section in Wales, U.K. was presented by Melchin *et al.* (2016) and results of the study of chitinozoan faunas and biostratigraphy were presented by De Weirdt *et al.* (2017). Formal proposal of the Rheidol Gorge as an Aeronian GSSP candidate section is still under preparation.

The working group for base Telychian GSSP is working with two candidate sections: Bajiaomiao section in Hubei province of China and El Pintado Reservoir section in Seville province of Spain. Work on the former section is in progress, the latter one was described by Loydell *et al.* (2015) with major focus on Aeronian/Telychian boundary and lower Telychian part of the succession. Aeronian part of the section will be presented to the ISSS in the frame of Silurian thematic session at STRATI 2019. No formal GSSP proposal has

been submitted till now.

The least advanced is the work on new base Sheinwoodian GSSP. The only section studied in detail, the Banwy River section in Wales described by Loydell and Cave (1996), would be bad option due to submarine slide in the upper Telychian, intermittent fossil record, extreme rarity of proposed marker graptolite (*Cyrt. murchisoni*) and poor access to the section which is frequently under water. Two other Welsh sections with the potential to be a replacement GSSP: the Trannon River section and a track section in the Dyfnant Forest will need a considerable amount of work before we know their potential. Some research on a possible candidate section in Shaanxi, China, continued as well.

Therefore, the forthcoming ISSS business meeting will have to discuss somewhat insufficient activity of the subcommission. I have rarely obtained any feedback from our corresponding members. Many times my message returned as undeliverable. After all, I deleted most of the defunct addresses. Please, check the e-mail address list at the end of the annual report (p. 10) and add, correct or replace your email address if needed. I would greatly appreciate this help which will also indicate your willingness to participate on present and future activities of the subcommission. We also need to improve and update our web page. Dr. Huang Bing who was kind enough to make ad-hoc updates of the web page does not have access code any more.

I would like to encourage members of the Silurian executive and ISSS corresponding members for their suggestions regarding other topics to be on the agenda of the ISSS business meeting in Milano.

Could we find volunteers willing to organize next Silurian Symposium in a new region with Silurian outcrops less well known to present active ISSS members?

Please, send me your suggestions and proposals in this matter **until May 31**. Be sure that your official proposals for next ISSS meeting(s) would be much appreciated.

Last but not least, I wish to thank vice-chair Carlo Corradini and secretary Zhan Renbin for their collaboration. Also Renbin's hard work on Silurian Times is much appreciated.

References:

- De Weirdt, J., Vandenbroucke, T.R.A., Cocq, J., Russel, C., Davies, J.R., Melchin M.J., Zalasiewicz, J. and Williams, M. 2017. Chitinozoans from the Rheidol Gorge Section, Central Wales, UK: a GSSP replacement candidate for the Rhuddanian/Aeronian boundary. Palaeontological Association Annual Meeting 2017: Programme and Abstracts. Palaeontological Association Annual Meeting, London, United Kingdom.
- Loydell, D.K. and Cave, R. 1996. The Llandovery-Wenlock boundary and related Stratigraphy in eastern mid-Wales with special reference to the Banwy River section. *Newsletters in Stratigraphy*, 34, 1, 39–64.
- Loydell, D.K., Frýda J. and Gutiérrez-Marco, J.C. 2015. The Aeronian/Telychian (Llandovery, Silurian) boundary, with particular reference to sections around the El Pintado reservoir, Seville Province, Spain. *Bulletin of Geosciences*, 90(4), 743–794.
- Melchin, M.J., Boom, A., Davies, J.R., De Weirdt, J., McIntyre, A.J., Morgan, G., Phillips, S., Russell, C., Vandenbroucke, T.R.A., Williams, M. and Zalasiewicz, J.A. 2016.

- Integrated stratigraphic study of the Rhuddanian-Aeronian (Llandovery, Silurian) boundary succession at Rheidol Gorge, Wales. *In*: Gurderbeke, P., De Weirtdt, J., Vandenbroucke, T.R.A. and Cramer, B.D. (eds), International Geoscience Programme Project 591 – Closing Meeting, The Early to Mid Palaeozoic Revolution“, Ghent 6–9 July 2016. Abstracts, pp- 60-61.
- Ogg, J.G., Ogg, G. and Gradstein, F.M. 2016. A Concise Geologic Time Scale. Elsevier, 240pp.
- Štorch, P. and Melchin, M.J. 2018. Lower Aeronian triangulate monograptids of the genus *Demirastrites* Eisel, 1912: biostratigraphy, palaeobiogeography, anagenetic changes and speciation. *Bulletin of Geosciences*, 93(4), 513–537.
- Štorch, P., Manda, Š., Tasáryová Z., Frýda, J., Chadimová L. and Melchin, M.J. 2018. A proposed new global stratotype for Aeronian Stage of the Silurian System: Hlášná Třebaň section, Czech Republic. *Lethaia*, 51(3), 357–388.

Petr Štorch

Chair, International Subcommittee on Silurian Stratigraphy



International Commission on Stratigraphy

Subcommission on Silurian Stratigraphy

ANNUAL REPORT 2018

1. TITLE OF CONSTITUENT BODY and NAME OF REPORTER

Subcommission on Silurian Stratigraphy (ISSS)

Submitted by:

Petr Štorch, *Chair, ISSS*

Department of Palaeobiology and Stratigraphy

Institute of Geology of the Czech Academy of Sciences

Rozvojov á269, Prague, CZ 165 00, Czech Republic

Tel.: +420-233-087-261

Email: storch@gli.cas.cz

2. OVERALL OBJECTIVES AND FIT WITHIN IUGS SCIENCE POLICY

Mission statement

The objectives of the Subcommission relate to three main aspects of IUGS policy:

- (1) The development of an internationally agreed scale of chronostratigraphic units, fully defined by GSSPs at Series and Stage levels and related to a hierarchy of units (Substages, Standard Zones, Subzones etc.) to maximize relative time resolution within the Silurian Period;
- (2) Establishment of frameworks and mechanisms to encourage international collaboration in understanding the evolution of the Earth during the Silurian Period;
- (3) Working towards an international policy concerning conservation of geologically important sites (such as GSSPs, global and regional stratotype sections, *etc.*).

Goals

- Rationalization of Global chronostratigraphical classification
- Intercalibration of fossil biostratigraphies, integrated zonations, and recognition of global datums.

- Establishment of magneto- and chemo-stratigraphic scales
- Redefinition of stage boundaries and restudy of global boundary stratotype sections
- Correlation of Silurian rock successions and events, including marine and non-marine
- Application of astronomically tuned cyclostratigraphy integrated with radiometric data and biostratigraphy

3. ORGANISATION-interface with other international projects / groups

Organisation

The ISSS is a Subcommission of the International Commission on Stratigraphy. The Subcommission is organized by an Executive consisting of Chairman, Vice-Chairman and Secretary, who are all Voting Members of the Subcommission. In the Subcommission elected for 2016-2020 there are fifteen other Voting Members. Broad network of Corresponding Members has first of all a responsibility for communication in both directions between the Subcommission and researchers on Silurian topics in their region. Secondly they represent a broad spectrum of specialized stratigraphical disciplines from those countries or regions where Silurian rocks are extensively studied in relation to fundamental and/or applied geological research.

Current research activities and future plans are communicated through publication of the annual ISSS newsletter, *Silurian Times*, distributed by both email attachment and as a web release.

Website: <http://silurian.stratigraphy.org/> contains newsletters, meeting announcements, discussion posting-boards, bibliography of Silurian articles, links to related sites, and other information.

Interface with other international projects / groups

IGCP project no. 652 “Reading geologic time in Paleozoic sedimentary rocks” submitted by Anne-Christine da Silva received unequivocal support from the ISSS. The Subcommission is convinced that broad application of astronomically tuned cyclostratigraphy, combined with radiometric dating and integrated with high-resolution stratigraphy, will lead to substantial improvement of the existing Paleozoic time scale.

Collaboration continues with stratigraphically neighbouring subcommissions on Ordovician (ISOS) and Devonian (SDS) stratigraphy, as documented by numerous international conferences organized in conjunction with the two bodies (Conferences in Lund 2013, Kunming 2014, Ghent 2016, Valencia 2017). The meeting in Valencia joined 4th International Conodont Symposium and SDS annual meeting.

Nominated Officers for 2016-2020:

Chair: **Petr Štorch**

Vice-Chair: **Carlo Corradini**

Secretary: **Zhan Renbin**

4. EXTENT OF NATIONAL/REGIONAL/GLOBAL SUPPORT FROM SOURCES OTHER THAN IUGS

National/regional support has been provided to active members of Aeronian, Telychian and Wenlock GSSP working groups to facilitate their work.

5. CHIEF ACCOMPLISHMENTS IN 2018 (including any publications arising from ICS working groups)

Silurian Times No 25 was edited by the secretary, Renbin Zhan, and distributed in March, 2018, posted on the web site for the ISSS, and circulated as an email attachment to all titular, corresponding and interested members of the Subcommittee. It contained the reports on previous meetings, announcements of upcoming meetings and publications, and the latest news and recent publications on Silurian research.

Work continued on the restudy of several potential GSSP candidate sections for the Base of Aeronian (Yuxian section, China; Hlasna Treban section, Czech Republic and Rheidol Gorge section, UK and base of the Telychian (Bajiaomiao section, China and El Pintado Reservoir section, Spain):

Formal proposal of the Hlasna Treban section for new Aeronian GSSP was published (Štorch *et al.* 2018). Detailed study on morphology, systematics and evolution of *Demirastrites triangulatus* (proposed Rh/Ae boundary marker species) and related graptolites was submitted by Štorch and Melchin for publication in Bulletin of Geosciences. Report on chitinozoan biostratigraphy and fauna is currently in preparation by A. Butcher.

The restudy of the Rheidol Gorge section is nearly complete and full paper presenting the proposal of Rheidol Gorge as a candidate section for the base of the Aeronian Stage is currently in preparation. Results of the study of the chitinozoan faunas and biostratigraphy was presented by De Weirdt *et al.* (2017) and preliminary report on the overall results was published by Melchin *et al.* (2018).

Final reports including biostratigraphical, geochemical and geochronological data on the base of Aeronian at the Yuxian section and base of Telychian at the Bajiaomiao section, China by Junxuan Fan *et al.* are in preparation.

Štorch, P., Manda, Š., Tásáryová Z., Frýda, J., Chadimová L. and Melchin, M.J. 2018. A proposed new global stratotype for Aeronian Stage of the Silurian System: Hlásná Třebaň section, Czech Republic. *Lethaia* 51, 3, 357-388. DOI: 11.1111/let.12250.

Štorch, P. and Melchin, M.J. (submitted). Lower Aeronian triangulate monograptids of the genus *Demirastrites* Eisel, 1912: biostratigraphy, palaeobiogeography, anagenetic changes and speciation. *Bulletin of Geosciences*

De Weirdt, J., Vandenbroucke, T.R.A., Cocq, J., Russel, C., Davies, J.R., Melchin M.J., Zalasiewicz, J., and Williams, M. 2017. Chitinozoans from the Rheidol Gorge Section, Central Wales, UK: a GSSP replacement candidate for the Rhuddanian/Aeronian boundary. *Palaeontological Association Annual Meeting 2017:*

Programme and Abstracts. Palaeontological Association Annual Meeting, London, United Kingdom.

Melchin, M.J., Davies, J.R., De Weirdt, J., Russell, C., Vandenbroucke, T.R.A. and Zalasiewicz, J.A. 2018. *Integrated stratigraphic study of the Rhuddanian-Aeronian (Llandovery, Silurian) boundary succession at Rheidol Gorge, Wales: a preliminary report*. Nottingham, UK, British Geological Survey, 16 pp. (OR/18/139)

6. SUMMARY OF EXPENDITURE IN 2018:

Expenditures	0
<u>Total</u>	<u>0</u>

7. SUMMARY OF INCOME IN 2018:

Carried forward from 2017	US\$ 5,250
ICS Allocation	US\$ 0
<u>Total</u>	<u>US\$ 5,250</u>
<hr/>	
<u>Balance</u> (carried forward from 2018)	<u>US\$ 5,250</u>

8. BUDGET REQUESTED FROM ICS IN 2019

Requested ICS Allocation (see attached document)	US\$ 3,000
--	------------

9. WORK PLAN, CRITICAL MILESTONES, ANTICIPATED RESULTS AND COMMUNICATIONS TO BE ACHIEVED NEXT YEAR

- Three ISSS groups working on restudy of the base of the Aeronian GSSP, base of the Telychian GSSP and base of the Wenlock GSSP will continue their study of remaining candidate sections in Yuxian, China (Junxuan Fan *et al.*, Aeronian GSSP); Bajiaomiao, China (Junxuan Fan *et al.*, GSSP of the Telychian stage); El Pintado Reservoir, Spain (David Loydell *et al.*, Telychian GSSP) and presumably also Trannon River section and Dyfnant Forest track section, Wales (David Loydell *et al.*, GSSP of the base of the Wenlock Series). Further submissions of formal GSSP proposals are anticipated for early 2019.
- New results will be discussed within a special session „Silurian odyssey towards advanced Stratigraphy and correlation“ and ISSS Business meeting at 3rd International Congress on Stratigraphy (STRATI 2019) in Milano.
- Further update of the website for Silurian Subcommittee by Mr. Hou Xudong. We gratefully acknowledge the support of the Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences for this work.

Potential funding sources external to IUGS

Most of the costs of preparing Silurian Times and research activities of the working groups will be met by local support from host institutions and participation by individuals through national research grants and travel grants from their own authorities.

10. OBJECTIVES AND WORK PLAN FOR NEXT 4 YEARS (2016-2020)

- Principal work will be devoted to GSSP-related research activities – restudy of some previously ratified but currently inadequate basal stratotypes. Research on Aeronian and Telychian GSSP candidates will be completed within this time span and new stratotypes will be chosen. We aimed to vote on these candidate sections in 2019 in Milano but the date is questioned at present by delayed work on some of the candidate sections. Homerian working group will be established. Restudy of the Homerian GSSP will join the program, along with further study on other potential sections suitable for new GSSP of the Wenlock Series.
- Application of astronomically tuned cyclostratigraphy integrated with radiometric data and high-resolution biostratigraphy in conjunction with IGCP no 652 “Reading geologic time in Paleozoic sedimentary rocks”.
- We will work on further development of databases that would bring together and make available information from all sources associated with the Silurian researchers. One such database, operated by the Nanjing Institute of Geology and Palaeontology (Geobiodiversity Database, GBDB), has been named as the official database of the ICS.
- Special session entitled “Silurian odyssey towards advanced stratigraphy and correlation” and ISSS annual business meeting will be held at 3rd International Congress on Stratigraphy “STRATI 2019” in Milano, Italy in July 2-5, 2019. This session will be focussed on GSSP-related research. Vote on new Aeronian stratotype is planned as a principal program point of the ISSS Business meeting.

APPENDIX (Names and Addresses of Current Officers and Voting Members)

Nominated officers

Petr Štorch, *Chair*

Department of Palaeobiology and Stratigraphy
Institute of Geology of the Czech Academy of Sciences
Rozvojov 269, Prague, CZ 165 00, Czech Republic
Tel.: +420-233-087-261
Email: storch@gli.cas.cz

Carlo Corradini, *Vice-Chair*

Dipartimento di Scienze Chimiche e Geologiche

Università di Cagliari
via Trentino 51, I- 09127, Cagliari, Italy
Tel.: +39-070-6757744
Email.: corradin@unica.it

Zhan Renbin, *Secretary*
Nanjing Institute of geology and Paleontology
Chinese Academy of Sciences
39 East Beijing Road, Nanjing, 210008, China
Tel.: +86-2583282132, 2583282196
Email: rbzhan@nigpas.ac.cn

List of Voting Members

Anna I. Antoshkina
Institute of Geology, Komi Science Centre, Ural Division
Russian Academy of Sciences
54 Pervomaiskaya str.
167 982, Syktyvkar, Komi Republic, Russia
Tel.: 8212-425-353
Email: Antoshkina@geo.komisc.ru

Carlton E. Brett
Department of Geology
University of Cincinnati
345 Clifton Court, Cincinnati, OH 45221-0013, Ohio, USA
Tel.: 513-556-4556
Email: carlton.brett@uc.edu

Bradley D. Cramer
Department of Earth and Environmental Sciences
University of Iowa
Iowa City, 52242 Iowa, USA
Tel.: 319-335-0704
Email: bradley-cramer@uiowa.edu

David Holloway
Museum Victoria
P.O.Box 666E, Melbourne, Victoria 3001, Australia
Tel.: +61-3-9270-5041
Email: dhollow@museum.vic.gov.au

Jin Jisuo
Department of Earth Sciences
University of Western Ontario
1151 Richmond Street N., London, Ontario N6A 5B7, Canada
Tel.: 519-661-2111
Email: jjin@uwo.ca

Anna Kozłowska

Institut of Paleobiology
Polish Academy of Sciences
51/55 Twarda, 00-818, Warszawa, Poland
Tel.: +48-22-6978872
Email: akd@twarda.pan.pl

Jiří Kříž

Department of Regional Geology of Sedimentary Formations
Czech Geological Survey
Klášov 3, Praha 1, CZ 118 21, Czech Republic
Email: jiri.kriz@geology.cz

David K. Loydell

School of Earth and Environmental Sciences
University of Portsmouth
Burnaby Road, Portsmouth PO1 3QL, UK
Tel.: 023-92-842-698
Email: david.loydell@port.ac.uk

Peep Männik

Institute of Geology
Tallinn University of Technology
Ehitajate tee 5, Tallinn 19086, Estonia
Tel.: +372-6-454-189
Email: mannik@gi.ee

Michael J. Melchin

Department of Earth Sciences
St. Francis Xavier University
Antigonish, Nova Scotia B2G 2W5, Canada
Tel.: +1-902-867-5177
Email: mmelchin@stfx.ca

Axel Munnecke

GeoZentrum Nordbayern
University of Erlangen-Nürnberg
Loewenichstrasse 28, 91054 Erlangen, Germany
Tel.: +49-09131-85-26957
Email: axel.munnecke@gzn.uni-erlangen.de

Silvio H. Peralta

Instituto de Geología, CONICET
Universidad Nacional San Juan
Avda. Ignacio de la Roza y calle Meglioli, 5400, Rivadavia, San Juan, Argentina
Tel.: 0264-4265103
Email: speralta@unsj-cuim.edu.ar

Thijs Vandenbroucke

Department of Geology

Ghent University
Krijgslaan 281/ S8, BE-9000, Ghent, Belgium
Tel.: 09-264-4515
Email: Thijs.Vandenbroucke@UGent.be

Wang Yi
Nanjing Institute of geology and Paleontology
Chinese Academy of Sciences
39 East Beijing Road, Nanjing, 210008, China
Email: yiwang@nigpas.ac.cn

Živilė Žigaitė
Department of Organismal Biology
Uppsala University
Norbyvägen 18A, 752 36 Uppsala, Sweden
Email: zivile.zigaite@ebc.uu.se

Working group leaders

Base of Aeronian GSSP Restudy Working Group
Leader Petr Štorch

Base of Telychian GSSP Restudy Working Group
Leader Michael J. Melchin

Base of Wenlock GSSP Restudy Working Group
Leader David K. Loydell

by Petr Štorch
Chair, International Subcommission on Silurian Stratigraphy



INTERNATIONAL COMMISSION ON STRATIGRAPHY

(ICS)

STATUTES 2017

CONTENTS

1. Preamble and Definitions
2. Purpose and Objectives
3. Organisation
4. Executive Committee
5. Subcommissions
6. *Ad Hoc* Committees
7. Task Groups
8. Establishment and Dissolution of Constituent Bodies
9. Terms of Office, Elections and Voting
10. Professional Behaviour
11. Ratifications
12. Meetings
13. Annual Reports
14. ICS Website as an Official Archive
15. Geobiodiversity Database
16. Entry into Force and Amendments to Statutes

1. PREAMBLE AND DEFINITIONS

The International Commission on Stratigraphy (ICS) is a permanent commission of the International Union of Geological Sciences (IUGS). The IUGS was founded in Paris on 10 March 1961 and is a member of the International Council of Scientific Unions (ICSU).

The organisational bodies referred to in the statutes are defined as follows:

a. The Executive Committee of ICS comprises two elected officers (Chair, Vice-Chair) and a Secretary General (appointed by the Chair) and two, non-voting, appointed officers (Informatics Officer and Graphics Officer) responsible for the objectives, purpose and daily operation of the commission.

b. Subcommissions of ICS are organisational bodies with specific, long-term scientific tasks and are managed by a chair, a secretary and one or two vice-chairs.

c. The governing and voting body of ICS is the officers of the Executive Committee and the chairs of each of the Subcommissions, and is hereafter named the Voting Commission.

d. *Ad Hoc* Committees of ICS are organisational bodies with a specific short-term, non-scientific task, such as overseeing procedure, nomination, voting regulation, or *ad hoc* organisation. Such committees normally consist of a chair and two other members, and are appointed by the Executive Committee, or the management team of a Subcommission.

e. Task (or Working) Groups of ICS are organisational bodies for limited, short-term scientific tasks. Each Task Group addresses a single task; for example, one task can be selecting and defining a stratigraphic boundary stratotype, and another task may be consideration of abandonment of an existing stage and selecting a new one. The chair and secretary of a Task Group are selected either by the Executive Committee, or the management team of the relevant Subcommission.

f. The International Geological Congress, hereinafter referred to as IGC, is determined by the IUGS and by the IUGS statutes. IGC is the quadrennial congress of geological scientists sponsored by IUGS, and organised by an autonomous committee established by the host country or countries.

g. The International Congress on Stratigraphy is sponsored by ICS and will be held every four years. Proposals for future Congresses, which are held during the IGC inter-congress period, are invited by the ICS Executive Committee, which also selects the venue from the proposals received at least two years prior to the proposed event.

2. PURPOSE AND OBJECTIVES

ICS is a body of expert stratigraphers founded for the purpose of promoting and coordinating long-term international cooperation and establishing and maintaining standards in stratigraphy.

Its principal objectives are:

(a) the establishment, publication and revision of the ICS International Chronostratigraphic Chart which is the standard, reference global Geological Time Scale to include the ratified Commission decisions,

(b) the compilation and maintenance of a stratigraphic database centre for the global Earth Sciences,

(c) the unification of regional chronostratigraphic nomenclature by organising and documenting stratigraphic units on a global database,

(d) the promotion of education in stratigraphic methods, and the dissemination of stratigraphic knowledge,

(e) the evaluation of new stratigraphic methods and their integration into a multidisciplinary stratigraphy, and

(f) the definition of principles of stratigraphic classification, terminology and procedure and their publication in guides and glossaries.

The scientific activities shall be carried out through projects or meetings arranged in collaboration with IUGS-affiliated organisations, IUGS-joint programmes, non-governmental bodies and inter-governmental bodies.

3. ORGANISATION

ICS is managed by the Executive Committee.

ICS is organised into Subcommissions, which have longer-term scientific goals. In addition, ICS may create short-term *Ad Hoc* Committees and short-term Task Groups for specific advice and purpose (cf. also 1e and 1f). The chairs of the Subcommissions and the members of the Executive Committee together form the Voting Commission of ICS that votes on the formal decisions.

4. EXECUTIVE COMMITTEE

The voting officers of the Executive Committee shall be the Chair, a Vice-Chair and the Secretary General. The past chair will ordinarily become consultant ex-officio member of the Executive Committee. All officers serve in an individual capacity. The other officers shall serve as advisors to the Chair and assist him/her in the performance of his/her duties. The Chair and Secretary General are responsible for its daily operation, in accordance with these statutes. The ICS Executive Committee appoints two positions of special service to ICS: the Informatics Officer and the Graphics Officer. These appointments are for 4-year terms that coincide with those of the Executive officers and are renewable.

4.1. Chair

The Chair shall be the chief executive officer of ICS. He/she shall be responsible for the management of its activities within the scope of the authority delegated to him/her by IUGS. He/she shall solicit the advice of the Voting Commission, when necessary, for the administration of ICS and consult with it on matters of major policy and scientific programmes either by correspondence or by meetings.

4.2. Vice-Chair

The Vice-Chair shall serve as chair for the remainder of the term of office if the position of chair should become vacant. The Vice-Chair assists the chairperson with his/her regular duties, activities and work, and in particular oversees stratigraphic standardisation.

4.3. Secretary General

The Secretary General is appointed by the chair of the Executive Committee, and shall assist the chair in his/her administrative and scientific work, and keeps the financial account. He/she shall record the minutes of meetings and organises the votes within the Voting Commission.

4.4. Past Chair

The past chair will ordinarily serve as consultant ex-officio member of the Executive Committee for the four-year period following his/her chair period.

4.5. Informatics Officer

The Informatics Officer is appointed by the Executive Committee and shall manage the ICS website and the ICS-linked stratigraphic database and maintain the ICS archives on the ICS website. As appropriate, the Informatics Officer will provide advice and help to subcommissions developing websites. The position is non-voting and is renewable after each 4-year term with approval of the Executive Committee.

4.6. Graphics Officer

The Graphics Officer is appointed by the Executive Committee and shall design the ICS International Chronostratigraphic Chart, updates and translations of the ICS Chart and designs appropriate for a variety of products. The position is non-voting and is renewable after each 4-year term with approval of the Executive Committee.

5. SUBCOMMISSIONS

Subcommissions of ICS are organisational bodies with specific, longer-term scientific tasks such as the standardisation of stratigraphic units, the documentation and communication of major stratigraphic data to the global earth-science community, and international stratigraphic cooperation. Subcommissions organise ballots (cf. section 9) of their voting members to decide critical scientific issues and subsequently inform the ICS Executive Committee of the result.

5.1. Composition

Each Subcommission shall be managed by a chair and a secretary. One or two vice-chairs may also be elected. Subcommissions report to the Executive Committee, and may be terminated if they become inactive or seriously ineffective, as indicated, for example, by lack of submission of annual reports, failure to respond to ICS communications, and/or show no action for longer than one year.

The voting membership of the Subcommission consists of its management team together with up to twenty members, and is referred to as the Voting Subcommission. Up to twenty voting members shall represent regional and methodological diversity in an appropriate manner. Membership may be terminated if a voting member fails to participate for 6 months or more in the work of the subcommission, and/or does not respond during this time to communications from its chair. Membership may also be terminated for conduct judged to be unprofessional by the ICS Executive Committee in consultation with the Subcommission chair or his/her deputy, as judged appropriate (cf. section 10).

Subcommissions may appoint a reasonable number of corresponding members to advise voting members in achieving the assigned scientific tasks, e.g. participating in boundary working groups. The corresponding membership shall reflect regional and methodological diversity in an appropriate manner.

5.2. Officers

The Chair shall be the leader of the Subcommission. He/she is responsible for the execution of agreed-upon scientific goals and the preparation and the contents of annual scientific and financial reports of the Subcommission. In consultation with the voting members of the Subcommission, he/she shall establish work plans and operating budget requests for the following year.

The Vice-Chair shall serve as chair when the position of chair should become vacant.

The Secretary is appointed by the Chair of the Subcommission, and shall assist the chair with scientific and administrative duties, and is responsible for the organisation of votes within the Subcommission.

5.3. Results

The progress and results of subcommissions are annually reviewed by the Executive Committee. The Executive Committee may dissolve a Subcommission upon completion of

its entrusted mandate or if the Subcommission is inactive. A Subcommission is considered inactive when it no longer elects executive officers, submits annual reports or no longer responds to communications and ballots from the Executive Committee. The decision on dissolution requires consent from IUGS.

5.4. Other Bodies

Subcommissions may appoint such Task Groups (cf. section 7), regional committees or other *ad hoc* groups, which they consider necessary to fulfill their scientific tasks. These bodies report to the chair of the respective Subcommission.

Subcommissions which are responsible for system or lower ranks of the ICS International Chronostratigraphic Chart shall establish Task (or Working) Groups for the purpose of defining the basal boundaries of component chronostratigraphical/geochronological units, if such boundaries have not previously been defined. Boundary stratotypes are sought to the level of stages, but not at lower chronostratigraphical ranks.

6. AD HOC COMMITTEES

Ad Hoc Committees of ICS are organisational bodies with specific short-term, non-scientific tasks, such as overseeing procedure, nomination, voting regulation, and/or *ad hoc* organisation.

Committees normally consist of a chair and two other members, and are appointed by the Executive Committee, or the management of a Subcommission of ICS.

The organisation of an *Ad Hoc* Committee is related to its tasks, and is subject to approval by the ICS body that appointed it.

7. TASK (or WORKING) GROUPS

Task or Working Groups are organisational bodies for limited, short-term stratigraphic tasks. Task Groups are generally organised under individual Subcommissions, but the Executive Committee also may appoint Task Groups for specific tasks that relate to its activities and responsibilities. Commonly, a Task Group is created for the selection and definition of the lower boundaries of chronostratigraphical/geochronological units. Task Groups may also be created for the purpose of replacing and/or selecting new boundary definitions, stage units or other stratigraphical units. Each Task Group will have a single scientific task.

7.1. Task Groups

Task Groups have a four (4) year task that may be extended for additional four (4) year terms as appropriate, depending on sufficient progress with their entrusted task. If, after the eight (8) year allotted period, there is a need to continue, the task group should be dissolved and then reconvened at the discretion of the Subcommission Chair.

7.2. Officers and Members

Officers of a Task Group are the leader, and where deemed appropriate, a secretary. These officers are selected either by the Executive Committee, or by the management of Subcommissions, depending under which body the Task Group resides, and are expected to behave in the spirit of Section 10.

Task Groups may appoint a reasonable number of members that represent regional

and/or methodological diversity in an appropriate manner (nor exceeding 40 members). Membership may be terminated if the member does not respond to communications from its Task Group chair for 6 months.

7.3. Results

The progress and results of Task Groups are annually reviewed by the Subcommittee and/or Executive Committee under which they reside. Task Groups may be terminated if they fail to respond to communications from the individual Subcommittee or Executive Committee under which they reside.

7.4. Voting

Task Groups organise ballots (cf. section 9) of their voting members to decide critical scientific issues and subsequently inform the Subcommittee or Executive Committee under which they reside of the result.

7.5. Terms of Office

Task Groups are automatically dissolved once they have fulfilled their objective, scheduled until the objective is completed, with an expected maximum duration of eight years (cf. section 7.1).

8. ESTABLISHMENT AND DISSOLUTION OF ICS CONSTITUENT BODIES

8.1. Subcommissions

New Subcommissions shall be established when the Executive Committee of ICS is convinced of the necessity, and makes a recommendation for the establishment of a new Subcommittee first to the Voting Commission and then to IUGS. When consent is given by the Voting Commission and IUGS, the ICS Executive Committee shall appoint a temporary Subcommittee chair and optionally a vice-chair. For subsequent terms of office, elections shall be held within the Subcommittee by a quorum of its own voting members. Voting members of a newly formed Subcommittee are elected by its officers (cf. section 9.6)

The dissolution of Subcommissions requires the consent of IUGS, based on recommendations by the ICS Executive Committee (cf. sections 5.3 and 10).

8.2. *Ad Hoc* Committees

Ad Hoc Committees may be established and dissolved by decision of the ICS Executive Committee. *Ad Hoc* Committees may be reorganised or regrouped with other ICS bodies by decision of the Voting Commission of ICS.

8.3. Task Groups

Task Groups (cf. section 7) may be established and dissolved by decision of the Executive Committee of ICS and/or the management of Subcommissions under which the Task Group resides.

9. TERMS OF OFFICE, ELECTIONS AND VOTING

9.1. Terms of Office for Officers

The terms of office for the officers of the Executive Committee, the Subcommissions, *Ad Hoc* Committees, and Task Groups shall be the period between two IGCs, normally four (4) years. All officers can be re-elected or re-appointed (Secretary General, Informatics Officer, and Graphics Officer) for one additional term of four (4) years. If circumstances necessitate the term of office to begin in the interval between two IGCs, the period of office will not be extended beyond the second IGC after the officer started in his/her function.

9.2. Terms of Office for Voting Members

The terms of office for the voting members of Subcommissions and Task Groups shall be the period between two IGCs, normally four (4) years, and can be extended for a maximum of two additional four (4) year periods.

9.3. Election of the ICS Executive Committee

Eighteen (18) months prior to the International Geological Congress, the Executive Committee appoints the chair of the Nominating Committee, which shall not include any of the Executive Committee. The chair of the Nominating Committee shall select two (2) additional Nominating Committee members.

The Nominating Committee shall invite proposals from all Subcommissions of ICS of candidates for the positions of Chair and Vice-Chair of the Executive Committee, but the Committee shall not be restricted thereby in its choice of candidates. The Chair and Vice-Chair of the Executive Committee may request re-election for one term beyond their first period of office (cf. section 9.1).

The Nominating Committee shall evaluate the merits of all proposed candidates for each position, taking into consideration their scientific qualification, managerial capability and willingness to serve. The Committee shall nominate to the ICS Chair at least two candidates for each of the two elected positions no later than twelve (12) months prior to the next IGC, bearing in mind geographical and disciplinary diversity in order to ensure that the principal schools of stratigraphic thought are represented in the Executive Committee.

Upon receipt of the Nominating Committee's submission, the Secretary General shall promptly circulate the proposal of nominated candidates to all the members of the Voting Commission for voting and election (cf. also 1c and 9.7).

The election requires approval by IUGS Executive Committee and ratification by the IUGS-IGC Council.

9.4. Election of the managing committee of a Subcommission

A chair and two optional vice-chairs of a Subcommission of ICS are proposed to ICS after appropriate ballot within each Subcommission. From these candidates, the new officers are subsequently elected by the Voting Members of the Commission (cf. section 1c) by ballot to be mailed by the general secretary not later than twelve (12) months prior to the next IGC. A secretary is appointed by the chair following his/her election. All members of the managing committee of Subcommissions are approved and ratified by the ICS Executive Committee.

9.5. Election of the leaders of Task Groups

The leaders (chair and secretary, as required) of a Task Group are proposed by the management team of the Subcommittee or the Executive Committee of ICS under which the Task Group resides. Task Group leaders are confirmed by normal voting procedures in the ICS Subcommittee or ICS Executive Committee under which they reside.

9.6. Election of the Voting Members of Subcommittees and Task Groups

Voting members of new Subcommittees are elected by its initial executive. New voting members of existing Subcommittee are elected by its executive, upon consultation with existing voting members, and confirmed by the Executive Committee of ICS.

Voting members of Task Groups are elected by its executive, in consultation with existing voting members, and confirmed by the management or executive of the ICS body under which the Task Group resides.

9.7. Voting Procedures in ICS

The members of the Voting Commission (cf. section 1c), Subcommittees and Task Groups make their decisions by vote. For approval, all decisions, including elections, require a sixty percent (60%) majority of delivered votes, provided that a quorum of 60% has been attained. In cases where no quorum is attained the first round, a second round of voting is organised. Elections with more than one candidate will require the winner of a relative majority of less than 60% to pass a second ballot listing only him/herself, where he/she has to receive a 60% confirmation.

Voting shall be conducted by electronic mail (e-mail), giving a deadline of thirty (30) calendar days for the receipt of the votes. Voting Members may vote "yes," "no" or "abstain". Formal meetings of ICS that attain a quorum of 60% can arrange in-session ballots. Integrity of the voting process must be maintained. Discussion must take place and be allowed to run its course before ballots are distributed. Once ballots have been distributed, no voting member shall circulate materials or arguments intended to influence the vote of other voting members. A voting member doing so will have his/her ballot disqualified and will be reprimanded by the appropriate subcommittee chair.

10. PROFESSIONAL BEHAVIOUR

It is expected that all voting members and officers of ICS, subcommittees, task groups and *ad hoc* groups will treat others with respect and will maintain the integrity of the voting process when votes are taken. Discussions whether orally or written (e.g. e-mail) can be contentious. Disrespectful and unprofessional comments directed at other individuals are not tolerated. Should they occur, the matter will initially be dealt with by the Subcommittee chair or his/her deputy, the chair of the appropriate body is then required to report such incidents to ICS Executive Committee, which after a fair investigation can issue a reprimand or termination of the membership of the guilty party. Violations of the integrity of the voting process (cf. section 9.7) will result in disqualification of the ballot submitted by the violator and a letter of reprimand.

11. RATIFICATIONS

11.1. Ratifications by ICS

The ICS Executive Committee ratifies:

- a. Election or appointment of officers (management) in subcommissions.
- b. Election or appointment of voting members of subcommissions

11.2. Ratifications by IUGS

IUGS ratifies elections made by the Voting Commission of ICS, including:

- a. The nomination of members of the Executive Committee,
- b. Stratigraphic standards like GSSPs, formal stratigraphic stage names and units of other ranks,
- c. Abolition of and/or establishment of new Subcommissions,
- d. The ICS Statutes.

11.3. Ratification by the IUGS-IGC Council

Members of the ICS Executive Committee must also be ratified by the IUGS-IGC Council.

12. MEETINGS

The Executive Committee shall meet at the request of the Chair or of any two other officers of the Executive Committee.

The Voting Commission of ICS shall meet during the International Geological Congress. Additional formal meetings of the Voting Commission may be called by the Chair of ICS with the advice of the Executive Committee. Formal meetings of ICS that attain a quorum of at least 60% can arrange in-session ballots.

All Subcommissions shall endeavor to hold at least one meeting during each International Geological Congress. They are encouraged to organise additional meetings during major international conferences on their field of scientific expertise. Task Groups are also encouraged to have formal meetings during each International Geological Congress, and organise additional meetings during major international conferences on their field of scientific expertise. Formal meetings of Subcommissions and Task Groups that attain a quorum of at least 60% can arrange in-session ballots.

13. ANNUAL REPORTS

13.1. Subcommissions, Task Groups and *Ad Hoc* Committee Reports

The chairs of the Subcommissions shall transmit annual reports to the Secretary General of ICS no later than the first of November of each year. The annual reports shall include an overview of the scientific activities and achievements, together with the statement of operating accounts, for the current year and work plans and anticipated achievements, with the operating budget request, for the following year. In the case of Subcommissions with constituent bodies, these Subcommissions reports shall include the scientific achievements and plans of these bodies.

Chairs of Task Groups and *Ad Hoc* Committees shall transmit annual reports to the chair of the ICS body under which they reside. They are also responsible for including the group's operating costs in that report and projected budget for the new reporting period.

13.2. Commission Report

The Chair of ICS shall submit a consolidated annual report on behalf of ICS to the

IUGS Executive Committee at the time stipulated by that IUGS Executive Committee via its secretariat.

The ICS report shall contain (1) the reports of the individual Subcommissions, Task Groups and *Ad Hoc* Committees, and (2) an executive document that:

- a. provides an executive summary report,
 - b. highlights the scientific achievements of the constituent ICS bodies,
 - c. communicates all formal decisions taken by the Voting Commission of ICS,
 - d. reports on administrative matters of ICS,
 - e. provides a consolidated statement of ICS's operating accounts for the current year,
- and
- f. submits the work plans and recommends a consolidated operating budget request of ICS for the following year.

The ICS annual report shall be made available to the management of all Subcommissions.

14. ICS WEBSITE AS AN OFFICIAL ARCHIVE

The ICS website is the official archive of the ICS International Chronostratigraphic Chart and Table of GSSPs. These are the responsibility of ICS Executive, particularly the Informatics and Graphics officers at direction of the ICS Chair. Documents to be made available on the website include the ICS statutes and official correspondence between the ICS and IUGS EC regarding GSSP and other ratification decisions.

15. GEOBIODIVERSITY DATABASE (GBDB)

Stratigraphic information, including all relevant litho-, bio- and chronostratigraphic data together with any non-biological data, from GSSP proposals submitted to ICS voting members must be entered in the Geobiodiversity Database, in cooperation with, and supported by GBDB staff.

16. ENTRY INTO FORCE AND AMENDMENTS TO STATUTES

These statutes are now in force having been approved by ICS on 24 March 2017 and ratified by the IUGS Executive Committee on 25 April 2017. These statutes are based upon but also significantly revised from those approved by ICS on 28 August 2001, and accepted with minor modifications by IUGS in February 2002, which, in turn, supersede the statutes accepted by IUGS at its annual meeting, 15-18 January 1997.

REPORTS OF ACTIVITIES IN 2018

1. Report from the Base of the Aeronian GSSP Restudy Working Group

by Petr Štorch (Institute of Geology of the Czech Academy of Sciences, Czech Republic)

My report on Aeronian working group is a bit more delicate affair. I am done with Czech candidate section. Recent paper described proposed boundary marker species and related taxa (Štorch and Melchin, 2018). I have to contact Junxuan Fan once more and ask him for news on Chinese Yuxian section. Last time, I did not hear from him. I am afraid that he also did not receive my message although it did not indicate as undelivered. As for the Rheidol Gorge section, there are no news from UK although formal proposal should have been submitted last year

2. Report from the Base of the Wenlock GSSP Restudy Working Group

by David Loydell (University of Portsmouth, UK)

A full update on my ongoing activities regarding this boundary will be presented at STRATI in July this year. Currently I am working through the samples collected from the highly expanded (by distal turbidites) Trannon section in central Wales. Examination of material from the Dyfnant Forest section, also in Wales, is near completion. The aim of course is to find a replacement for the Hughley Brook section (the existing GSSP), a section for which there is little enthusiasm. I have not been contacted by anyone who has identified any new potentially suitable replacement GSSP. This is in part no doubt because of the very limited number of people actively working on this stratigraphical interval (attention in recent years, including my own, having been focused on documenting boundaries where good sections have been identified, i.e. base Aeronian, base Telychian and base Homerian).

If you are in the process of documenting a good section through the uppermost Telychian through to the lower Sheinwoodian, with potential to act as a new GSSP for the base of the Wenlock Series, I would be delighted to hear from you.

3. Report on the post congress field excursion associated with International Sedimentological Congress: The stratigraphic record of the End Ordovician mass extinction on Anticosti Island, eastern Canada. August 18 to 23, 2018.

by André Desrochers (University of Ottawa, Canada)

More than 900 earth science specialists participated in the International Sedimentological Congress, sponsored by the International Association of Sedimentologists, to discuss the latest advances in the broad field sedimentology in Quebec City from August 13 to 17, 2018. Following the congress, 18 participants from all

over the world visited the Lower Palaeozoic sections superbly exposed on Anticosti Island in the Gulf of St-Lawrence. This field excursion provided an introduction of the Upper Ordovician to Lower Silurian sedimentary geology of Anticosti Island which consists of approximately 900 m of undeformed fossil-rich limestone and minor siliciclastic rocks that were deposited on a storm-dominated tropical carbonate ramp. Participants examined the multi-order, orbital-scale sedimentary cycles present in the Katian Vauréal Formation; the classic O/S boundary outcrops of the upper Vauréal-Ellis Bay-lower Becscie formations within a modern multi-proxy stratigraphic framework; the Late Hirnantian microbial-metazoan reef complexes and oncolites associated with a major far-field Hirnantian deglacial event; and the thick Llandovery carbonate succession of Anticosti Island including superb karsted hardground omission surfaces present in the Telychian Chicotte Formation. The 6-day field excursion was a fantastic way to conclude a very successful congress for all participants.



Photo 1: Field trip participants about to leave the island after six days to examine key sections of the Anticosti succession.



Photo 2: Lunch stop along the Lousy Cove at the eastern end of Anticosti Island with the Hirnantian Ellis Bay strata in the background.

4. Report on the 8th International Brachiopod Congress

by Lucia Angiolini (Italy)

Brachiopods in a changing planet: from the past to the future



Between the 10th and 14th of September 2018, the 8th International Brachiopod Congress took place in the prestigious venue of the University of Milan, after the previous editions held in Melbourne (Australia) in 2010 and in Nanjing (China) in 2015. It was the first time, since its foundation over 35 years ago, that this important conference was hosted in Italy.

The Congress was attended by 150 participants from universities and research institutes from all over the world (Argentina, Armenia, Austria, Belgium, Canada, China, Czech Republic, Denmark, France, Germany, Hungary, Iran, Israel, Italy, Japan, New Zealand, Poland, Russia, Slovakia, Spain, Sweden, United Kingdom and USA).

Brachiopods are a group of marine invertebrates known since the Cambrian, that show a high biodiversity and a dominant role mainly in the Palaeozoic oceans. They are considered one of the best biomineral archive, due to the unique characters of their shells, to understand the evolution of marine calcifiers during climate and environmental changes in the recent and deep geological past.

The topics of the Congress have touched all aspects of the study of brachiopods, from systematics and evolution to biostratigraphy, palaeoecology, palaeobiogeography, up to the biology of recent taxa. Particular emphasis was devoted to research on mass extinctions, biomineralization and geochemistry, as well as new methods of microscopic investigation with the latest equipment in this field.

Interesting talks included new findings on the process of shell formation, and on the steps of its possible diagenetic alteration, and multidisciplinary studies on how brachiopods and their shells respond to ocean acidification both in culturing and natural environment and in the geological record. Advancements in brachiopod research were also testified by new

discoveries on their phylogeny and taxonomy, as well as on palaeoecology and taphonomy, and on how they could survive and recover after biotic crises, such as the big ones of the end-Ordovician or the end-Permian, ending up with new approaches in shell geochemical analyses.

Four abstracts have been presented on Silurian topics:

1. Zhou H., Huang B. Population analysis of the Silurian brachiopod *Atrypoides foxi* Jones from Qujing, Yunnan Province
2. Jin J. Morphological plasticity in the early diversification of the post-extinction Silurian pentameride fauna
3. Jansen U. Evolution, stratigraphy and palaeobiogeography of Late Pridolian–Early Eifelian brachiopods from the Rhenish Massif (Germany)
4. Leone M. F., Benedetto J. L. Phylogenetic relationships of the Silurian Afro-South American Realm rhynchonellide brachiopods *Anabaia*, *Harringtonina* and *Clarkeia*: new insights from their ontogeny

The abstract volume of the congress can be downloaded at <http://permian.stratigraphy.org/files/20180828212711700.pdf>

In addition to the oral and poster scientific sessions and two prestigious plenary lectures, the Congress was preceded and followed by three field trips (Spain, United Kingdom and Sicily), as well as by two mid-congress day excursions only a short distance from Milan (Castell'Arquato and Grigna Mountains). Participants had the possibility to discover the wonderful fossiliferous localities of Italy and Europe.

Sometimes released into the background, invertebrate macropalaeontology has a high scientific potential; macrofossils are excellent archives of data which help palaeontologists to understand the lesson from the geological past to interpret our future. The 8th International Brachiopod Congress just held in Milan, with its numerous oral and poster presentations, is a clear evidence of that. The brachiopod community has proved to be very active, with a lot of young students and researchers involved in the development of new studies and projects. An example of that is the *BASE-LiNE Earth* Project, founded by the European community with 21 partners (lead by GEOMAR, Kiel), which produced very innovative multi- and interdisciplinary researches (<https://www.baseline-earth.eu/>)

Chair of the Congress: Lucia Angiolini and Renato Posenato

Scientific Committee: Álvarez Martínez F., Angiolini L., Brand U., Carlson S.J., Cusack M., Eisenhauer A., Harper D.A.T., Holmer L., Garcia Joral F., Lüter C., Pérez-Huerta A., Posenato R., Shen S.

Organizing Committee: Crippa G., Brandolese V., Garbelli C., Henkel D., Romanin M., Ye F.

GUIDELINES FOR THE ISSS AWARD: KOREN' AWARD

Description: This award is intended to recognize and encourage excellence in research related to Silurian stratigraphy and paleontology by younger researchers. It will be presented every four years at the Silurian Symposium.

It is proposed that this award be formally termed the "Koren' Award" in honor of the late Dr. Tatiana Koren' (1935-2010), former Secretary and Vice Chair of the Silurian Subcommittee (as well as member of Ordovician and Devonian subcommittees) and a global expert on graptolites who made many lasting contributions to the biostratigraphy of the Silurian System (see Memorial in 2011 in *Silurian Times* (No. 18) and *Ordovician News* (No. 28)).

Selection Procedure: Recipient of this award will be based on nominations from voting (titular) members of the Silurian Subcommittee overseen by a committee of three titular members. The nomination will consist of an updated CV, including list of publications relevant to Silurian stratigraphy and letter or letters of recommendation from one or two or several voting members of ISSS. Letters should emphasize the fit of the nominee for the criteria listed below.

The nominations will be reviewed by the committee on awards (presently Carl Brett, Renbin Zhan and Petr Štorch) who will prepare a slate of candidates including brief synoptic biographies that will be voted upon by all titular members. The candidate receiving the largest number of votes will receive the award.

Criteria for selection: The candidate may be chosen from among any paleontologists/stratigraphers who fit the following criteria:

A successful candidate should:

- 1) be 40 years of age or younger.
- 2) possess a graduate degree (ideally PhD, although candidates with masters degrees may be considered).
- 3) have completed at least five years of professional research (PhD studies included).
- 4) have a substantial record of publication (mostly senior authored) related to Silurian stratigraphy, paleontology, paleobiology, paleobiogeography or paleoceanography, etc. in peer-reviewed journals.
- 5) be actively contributing to Silurian research at the time of the award.
- 6) demonstrate an outstanding ability to communicate ideas verbally (as in conference talks) and in writing.
- 7) be supported by two or more titular members of the Silurian Subcommittee.

Besides, the ISSS will avoid awarding two continuous recipients from the same country or state in 8 years.

Certificate and bonus: Each winner of the "Koren' Award" will receive a formal Certificate issued by ISSS with the Chair's signature and \$300US as bonus, both of which will be awarded at the closing ceremony of each Silurian Symposium every four years.

ANNOUNCEMENTS OF SILURIAN RELATED MEETINGS AND ACTIVITIES IN 2019

STRATI 2019 - Scientific program

Guidelines for the Convenors

General organization of the session

The daily schedule of the congress is organized with two time-slices of 2.5 hours for oral presentations, one in the morning and one in the afternoon. The minimum duration of each session is one time-slice, equivalent to 2.5 hours.

Talks will be 15 minutes-long including discussion, therefore the minimum number of oral presentations for a session is 10 (2.5 hours total). A session may include a keynote speech of 30 minutes, in this case the minimum number of oral presentations is 1 keynote+8 oral presentations (2.5 hours total). The invitation for the keynote speech is left to the Convenors. However, no funding is available to cover the attendance of keynote speakers.

Every participant may submit only one abstract for oral presentation and one for poster presentation. The presenting Author must be in compliance with the payment of the registration fee by the deadline of the Abstract submission.

The submission form includes the selection of the session, but also the possibility to choose an alternative session. If a session does not receive a sufficient number of abstracts there are two solutions: a) merging of this session with another, closely related, session or b) the session becomes a poster session with no oral presentations.

Schedule

Deadline for abstract submissions: March 10th.

Beginning of the review of the abstracts: March 18th.

Deadline for abstract review, their acceptance and possible shifting/merging of sessions: April 7th.

Publication of the program on the website: April 19th.

Review of the submitted abstracts

The Convenors 1 will receive a password to access the system and verify the submission of the abstracts to the session. Co-convenors may share the password, but only one Convenor can access at a time. We warmly encourage the Convenors 1 to start checking the submissions on a regular basis during the submission period before the deadline. This may be useful in order: 1) to verify if it is necessary to solicit the submissions of contributions and 2) to smooth and speed up the final review of the abstracts.

The review of the Abstracts will be done exclusively online, by accessing the system. Convenors will be able to see the list of the Abstracts submitted, read the text, decide to

keep or move abstracts to a different session, allocate individual abstract to an oral or poster presentation.

Convenors will have to define the chronological succession of the oral presentations.

Abstracts not consistent with the topic of the session will be shifted to a more appropriate one.

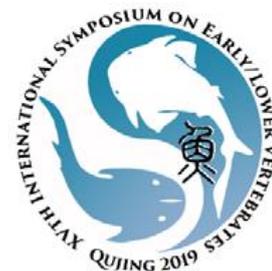
Decision will be made by Convenors 1 in agreement with co-convenors, and taking into account the alternative session suggested by the Author in the submission form.

The general planning of the sessions will be set up by the Scientific and Organizing Committees. In case of specific cases, please contact marco.balini@unimi.it and elisabetta.erba@unimi.it. We will monitor the submission of the abstracts and their evaluation. Please, let us know as soon as possible if you have other commitments during the evaluation procedure. In case Convenors are inactive, we will take the appropriate actions in close cooperation with the Scientific Committee.

15th INTERNATIONAL SYMPOSIUM ON EARLY AND LOWER VERTEBRATES QIJING, YUNNAN PROVINCE, CHINA

August 8th – 13th 2019

FIRST CIRCULAR



Pre-Conference Field Trip: Zhangjiajie, Hunan (Silurian-Devonian)

Post-Conference Field Trip: Qijing and neighboring cities, Yunnan (Cambrian-Triassic)

Dear Colleagues,

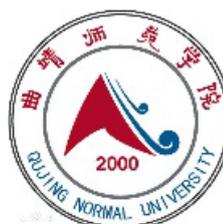
On behalf of the Organising Committee, we are particularly pleased to invite you to China for the 15th International Symposium on Early and Lower Vertebrates (ISELV). The Symposia on Early and Lower Vertebrates are the only recurring international meetings targeted specifically towards the Palaeozoic vertebrate research community. The 15th ISELV will be organized between August 8th – 13th 2019 at Qijing Normal University (<http://www.qjnu.edu.cn/english/>), Qijing, Yunnan, China.

Qijing, about 130 kilometres northeast of Kunming, is well known for the richness of the Early Devonian vertebrate fossils during the past century. Recently, Qijing further astonished researchers by the discovery of three-dimensional and articulated late Silurian jawed vertebrates. Posters and platform presentations are accepted on an open and competitive basis and students are encouraged to present. Topics of presentations will range from the earliest chordates up to the origin and early radiation of land vertebrates. Please find some basic information below. We will inform you about further details in the

second circular. Please do not hesitate to contact Jing Lu (lujing@ivpp.ac.cn) or Tuo Qiao (qiaotuo@ivpp.ac.cn) if you have any queries.

Please distribute this message among your colleagues, students and everybody who might be interested in participating this event. Please send your pre-registration using the attached form at your earliest convenience.

We are looking forward to seeing you in Qujing, China in 2019!



15th ISELV Organising Committee:

Min Zhu (chairman)
Wen-jin Zhao (vice-chair)
Zhi-kun Gai, Jing Lu, Tuo Qiao
You-an Zhu, Lian-tao Jia, Zhao-hui Pan
Xiao-dong Shi, Qiang Li, Zhi-gang Wang

PRELIMINARY PROGRAMME

Thursday, 8th August

Registration followed by the welcome icebreaking party

Friday, 9th August

AM. opening and Gavin Young session: The transition from jawless to jawed vertebrates

PM. Agnathans: life before jaws/poster session

Saturday, 10th August

AM. The origin of modern jawed vertebrates

PM. Morphology and evolution of actinopterygians/poster session

Sunday, 11th August

Conference Field Trip: core sites of Xitun Fauna (Lower Devonian) and Xiaoxiang Fauna (Silurian)

Monday, 12th August

AM. Losing the bones: acanthodian and chondrichthyan morphology and histology

PM. General session/poster session

Tuesday, 13th August

AM. Early sarcopterygians: fishy ancestors and how they crawled onto land

PM. General session/closing session

REGISTRATION FEE

Early bird (before March 15th, 2019) registration fee (US\$350), student registration

fee (US\$250);

Regular registration fee (US\$450), student registration fee (US\$350).

* The fee includes the meals and the city transportation during the symposium. But NOT include accommodation. Further details will be sent in the next circular to those who pre-register, in January 2019.

IMPORTANT DATES

Pre-registration: the end of 2018 (attached Pre-registration form ISELV China 2019);

Early bird registration: 31st March 2019;

General registration: 30th June 2019;

Abstracts submission deadline: 30th April 2019

ACCOMMODATION

Anxia Hotel Qujing: A friendly and convenient hotel not far away from Qujing Normal University (about 3.4 km and 45 mins by walking).



Discounted price: ca US\$30 for a twin share room, ca US\$45 for a single room, one night. Breakfast included.

Address: Xiyuan Community, West Cuifeng Road, 655000 Qujing, China.

Guanfang Hotel Qujing: the only 4-star hotel in Qujing, located at the city centre, about 8km away from Qujing Normal University.



Discounted price: ca US\$60 for a twin share room, ca US\$70 for a single room, one night. Breakfast included.

Address: Hebin Road (Near South Gate), Qilin District, Qujing 655000, China.

*During the symposium, we will arrange several buses from the hotels to Qujing Normal University. The bus route will be University↔ Anxia Hotel↔Guanfang Hotel.

TRANSPORTING

The committee will provide attendees transportations by bus from Kunming Changshui International Airport to the hotel at 7th to 8th August from 8 AM – 10 PM. If your flight is NOT fitted in the above time table or you have any queries, please do not hesitate to contact Jing Lu (lujing@ivpp.ac.cn) or Tuo Qiao (qiaotuo@ivpp.ac.cn).

FIELD TRIPS

Pre-Conference Field Trip (4th – 8th August, 2019): Siluro-Devonian sections and fossil sites in Zhangjiajie Region, Hunan Province

Organizers: Wen-jin Zhao, Zhi-kun Gai

Min-Max Number of Participants: 15/40

Cost: per person ca US\$600 including 4-night accommodations, meals and transportations in Hunan Province, and the high-speed train ticket to Qujing.

Route: Changsha (the capital of Hunan) – Zhangjiajie – Lixian – Changde – Qujing

Day 1 (Sunday, 4th August 2019): (Arrival) Changsha. We will stay in Changsha at night (included in the cost).

Day 2 (Monday, 5th August 2019): Drive to the Wentang Section from Changsha to examine the fossil sites yielding the Zhangjiajie Vertebrate Fauna (consisting of the Wentang and Maoshan vertebrate assemblages) and the Xiaoxiang Vertebrate Fauna. We will stay in Zhangjiajie at night.

Day 3 (Tuesday, 6th August 2019): Drive to the Zhangjiajie Section to examine the Siluro-Devonian strata. Also stay in Zhangjiajie at night.



The Devonian sandstone peaks in Zhangjiajie Geopark (image from internet)

Day 4 (Wednesday, 7th August 2019): Drive to the Shanmen Reservoir Section to examine the fossil sites yielding the Zhangjiajie Vertebrate Fauna (consisting of the Wentang and Maoshan vertebrate assemblages) and the Xiaoxiang Vertebrate Fauna. After the investigation, we will drive to Changde City and spend the night.

Day 5 (Thursday, 8th August 2019): After breakfast, we will drive to Changsha and go to Qujing by the high-speed train.

Post-Conference Field Trip (14th – 18th August, 2019): Cambrian-Triassic Vertebrate sites, Yunnan Province

Organizers: Min Zhu, Wen-jin Zhao, Zhi-kun Gai, Qiang Li

Min-Max Number of Participants: 15/40

Cost: per person ca US\$500, including 4-night accommodations, meals and transportations in Yunnan Province

Route: Qujing – Fuyuan – Luoping – Chengjiang – Wuding – Kunming

Day 1 (Thursday, 14th August 2019): Drive to the Pearl River Source Scenic Area to examine the Siluro-Devonian strata, and then travel to investigate Dahe Paleolithic Site close to Fuyuan County. We will stay in Fuyuan at night.



Pearl River Source (left) and Dahe Paleolithic Site (right, image from internet)

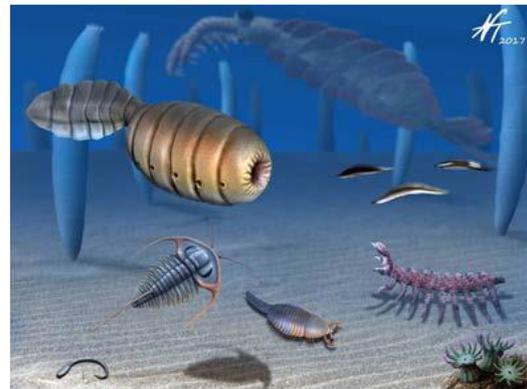
Day 2 (Friday, 15th August 2019): Drive to Luoping County to examine the fossil sites yielding the Luoping Biota (Middle Triassic) and visit Luoping Museum. We will stay in Luoping County at night.

Luoping Biota is one of the most diverse Triassic marine fossil Lagerstätten in the world, providing a new and early window on recovery and radiation of Triassic marine ecosystems some 10 Myr after the end-Permian mass extinction. The recently discovered exceptionally preserved Luoping biota from the Anisian Stage of the Middle Triassic, Yunnan Province and southwest China shows this final stage of community assembly on the continental shelf. The fossil assemblage is a mixture of marine animals, including abundant lightly sclerotized arthropods, associated with fishes, marine reptiles, bivalves, gastropods, belemnoids, ammonoids, echinoderms, brachiopods, conodonts and foraminifers, as well as plants and rare arthropods from nearby land. In some ways, the Luoping biota rebuilt the framework of the pre-extinction latest Permian marine ecosystem, but it differed too in profound ways.



Day 3 (Saturday, 16th August 2019): Drive to Chengjiang County to examine the fossil sites yielding the Chengjiang Fauna (Cambrian). We will stay in Chengjiang County at night.

Chengjiang Fauna (Cambrian): Chengjiang's fossils present the most complete record of an early Cambrian marine community with exceptionally preserved biota, displaying the anatomy of hard and soft tissues in a very wide variety of organisms, invertebrate and vertebrate. They record the early establishment of a complex marine ecosystem. The site documents at least sixteen phyla and a variety of enigmatic groups as well as about 196 species, presenting exceptional testimony to the rapid diversification of life on Earth 530 million years ago, when almost all of today's major animal groups emerged.



Fossil site of the Chengjiang Fauna (left, image from internet) and the life reconstruction of the Chengjiang Fauna by Nobu Tamura (right)

Day 4 (Sunday, 17th August 2019): Drive to Wuding County to examine the fossil sites yielding the Jiucheng Fauna (Early Devonian) and Haikou Fauna (Middle Devonian). We will travel to Kunming (the capital of Yunnan Province) and stay in Kunming at night.



Far view of the fossil site of Jiucheng Fauna (left) and the fossil site of Haikou Fauna (right)

Day 5 (Monday, 18th August 2019): We will dismiss in the hotel of Kunming.

SILURIAN RESEARCH 2018:

NEWS FROM THE MEMBERS

(in alphabetical order)

Mohammed AL-MUSAWI (USA). I am working on redefining the stratigraphy of the Llandovery section in the Michigan Basin by using an integrated data set includes carbon isotope, strontium isotope, and conodont data.

Mohammed Al-Musawi (graduate student)
Department of Geosciences, Western Michigan University, Kalamazoo, Michigan 49009, USA
Tel.: +1 (269) 873 4793; Email: Mohammedahmed.almusawi@wmich.edu

Fernando ALVAREZ (Spain). In recent years, I have been continuously working on the Early to Middle Palaeozoic (of course including Silurian) brachiopods from Spain and some other places, and have some relevant publications from time to time.

Fernando Alvarez
Departamento de Geología, Universidad de Oviedo, C/ Arias de Velasco s/n, 33005 Oviedo, Spain
Email: fernando@geol.uniovi.es

Anna ANTOSHKINA (Russia). I am actively working on Upper Ordovician and Silurian bioevents and palaeogeography. I am also interested in sequence stratigraphy and evolution of sedimentary basins. The project, Ordovician–Silurian boundary and Hirnantian strata exposed on the northern and subpolar Urals together with my young colleague Lyubov’ Shmeleva is finished. A complex study on the significance and nature of ooids, concretions in some Ordovician, Silurian, and Lower Carboniferous deposits of the northern and subpolar Urals, and Chernyshev Swell have revealed a distinct signal of microbial activity, and the results have been published.

Anna Antoshkina
Institute of Geology, Komi Science Centre, Ural Branch, Russian Academy of Sciences, 54 Pervomayskaya St. 167982 Syktyvkar, Komi Republic, Russia
Tel.: +7 (8212) 245416; Fax: +7(8212) 245346; Email: Antoshkina@geo.komisc.ru

Kyi-Pyar-AUNG (Myanmar). I am working on Silurian graptolites from Myanmar. I also continue to work on stratigraphy of the Ordovician and Silurian sequences in Myanmar.

Kyi Pyar Aung
Department of Geology, Taunggyi University, Shan State (south), Myanmar
Tel.: +95 9 43137509; Email: kyipyar73@gmail.com

B. Gudveig Baarli

Williams College, Geoscience Dept., 947 Main Street, Williamstown, MA 01267, USA

Tel.: +1 413 597 2329; Email: gbaarli@williams.edu

Chris BARNES (Canada). I am continuing Silurian conodont palaeontology/stratigraphy/isotope geochemistry research. The main current projects are: a) Ordovician and Silurian conodont biostratigraphy, bioevents, eustasy, and thermal maturation; b) analysis of the effects of climate, eustasy and tectonics on conodont evolution and ecology during the early Palaeozoic from the major database developed from a half-century of sampling throughout the Canadian part of Laurentia; and c) early Silurian microvertebrate assemblages from the Cape Phillips Formation, Sheills Peninsula, Devon Island, Nunavut, Canada (with Susan Turner (Queensland Museum) and David Sprague (Calgary)).

Chris R. Barnes (Professor Emeritus)

School of Earth and Ocean Sciences, University of Victoria, P.O. Box 1700, STN CSC, Victoria, BC V8W 2Y2, Canada

Tel.: +1 250 9208382; Fax: +1 250 7216200; Email: crbarnes@uvic.ca

James BARRICK (USA). I have retired from teaching, but will remain at Texas Tech for a while to write up unfinished projects on Silurian conodonts.

James E. Barrick

Department of Geosciences, Texas Tech University, Lubbock TX 79409-1053, USA

Tel.: +1 806 834 2717; Email: jim.barrick@ttu.edu

Richard Batchelor (Honorary Research Fellow)

School of Earth and Environmental Sciences, University of St. Andrews, Irvine Building, North Street, St. Andrews KY16 9AL, U.K.

Tel.: +44 1334 463936; Email: rab@st-andrews.ac.uk

Juan Luis BENEDETTO (Argentina). I am working on the brachiopod faunas across the Hirnantian/Rhuddanian boundary from the Precordillera basin of western Argentina (Cuyania terrane) in order to shed light on the end-Ordovician mass extinction in the circumpolar region of Gondwana. This project, which is being carried out in collaboration with the doctoral student Florencia Leone, also focuses on the subsequent recovery during the early Silurian and aims to identify those physical and biotic factors leading to the emergence of the Afro-South American Realm. This study is based on the rich brachiopods faunas from the La Chilca (Llandovery) and Los Espejos (Wenlock-Pridoli) formations of west-central Argentina. Particular interest is being devoted to the phyletic lineage starting with *Anabaia* in the early Llandovery culminating with *Clarkeia* in the late Silurian. A taxonomic revision of the genus *Dalmamella* from the Hirnantian and Rhuddanian strata from the Precordillera basin has recently been accepted for publication. This study also addressed the size changes of the species *D. testudinaria* across the

end-Ordovician biotic crisis.

Juan Luis Benedetto (Prof.)

CICTERRA (Centro de Investigaciones en Ciencias de la Tierra), CONICET-Universidad Nacional de Córdoba. Av. Vélez Sarsfield 1611, Ciudad Universitaria. X5016GCA - Córdoba - Argentina

Tel.: +54 351 4333199; Email: juan.benedetto@unc.edu.ar

Stig M. Bergström

Department of Geological Sciences, The Ohio State University, 155 S. Oval Mall, Columbus, Ohio 43210-1397, USA

Email: Bergstrom.1@osu.edu

Alain BLIECK (France). I left my office at the University of Lille last year, and I am now working at home. I am not using the university email address anymore.

Alain R.M. Blicck (Ph.D.)

University degree in secondary school education (biology-geology), State Doctorate in Natural Sciences (palaeontology), Former CNRS emeritus senior scientist, 38 rue Paul Doumer F-59320 Haubourdin (France)

Tel.: +33 (0)3 20 07 79 70 (home); +33 (0)6 37 51 67 53 (mobile);

Email: alain.blicck@yahoo.fr

<https://independent.academia.edu/alainblicck>

https://www.researchgate.net/profile/Alain_Blicck

Olga BOGOLEPOVA (Russia). I am working on some unfinished papers (unpublished CASP reports) on Silurian material from the Russian high Arctic and Russia (Caucasus and the Urals).

If of interest, a unique collection of Cambrian to Cretaceous palaeontological and other geological samples, collected during a number of expeditions to the Eurasian high Arctic (Taimyr, Severnaya Zemlya, Novaya Zemlya, the New Siberian islands, Polar Urals and northern Siberia), data that have not been sufficiently presented to the scientific community so far are available. Just contact me for more information.

Olga K. Bogolepova (Ph.D.)

Institute for Russian and Eurasian Studies, Uppsala University, Gamla torget 3, SE 75120 Uppsala, Sweden

Tel.: +46 708 74 51 64 (mobile); Email: olga.bogolepova@ires.uu.se

Joe BOTTING (UK). I mainly work in the Ordovician Period, but have been drifting into the Silurian recently, particularly in relation to the aftermath of the Hirnantian Mass Extinction in South China (see ref below). I'm also working on other occurrences of Silurian sponges, which are extremely poorly known, and have several papers in at least the planning stage that are studying a range of new taxa from various areas, but especially Wales and the Welsh Borders (UK). I'm also working on a paper about Silurian sponges

from the Urals with Rustem Yakupov, and have a Scottish (Pentlands) sponge in press with Yves Candela. There is also a pile of Silurian sponges from Estonia that I should be involved with writing up at some point.

Despite the appearance that non-lithistid sponges were very minor components of the Silurian faunas around the Welsh Basin, it turns out that this may be due largely to limited preservation. We have isolated occurrences from several sites in the Ludlow rocks of Mid Wales, an important fauna from the Shucknall hill area of Herefordshire, overlooked sponges from an old classic site (Leintwardine) and have recently discovered three-dimensionally preserved sponges in Wenlock concretions of Powys. Although my focus is on sponge evolution, this work has a lot of implications for the palaeoecology of these sequences, and I'm always interested in the total assemblages and the real nature of the life community. All of these are in the early stages of writing up, but at least I have good intentions!

Thought for the year (and every year): Everyone assumes that the 'classic' areas (like the Welsh Borders) have been 'done'. Don't believe it; there's an amazing amount of new stuff still coming out, and some of it is really quite important.

Joseph P. Botting,

Chatsworth, [rapidly turning into the Llandrindod Palaeontology Institute!], Spa Road, Llandrindod, Powys LD1 3EY, UK.

Email: acutipuerilis@yahoo.co.uk

Oskar Bremer

Department of Organismal Biology, Uppsala University, Norbyvägen 18A, 75236, Uppsala, Sweden.

Tel. +46 70 499 54 23; Email: bremer.oskar@gmail.com

Carlton BRETT (USA). In the past year, I continued working with several colleagues on Silurian sequence, chemo- and event stratigraphy and palaeoecology of southern Laurentia and comparisons with other regions. Research is divided into about three project areas.

A) Research on Silurian Sequence and Chemostratigraphy: Ohio-Kentucky-Indiana-Tennessee, Canada (with Indiana and Ohio Geological Surveys)

This year efforts were largely focused on aspects of Silurian stratigraphy in Indiana and northern Kentucky in the Louisville, Kentucky-Jeffersonville, Indiana and in northern Indiana. Pat McLaughlin (Indiana Geological Survey) and I did field and core study to identify important linkages of depositional sequences and bioevents between the Cincinnati Arch and the Illinois Basin. We summarized this research in pre- and post-meeting field trips for the Geological Society of America Annual Meeting in Indianapolis, Indiana. We hosted fieldtrips and workshops aimed at integrating new data on geochemistry and C isotopes in a series of quarries in northern Indiana as well as new exposures in the Sellersburg-Louisville, KY area; this work is summarized in GSA Guidebook articles (Brett et al., 2018; McLaughlin et al., 2018).

I also worked with Chris Waid of the Ohio Geological Survey to extend Silurian correlations through the subsurface into New York, Ontario and other adjacent regions. Our objectives include regional correlation of Silurian sequences across all parts of Ohio

and bridging into adjacent states in the Appalachian, Michigan, and Illinois Basins and Nashville Dome. We also hope to standardize terminology and make Ohio a key reference area for Silurian studies.

We have also sampled several somewhat controversial intervals for both C isotopes and conodonts, which are being studied in conjunction with Mark Kleffner (Ohio State University Lima). In particular, there is circumstantial evidence that two intervals in the lower part of the Brassfield Formation in Ohio, previously considered to be Lower Silurian, may actually be Hirnantian. My current MS student, Cole Farnam, is investigating this issue using carbon isotopic measurements to test for presence or absence of the strong Hirnantian excursion (HICE).

B) Silurian Sequences and Echinoderm Faunas

Dr. James Thomka (University of Akron, OH) and I are continuing study of the detailed sequence and cycle stratigraphy, taphonomy, paleoecology (especially of echinoderms) and paleoenvironments of the early Wenlock interval in Indiana, Kentucky, and Tennessee. We continue work on two manuscripts dealing with Silurian crinoid columnals, using our ability to identify stems to better document biodiversity and biases. We are also documenting traces formed by host-specific parasites that embedded themselves in certain species of crinoids and other pelmatozoans.

C) Volatility in the Silurian-Devonian

I have continued investigating the relative "volatility" (i.e., the degree of environmental and biotic change per unit time) of stage-level time slices in the Ordovician through Devonian. New absolute dates for the stages have led to surprising and counterintuitive results. Pat McLaughlin (Indiana Geological Survey), Poul Emsbo (US Geological Survey, Denver) and I continued to pursue detailed studies that are leading to an important new synthesis that will help to shed light on critical processes in Earth and life history; a first paper was produced on this topic. A first installment on Devonian volatility was published on-line in 2018 (Brett et al., 2018, *Palaeo*-3).

D) Stratigraphic Nomenclature

As Chair of the North American Commission on Stratigraphic Nomenclature (NACSN), I worked with other member of the commission on developing the category of submembers as a formal subdivision to give a broader hierarchy of stratigraphic units (Formation-Member-Submember-Beds-Bed). I further illustrated the use of this rank in discussing stratigraphy of the Tristates area as the Geological Society of America post-meeting field trip, which was a cooperative effort sponsored by the NACSN, the Ohio Geological Survey and Indiana Geological Survey. We also hosted a poster session on Integrated Biostratigraphy with some 20 presentations, including four involving Silurian issues, at the GSA Annual meeting in Indianapolis. A larger initiative of NACSN is the development of a study group on chemostratigraphy; we intend to discuss the merits of including formal chemostratigraphic units in the North American Stratigraphic Code.

In 2018, I was

- 1) elected Corresponding Member of the Senckenberg Institute, Frankfurt, Germany;
- 2) elected Chair of the North American Commission on Stratigraphic Nomenclature.

Carlton E. Brett

Department of Geology, University of Cincinnati, Cincinnati, OH 45221-0013, USA

Tel.: +1 513 5564556; Fax: +1 513 5566931; Email: carlton.brett@uc.edu

Petr BUDIL (Czech Republic). I had no important investigation made on the Silurian in 2018.

Petr Budil

Collections and Material Documentation Dept., Czech Geological Survey, Klarov 3, 11821, Praha 1, Czech Republic

Tel.: +420257089478; Email: petr.budil@geology.cz

Personal web page: <http://www.geology.cz/portal/page/portal/shared/p/petr.budil>

Private email: phacopidina@seznam.cz

Carole BURROW (Australia). The paper that Sue Turner and I had in press on a new microvertebrate assemblage from the latest Silurian of Maine, USA has been published (Turner and Burrow 2018). Palaeozoic vertebrates are rare in Maine, and this was the first description of Silurian material; the assemblage showed affinities with those from other circum-Arctic regions. I also collaborated with Russian coworkers on describing acanthodians from the S-D boundary beds of Novaya Zemlya (Burrow et al. 2018). A manuscript on late Silurian vertebrates from the Pendock-1A borehole off Western Australia, which has been in progress for more than two decades (!), has now been published on line (Burrow et al., 2019).

Carole J. Burrow

Geosciences, Queensland Museum, 122 Gerler Rd, Hendra 4011, Qld, Australia

Tel.: +61 7 33916626; Email: carole.burrow@gmail.com

Mikael CALNER (Sweden). After a six year period as head of the geology department in Lund University, I am now stepping down from that position, meaning possibilities to increase research time. My Silurian focus continues to be carbonate sedimentology and carbonate platform dynamics and its integration with geochemistry and palaeontology. Since the start of 2018, I am co-supervising PhD-student Ingrid Urban (Lund) in a project on oolites including Silurian examples (main supervisor is Sylvain Richoz, Lund). I am continuing my collaboration with Rongchang Wu and NIGPAS on the Silurian events and in 2018 we visited Gotland to see the key sections for further correlation with sections in China. Collaboration with Brad Cramer on the Wenlock Altajme core from Gotland is continuing.

Mikael Calner

Department of Geology, Lund University, Sölvegatan 12, SE-223 62 Lund, Sweden

Tel.: +46 46 2221424; cell: +46(0)727327900; Email: mikael.calner@geol.lu.se

Yves CANDELA (UK). I have undertaken a revision of Archie Lamont's 1978 paper on the Telychian fauna from the Pentland Hills, near Edinburgh, Scotland. This involved identifying and locating the specimens described (some are unfortunately lost), but also updating the taxonomic identification of the specimens; many are regarded synonyms. This is part of a curatorial project I am undertaking aimed at highlighting the Lamont

Collection bequeathed to the National Museums Scotland in 1985. For those who do not know, Archie Lamont was a Scottish palaeontologist whose earlier work was of decisive importance in the understanding of the NEI fauna and Palaeozoic palaeontology.

This article has been accepted for publication in *Palaeontologia Electronica* and is scheduled for 2019.

I am also still working on faunas from the Telychian rocks from the North Esk Inlier, Pentland Hills.

Yves Candela (Ph.D.)

Department of Natural Sciences, National Museum of Scotland, Chambers Street, Edinburgh EH1 1JF, UK

Tel.: +44 (0)131 247 4280; Fax: +44 (0)131 551 4106; Email: y.candela@nms.ac.uk

Chen Xu

Key Laboratory of Economic Stratigraphy and Palaeogeography, Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, 39 East Beijing Road, Nanjing 210008, China

Tel: +86 25 83375157; Email: xuchen@nigpas.ac.cn

Robin COCKS (UK). 2018 was a year dominated by work with good friends. However, by myself some time was spent in all the final changes and proof corrections for my large (260 printed pages and 41 plates) Palaeontographical Society Monograph on *The Llandovery Brachiopods of England and Wales*, which will eventually be published in March 2019 – the final result of my doctoral research which started in 1962 but whose scope has much widened since then. In addition a global analysis of Telychian brachiopod genera with Rong Jiayu (Nanjing) was completed and is now in press with *Alcheringa*; a paper on the Lower Ordovician stratigraphy and brachiopods of south-western Wales was completed with Leonid Popov (Cardiff, Wales and Gorgan, Iran) and is now in press with *Proceedings of the Geologists' Association*, as well as other joint projects. I attended and read a paper at the Brachiopod Congress in Milan, Italy, in September and visited Oslo, Norway, in October to further progress work with Trond Torsvik on Lower Palaeozoic palaeogeography.

L. Robin M. Cocks

Department of Earth Sciences, The Natural History Museum, Cromwell Road, London SW7 5BD, UK

Tel.: +44 20 79425140; Email: r.cocks@nhm.ac.uk

Paul Copper (Professor Emeritus)

Department of Earth Sciences, Laurentian University, Sudbury, Canada P3E 2C6

Home address: Loupicoubas, 46220 Prayssac, France

Tel.: 011 33 565226581 (home outside Europe); 05 65 22 65 81 (home within France) [home within Europe 0033 565226581]

Email: pcopper@laurentian.ca

<http://earthsciences.laurentian.ca/Laurentian/Home/Departments/Earth+Sciences/People/Emeritus+Faculty>

Carlo CORRADINI (Italy). The work on Silurian conodonts and biostratigraphy continues. Last year most of the researches were devoted to the Carnic Alps, where I am investigating the Silurian and Lower Devonian *Orthoceras* limestones and calcareous levels within black shales sequences, both studying new sections and updating data from classical localities. A paper on a relatively new section of Pridoli-Lochkovian age was published, and one on conodonts across the Silurian/Devonian boundary in the whole Carnic Alps has been submitted. Researches in the area include also geological and palaeontological investigation (with L. Simonetto, M. Pondrelli, T.J. Suttner and others).

In Sardinia I'm studying calcareous sections (with M.G. Corrìga) and black shales outcrops. The study of conodonts from the San Juan Precordillera (Argentina) is in progress (with M.J. Gomez, A. Mestre and S. Heredia), and a paper on the first report of the *P. siluricus* Zone in South America is published (Gomez et al, 2018).

The taxonomic study of Silurian and Lower Devonian conodonts continues together with M.G. Corrìga: the new genus *Walliserognathus* is introduced and proposed as possible ancestor of *Pol. siluricus* (Corradini & Corrìga, 2018), and the reconstruction of some apparatuses is in progress.

Carlo Corradini (Prof.)

Dipartimento di Scienze Chimiche e Geologiche, Università di Cagliari, Cittadella Universitaria (Blocco D) - SS.554 bivio per Sestu, 09042 Monserrato (CA), Italy

Tel.: +39 70 6757744; Email: corradin@unica.it

Maria Giovanna Corrìga

Dipartimento di Scienze Chimiche e Geologiche, Università di Cagliari, via Trentino 51, -I-09127 Cagliari, Italy

Tel.: +39 70 6757744; Fax: +39 70 282236; Email: maria.corrìga@unica.it

Brad CRAMER (USA). We continue to work on the Silurian of the midcontinent USA as well as the Appalachian Basin in my research group here at Iowa. My former PhD student Neo McAdams is now a tenure-track assistant professor at Texas Tech University and she continues to work on Silurian and other Palaeozoic projects. We recently published a suite of projects from Iowa, New York, and Illinois, the most recent of which is a revision to the stratigraphy of the Bainbridge Group that covers the Wenlock through Pridoli of the US midcontinent. My former students Chris Waid and Erika Danielsen are both working at the Ohio Geological Survey and their MS projects are both now published. Erika's is currently in press with *Geosphere*. My current PhD student Stephan Oborny is preparing to defend his dissertation this coming summer and has been doing excellent work on the Appalachian Basin. In collaboration with Alyssa Bancroft from the Indiana Geological and Water Survey, we recently submitted a re-examination of the C.T. Helfrich conodont collection from the Appalachian Basin as well. The Silurian Chapter of the GTS2020 is just about finished and Mike Melchin and Pete Sadler have been leading that project to the finish line. Current other work is mainly focused on working on the Altajme Drillcore

from Gotland, Sweden, and the first isotope data are just now coming back from the lab

Bradley D. Cramer

Department of Earth and Environmental Sciences, University of Iowa, Iowa City, Iowa 52242, USA

Tel: +1 319 335 0704; Email: bradley-cramer@uiowa.edu

Research group website: www.bradley-cramer.weebly.com

Susana DE LA PUENTE (Argentina). I continue to focus on chitinozoan studies. I am a scientific researcher for CONICET of Argentina, and a Professor in the Geology Department at the Universidad Nacional del Comahue in Neuquén, Argentina. My research is concentrated on northwestern Argentina, and also, in recent years, the Patagonia region of Argentina.

Graciela Susana de la Puente

IITCI, CONICET – Departamento de Geología y Petróleo, Facultad de Ingeniería, Universidad Nacional del Comahue (UNComa), Buenos Aires 1400, Q8300IBX Neuquén, Argentina

Tel.: +54-299-4490368 / 4490350; Fax: +54-299-4488304

E-mails: sudelapuente@gmail.com; susana.delapuente@comahue-conicet.gob.ar

André DESROCHERS (Canada). I am working on the Upper Ordovician to Lower Silurian strata of the Anticosti Island in Eastern Canada. My research program focuses on high-resolution stratigraphic studies integrating carbonate sedimentology, sequence stratigraphy, biostratigraphy, and chemostratigraphy. One current M Sc project (Marili Vincent-Couture) is examining nearshore depositional systems in a mixed carbonate-siliciclastic succession at the eastern end of Anticosti Island. A number of collaborative projects are also in progress including i) testing global anoxia an alternative cause for the Hirnantian mass extinction (with Julie De Weirdt and Thijs Vanderbrouke), ii) time-series analyses derived from high-resolution stable isotope data of the Upper Ordovician Anticosti succession (with Matthias Sinnesael and Thijs Vanderbrouke), iii) stratigraphy and timing of the End Ordovician mass extinction (with Joshua Zimmt and Seth Finnegan), iv) sedimentology and paleoecology of Telychian encrinites (with Bill Ausich), v) High Resolution $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ chemostratigraphy across the Ordovician-Silurian Boundary (with Matthew Braun, Alain Mauviel, and Pascale Daoust) and vi) Diagenesis, Ca and Li isotopes at the O/S boundary (with Rachel Wood, Philip Pogge von Standman, and Will Newton).

Anticosti Island was recently placed on the Canada's Tentative List for World Heritage Sites on the basis of its outstanding record of fossil life for the upper Ordovician to lower Silurian time interval. This interval represents a milestone event in the history of the Earth, the first global mass extinction of animal life. The local and provincial governments are planning to build an interpretation centre with accommodation facilities available for visiting geoscientists in the near future.

Other on-going research projects include: i) the significance of widespread transgressive oolitic limestone preserved at the basin margin of the Yangtze Platform in South China (with Guangxu Wang and Renbin Zhan) and ii) the multi-order stratigraphic

record of the Lower Cambrian sandstones and limestones in the South Labrador (with Jean-Fran çois Ghienne).

Andr éDesrochers

Department of Earth and Environmental Sciences, University of Ottawa – STEM 460, Ottawa, ON, Canada K1N 6N5

Tel.: +1 613 5625800 X6852; Fax: +1 613 5625192; Email: andre.desrochers@uottawa.ca

Bob Elias

Department of Geological Sciences, University of Manitoba, Winnipeg, Manitoba, Canada R3T 2N2

Tel.: +1 204 474 8862; Email: Robert.Elias@umanitoba.ca

Frank R. Ettensohn

Department of Earth & Environmental Sciences, 101 Slone Building, University of Kentucky, Lexington, KY 40506-0053, USA

Tel.: +1 859 2571401; Fax: +1 859 3231938; Email: fettens@uky.edu

Annalisa FERRETTI (Italy). My Silurian research continues to be focused on the biosedimentology and palaeoecology of the Austrian Carnic Alps. A cooperation project (with P. McLaughlin and P. Emsbo) on the study of Silurian ironstones in the US, centered on the comparison with coeval occurrences in the Carnic Alps, is still running. An integrated study on modern iron ooids from Panarea (Sicily) has been submitted and preliminary reported in a series of abstracts.

I am actually co-guest editing with **Alyssa Bancroft** and **John Repetski** a Special Issue of *Palaeogeography, Palaeoclimatology, Palaeoecology* focusing on “GECKO: Global Events impacting COnodont evolution”. The GECKO Issue will seek to take the concept of conodont animals beyond the simple idea that their primary utility is to serve as biostratigraphic markers and geochemical archives and to again begin looking at their temporal complexity and their potential to reflect events that occurred at a global scale. Several Silurian papers are included. Within the GECKO Issue, I have co-authored a paper (**Medici et al.**, in press) that, by the use of X-ray microdiffraction carried out through an X-ray micro-diffractometer, integrated with environmental scanning electron microscopy coupled with chemical microanalyses (ESEM-EDX), investigates conodont element crystal structure throughout the entire stratigraphic range of these organisms. In particular, bioapatite crystallographic cell parameters have been calculated for about one hundred conodont elements ranging from the late Cambrian to the Late Triassic. Resulting data clearly indicate two distinct distribution plots of cell parameters for paraconodonts and euconodonts. In contrast, age, taxonomy, geographic provenance and CAI do not affect the dimension of the bioapatite crystal cells. Conodont bioapatite crystallographic cell parameters have been compared with cell parameters resulting from phosphatic/phosphatized material (ostracodes, brachiopods, bryozoans, and fish teeth) present in the same residues producing conodonts.

Annalisa Ferretti

Dipartimento di Scienze Chimiche e Geologiche, Università degli Studi di Modena e Reggio Emilia, via Campi 103, 41125 Modena, Italy
Email: ferretti@unimore.it

Victoria García

IANIGLA-CCT-CONICET-Mendoza. Av. Ruiz Leal s/n, Parque General San Martín, 5500 Mendoza, C.C. 131, Argentina
Tel.: +54 264 5244217/4259; Fax: +54 264 5244201;
Email: vgarcia@mendoza-conicet.gov.ar

Mansoureh GHOBADI POUR (Iran). I continue my work on various aspects of biostratigraphy, lithostratigraphy, palaeontology and biofacies of the Silurian System of Iran. In present, my major objective is a study of the silicified trilobite fauna from Aeronian of Derenjal Mountains, which is carried out in cooperation with Robert Owens and Leonid Popov. The study of the rich Aeronian brachiopods fauna of Kopet-Dagh is also in progress.

Mansoureh Ghobadi Pour

Department of Geology, Faculty of Sciences, Golestan University, Shahid-Beheshti St., Gorgan 49138-15739, Iran
Tel.: +98 913 2654300; Email: mghobadipour@yahoo.co.uk or m.ghobadipour@gu.ac.ir

William B. HARRISON, III (USA). Our group at Western Michigan University continues to work on Silurian units in the Michigan Basin. In 2018 several papers were published relating to that work. Student work that is nearly complete includes:

- 1) Matthew Rine, Ph.D., Dissertation in final preparation, A New Chronostratigraphic Framework for the Silurian (Wenlockian) Niagara and Salina Units of the Michigan Basin
- 2) Mohammed Al-Musawi, M.S., Thesis manuscript in preparation, Application of Handheld XRF, Biostratigraphy, and Carbon Isotopes to Establish a Sequence Stratigraphic Framework and Depositional Facies Model for the Burnt Bluff Group, Michigan Basin, USA
- 3) Zaid Nadhim, M.S., Thesis manuscript in preparation, Controls on reef geometry and internal facies Architecture, Silurian Pinnacle Reefs, Michigan Basin

Besides, the Geological Society of America published Special Paper 531 edited by Grammer, G.M., Harrison, W.B., III, and Barnes, D.A., entitled **Paleozoic Stratigraphy and Resources of the Michigan Basin**. Seven of the 15 papers in the volume deal with the Silurian of the Michigan Basin.

William B. Harrison, III (professor emeritus and director)

Michigan Basin Core Research Laboratory, part of the Michigan Geological Repository for Research and Education, Michigan Geological Survey, Department of Geosciences, Western Michigan University, Kalamazoo, MI 49008, USA
Email: william.harrison_iii@wmich.edu

Luke Hauser

School of Earth and Environmental Sciences, University of Portsmouth, Burnaby Building, Burnaby Road, Portsmouth PO1 3Q, UK

Tel.: +44 23 92842418; Email: luke.hauser@port.ac.uk

Kathleen HISTON (Italy). I continue my studies on Silurian cephalopods, sea-level changes, oceanic cycles and biotic response in the Ordovician/Silurian of the Carnic Alps and other localities in relation to the use of the migrational pathways of pelagic faunas as a tool for timing of open seaways and microterrane position along the North Gondwana margin. Investigation of Silurian nautiloid biozones for biostratigraphic correlation is ongoing.

Kathleen Histon (Independent researcher)

Via Mazzini 4, 21039 Valganna, Varese, Italy (home address)

Email: hiscat@interfree.it (contact email only)

David J. Holloway

Museum Victoria, GPO Box 666, Melbourne, Victoria 3001, Australia

Tel + 61 3 92705041; Email: dhollow@museum.vic.gov.au

HUANG Bing (China). I continue working on the project led by myself from the National Natural Science Foundation of China which was just finished at the end of 2018. Last year, two studies were finished, one was formally published in *Palaeo-3* and the other was accepted by *Papers in Palaeontology*. The published paper discussed palaeobiogeography and ecology of brachiopods after the end Ordovician mass extinction. The accepted one reported a newly-discovered fauna with abundant *Cathaysiorthis* from the lower Zhangwan Formation (lower-middle Rhuddanian, lower Llandovery) in Qinling, central China. This fauna is slightly younger than that previously documented from Southeast China which was published as a monograph. My international collaboration with Prof. David Harper was fruitful in 2018, we wrote two manuscripts together (one was accepted and the revision of the other has been submitted). Besides the studies above, I also coauthored two papers with Prof. Rong Jiayu. One is about *Hirnantia* brachiopod faunas from Sibumasu terrane (the revision has been submitted), the other is review on the Silurian stratigraphy of China (published). This year, I attended two congress, 5 IPC and 8 IBC (international brachiopod congress), and made oral presentations for both congresses. With my help, my MSc student Zhou Hang-hang also gave an oral presentation for the 8 IBC. To ensure that he could get master degree next year, I also did my best to help him on his study and thesis which deals with a recovery brachiopod fauna after the end Ordovician mass extinction. Now, he has already finished systematic palaeontology and community analysis.

Huang Bing

State Key Laboratory of Palaeobiology and Stratigraphy, Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, Nanjing 210008, China

Tel.: +86 25 83282189; Email: bhuang@nigpas.ac.cn or dr_huang@163.com

Emilia Jarochowska

GeoZentrum Nordbayern, Loewenichstr. 28, 91054 Erlangen, Germany

Tel.: +49 91318522967; Fax: +49 91318522690; Email: emilia.j@gmail.com

Jisuo Jin

Department of Earth Sciences, Western University, London Ontario, N6A 5B7, Canada

Tel.: +1 519 6614061; Email: jjin@uwo.ca

Markes JOHNSON (USA). Progress continues to be made with regard to Paleozoic hurricane studies. As a follow-up to fieldwork with Johan Fredric Bockelie for several years prior to his death in 2016, a new paper looking at the influence of hurricane tracks. was published on the Upper Ordovician / Lower Silurian of the Oslo area in 2018. At the end of 2018, the first draft of a book-length manuscript was completed under the provisional title "Islands in Deep Time: Lost and Found." Five chapters out of 12 cover paleoislands from the Cambrian, Ordovician, Silurian, Devonian, and Permian with an emphasis on global marine circulation patterns and storm deposits (among other things). The book is currently under review with a major university press in the US.

Markes E. Johnson

Department of Geosciences, Williams College, 947 Main Street, Williamstown, MA 01267, USA

Email: mjohnson@williams.edu

Dimitri KALJO (Estonia). I continued some studies (see below) on the Ordovician and Silurian bio- and chemostratigraphy of Baltica as an emeritus member at the institute and as the editor-in-chief of the Estonian Journal of Earth Sciences. Beginning with March 2019 I will step down from the latter commitment etc.

Dimitri Kaljo

Department of Geology, Tallinn University of Technology, 5 Ehitajate tee, 19086 Tallinn, Estonia

Tel. (m): +372 56485523; Fax: +372 6203011; Email: dimitri.kaljo@taltech.ee;

Steve KERSHAW (UK). Steve Kershaw is making a comprehensive study of British Silurian stromatoporoids, using samples from the field and museum collections to assemble the first overall study of Silurian stromatoporoids since the time of Nicholson in the late 19th Century. The work aims to update the taxonomy, palaeontological and palaeoecological knowledge within the framework of current stratigraphy, palaeogeography and palaeoenvironmental reconstructions.

The world will be grateful for any new work on Silurian stromatoporoids and corals! There is a lot of valuable palaeobiological and palaeoecological information in these fossils. For stromatoporoids the 2015 Treatise volume, that revises the taxonomy

extensively, makes the taxonomic study a lot more accessible nowadays, and I am always happy to help identify species.

Stephen Kershaw (Ph.D.)

Department of Life Sciences, Halsbury Building, Brunel University London, Kingston Lane, Uxbridge, UB8 3PH, UK

Email: stephen.kershaw@brunel.ac.uk

Tarmo Kiipli (Senior scientist)

Institute of Geology, Tallinn University of Technology, Ehitajate 5, 19086 Tallinn, Estonia

Email: tarmo.kiipli@ttu.ee

Anna KOZŁOWSKA (Poland). I have been continuing my research on evolution, phylogeny and construction of tubaria of the retiolitids based on isolated material from Poland, Baltica. I am focussed in the post- *lundgreni* event period. Actually, I have been working on the adaptation to the plankton style of life of the new retiolitid forms with unusual, large, extended genicular structures. Together with Alf Lenz and Mike Melchin I have continued project about the tubaria membranes in retiolitids based on the best, isolated material from the Arctic Canada and Poland. Work continues with Denis Bates on the retiolitid genus *Paraplectograptus*.

Anna Kozłowska

Institute of Paleobiology PAS, ul. Twarda 51/55, 00-818 Warszawa, Poland

Email: akd@twarda.pan.pl

Petr KRAFT (Czech Republic). I have just finished the second exclusive excursion to the world of the Silurian plants, and the work has just been published in *Palaeo-3* (see the reference list).

Petr Kraft

Charles University in Prague, Faculty of Sciences, Institute of Geology and Palaeontology, Albertov 6, CZ-128 43, Praha 2, Czech Republic

Tel.: +420 2 21951459; Email: kraft@natur.cuni.cz

Jorge Colmenar Lallena

Dpto. Ciencias de la Tierra (Área Paleontología), Universidad de Zaragoza, Campus "Plaza San Francisco", C/Pedro Cerbuna, 12 CP: 50009 ZARAGOZA, Spain

Tel.: +34 976760000 X3160; Email: colmenar@unizar.es

Alain Le Hérisse

Université de Bretagne Occidentale, UMR 6538 CNRS «Domaines Oc éaniques» CS93837 – 6 Avenue Le Gorgeu, 29238 BREST Cedex – France

Tel.: +33 298016187; Fax: +33 298016620; Email: alain.le.herisse@univ-brest.fr

Philippe Legrand (Professor Emeritus)

"Tauzia", 216, cours Général de Gaulle, 33170 Gradignan, France

Tel./Fax: (0)5 56 893324; Email: legrandblain@wanadoo.fr

Alfred LENZ (Canada). I have been retired for a long time, but still try to keep my hand-in with a minimum of research. I have referenced four research papers on Silurian graptolites during the last two years, and participated in writing several chapters of the graptolite Treatise, the last for the Retiolitids. This is entitled "*Part V, Second Revision, Chapter 26, Family Retiolitidae: Introduction, Morphology, and Systematic Descriptions*", by Alfred C. Lenz, Denis E.B. Bates, Anna Kozłowska, and Jörg Maletz. I have a research project, studying retiolitine development, and collaborating with Anna Kozłowska, and Michael Melchin.

Alfred C. Lenz (Professor Emeritus)

Western University, 1151 Richmond St., Dept. of Earth Sciences, London ON, Canada N6A 5B7. Cell phone: +1-519 852 9299; Email: aclenz@uwo.ca

Li Lixia

Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, 39 East Beijing Road, Nanjing 210008, China

Tel.: +86 25 83282172; Email: lxli@nigpas.ac.cn

LI Qijian (China). I am mainly working on the sedimentology and palaeoecology of Ordovician and Silurian reefs. In 2018, I continued work on some Lower Telychian bryozoan reefs which were probably influenced by internal waves in the South China Block. In collaboration with Prof. Axel Munnecke and Dr Stephen Kershaw, I am now working on some Aeronian coral-stromatoporoid reefs of the South China, targeting reef recovery patterns after the Hirnantian mass extinction. And I also continue my collaborations focused on quantitative paleoecological analyses of reefs at the Ordovician-Silurian transition with several colleagues.

Li Qijian

Key Laboratory of Economic Stratigraphy and Palaeogeography, Center for Excellence in Life and Palaeoenvironment, Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, 39 East Beijing Road, Nanjing 210008, China

Tel.: +86 25 83284302; Email: qjianli@hotmail.com or qjli@nigpas.ac.cn

Liang Yan

Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, 39 East Beijing Road, Nanjing 210008, China

Email: liangyan@nigpas.ac.cn

Steve LoDUCA (USA). I continue to work on Early Palaeozoic macroalgae, including taxa from the Silurian. Current studies are focused on macroalgae from the Bertie Group (NY) and similar forms, and the effects of the end Ordovician mass extinction event on macroalgae.

Steve LoDuca

Department of Geography and Geology, Eastern Michigan University, USA

Email: sloluca@emich.edu

Jason Loxton (Ph.D.)

Math Physics & Geology, School of Science & Technology, Cape Breton University, P.O. Box 5300, 1250 Grand Lake Rd., Sydney, Nova Scotia, Canada B1P 6L2

David LOYDELL (UK). I am currently working a wide variety of projects, some largely graptolitic, others combining biostratigraphy with carbon isotope and other geochemical data. Integrating the graptolite biostratigraphy of the Sommerodde-1 core Bornholm with geochemical data (with Emma Hammarlund, Niels Schovsbo, Arne Nielsen and Donald Canfield) is proving very interesting – results will hopefully be published this year.

David K. Loydell

School of Earth and Environmental Sciences, University of Portsmouth, Burnaby Road, Portsmouth, PO1 3QL, UK

Tel.: +44 23 92842698; Email: david.loydell@port.ac.uk

LUAN Xiaocong (China). I am interested in Ordovician and Silurian sedimentology and stratigraphy, especially the environmental background of bioevents, i.e., the Great Ordovician Biodiversification Event and the end-Ordovician mass extinction. Ongoing studies include Early-Middle Ordovician marine red beds and special ferric oncolitic deposits in South China. I am a member of the Lower Palaeozoic Working Group of Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences.

Luan Xiaocong

Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, 39 East Beijing Road, Nanjing, 210008 China

Tel.: +8615996296823 (mobile); Email: xcluan@nigpas.ac.cn

Jörg Maletz

Freie Universität Berlin, Institut für Geologische Wissenschaften, Malteserstr. 74-100 Haus B, Raum 105, D-12249 Berlin, Germany

Tel.: +49 30 83870678; Email: yorge@zedat.fu-berlin.de

Štěpán Manda

Czech Geological Survey, Klárov 3, Praha 1, CZ 118 21, Czech Republic
Tel.: +420 257531532; Fax: +420 257531376; Email: stepan.manda@geology.cz

Peep MÄNNIK (Estonia). I continue to work on evolution, taxonomy and palaeoecology of conodonts, conodont-based high-resolution stratigraphy, bioevents and palaeogeography. I am also interested in sequence stratigraphy, palaeoclimatology and evolution of sedimentary basins. Joint studies together with colleagues from Estonia, Czech Republic, Germany, Poland, Iran, Japan, Russia, Sweden, U.K. and USA on evolution and high-resolution stratigraphy of the Early Palaeozoic faunas and sedimentary basins on different palaeocontinents are going on.

Peep Männik

Institute of Geology, Tallinn University of Technology, Ehitajate tee 5, 19086 Tallinn, Estonia

Tel.: +372 58845082; Email: peep.mannik@ttu.ee

Tiiu Märss

Institute of Geology, Tallinn University of Technology, Ehitajate tee 5, 19086 Tallinn, Estonia

Tel.: +372 5333 2272; Emails: Tiiu.Marss@ttu.ee or Tiiu.Marss@ut.ee

Alexander (Sandy) McCracken (Canada). I am periodically working on good Ordovician-Silurian collections from Hudson Bay and Moose River basins, Ontario and Manitoba. I retired in September 2017, and am a part-time volunteer with the GSC Calgary office. I work at my Victoria home (not in the GSC Sidney office), having moved my microscope and samples with me. I am in e-mail contact with the Calgary office weekly, and so may be a bit slow to respond to e-mails.

Alexander (Sandy) D. McCracken

Office: Geological Survey of Canada, 3303-33rd St. NW, Calgary, Alberta T2L 2A7, Canada

Mailing: 816-160 Wilson St., Victoria, BC V9A 7P9, Canada

Tel.: +1 403 2927130; Email: sandy.mccracken@canada.ca (contact by email or post only)

Tõnu MEIDLA (Estonia). I am working on different aspects of stratigraphy, fauna and stable isotopes in the Silurian (including the lower boundary interval) of Estonia, Latvia and Lithuania (together with L. Ainsaar, O. Tinn, L. Lang, K. Truuver, A. Spiridonov, S. Radzevičius) and the Ordovician-Silurian boundary on Anticosti (together with A. Desrochers, Z. Taha, M. Williams, D. Siveter).

Tõnu Meidla

Institute of Ecology and Earth Sciences, University of Tartu, 14A Ravila Street, Tartu 50411, Estonia

Tel.: +372 7375895; Email: Tonu.Meidla@ut.ee

Kristina Mehlqvist

Department of Geology, Lund University, Sölvegatan 12, SE-223 62 Lund, Sweden

Email: kristina.mehlqvist@geol.lu.se

Michael MELCHIN (Canada). I am currently working on several projects related to graptolite biostratigraphy and biodiversity, as well as chemostratigraphy through the Late Ordovician and Early Silurian, particularly in North America, Europe, and China, collaborating with Charles Mitchell, Chris Holmden, Peter Sadler, Brad Cramer, Junxuan Fan, and others. I am collaborating with Petr Štorch, Junxuan Fan, Xu Chen, Jan Zalasiewicz, Thijs Vandenbroucke and others on the study of potential GSSP candidate sections for the base of the Aeronian Stage in Wales and China, and with Junxuan Fan and Xu Chen on a GSSP candidate section for the base of the Telychian in China. I am collaborating with Erik Sperling, Justin Strauss, and Tiffani Fraser on Ordovician to Lower Devonian graptolite biostratigraphy and chemostratigraphy in northern Yukon. I am also working with Petr Štorch and others on several projects related to morphologic and phylogenetic analyses of early Silurian graptolites.

Michael J. Melchin (Prof.)

Department of Earth Sciences, St. Francis Xavier University, Antigonish, Nova Scotia, Canada, B2G 2W5

Tel.: +1 902 8675177; Fax: +1 902 8672414; Email: mmelchin@stfx.ca

C. Giles Miller (Principal Curator Micropalaeontology and Senior Curator in Charge of Economic and Environmental Earth Science Division)

Department of Earth Sciences, Natural History Museum, Cromwell Road, London, SW7 5BD, UK

Tel.: +44 20 79425145; Fax: +44 20 79425546; Email: G.Miller@nhm.ac.uk

<http://www.nhm.ac.uk/our-science/departments-and-staff/staff-directory/giles-miller.html>

<http://www.nhm.ac.uk/natureplus/blogs/micropalaeo>

<https://blog.nhm.ac.uk/author/cgilesmiller/>

Tatiana MODZALEVSKAYA (Russia). I am working on Silurian brachiopods from South Verkhoyanie (mountain ridge Sette-Daban). An addition, I continue to take part in thematic projects connected with analysis of Regional scales of Eurasian Russian regions. The new project: Atlas of compilation on the Phanerozoic stratigraphical key sections of Arctic Russia will be start this year. In the network of this project I describe Silurian sections of Polar Urals, Siberia and North-East Russia with lithologic and biostratigraphic analyzing.

Tatiana L. Modzalevskaya

All-Russian Geological Research Institute (VSEGEI), Department of Stratigraphy and Palaeontology, Sredny pr. 74, St. Petersburg, 199106, Russia

Email: TModzalevskaya@vsegei.ru (office); modz@IB2567.spb.edu (home)

Axel MUNNECKE (Germany). My ongoing Silurian-related research is related to two different projects. In one project we are investigating the response of bryozoan communities to the Silurian climatic changes. The other project deals with so far undiscovered occurrences of Silurian evaporitic minerals in shallow carbonate platform settings.

Axel Munnecke

GeoZentrum Nordbayern, Universität Erlangen-Nürnberg, FG Paläo-umwelt, Loewenichstr 28, D - 91054 Erlangen, Germany

Tel.: +49 9131 8526957; Fax: +49 9131 8522690; Email: axel.munnecke@fau.de

Keith Nicholls

University of Chester, UK

Tel.: +44 74 42495534; Email: keithandkaren@tiscali.co.uk

Arne Thorshøj Nielsen

Natural History Museum of Denmark, University of Copenhagen, DK-1350 Kbh K, Denmark

Tel.: +45 35322376; Email: arnet@snm.ku.dk

Godfrey Nowlan

Geological Survey of Canada, 3303 – 33rd Street NW, Calgary, Alberta, Canada T2L 2A7

Tel.: +1 403 2927079; Email: godfrey.nowlan@canada.ca; Godfrey.nowlan@gmail.com

John PEEL (Sweden). Although I continue to focus on Cambrian faunas from Greenland, I have several studies of Silurian gastropods in progress. Two papers were published in 2018 and a third concerning pycnophalids is in progress. The material in question is derived from the lower Silurian carbonate mounds of the Washington Land Group of North Greenland, exposed at around 81 to 82 degrees North., near the shore of the Arctic Ocean.

John S. Peel (Professor emeritus)

Department of Earth Sciences (Palaeobiology), Uppsala University, Villavägen 16, SE-75236 Uppsala, Sweden

Emails: john.peel@pal.uu.se; johnspeel@gmail.com

Silvio Peralta

CIGEOBIO -Centro de Investigación de la Geósfera y la Biósfera (UE doble dependencia CONICET-UNSJ), Av. Ignacio de la Roza 590 (Oeste), J5402DCS, Rivadavia, San Juan, Argentina

Tel.: +54-264-423 8523; Email: speralta@unsj-cuim.edu.ar

Ian PERCIVAL (Australia). I officially retired in mid-2018, and is now an Honorary

Research Associate of the Geological Survey of NSW. Theoretically I now have more time to devote to completing several long-delayed manuscripts, but in actuality many hours are being spent on editing the *Australasian Palaeontological Memoirs* series for the Australasian Palaeontologists group. Memoir 51, including papers from the PDU2 Symposium held in Adelaide in mid-2016, was published in December. This volume contains a paper (with Des Strusz) on Silurian brachiopods from Quidong in southern New South Wales. Two other manuscripts on Silurian faunas from central NSW are planned for submission in 2019.

I continue a productive collaboration with Guangxu Wang and colleagues from the Nanjing Institute of Geology and Palaeontology, focussing on the Hirnantian extinction, recovery and stratigraphy of the Ordovician – earliest Silurian interval in China.

Ian G. Percival (Ph.D.)

Geological Survey of New South Wales, WB Clarke Geoscience Centre, 947-953 Londonderry Rd, Londonderry, NSW 2753, Australia

Tel.: +2 4777 7802; Fax: +2 4777 4397; Email: ian.percival@planning.nsw.gov.au

Vincent Perrier

Université Lyon 1, UMR 5276 LGTPE, Bâtiment GEODE, 2, rue Raphaël Dubois, 69622 VILLEURBANNE, France

Tel.: +33 4 72448010; Fax: +33 4 72431526; Email: vincent.perrier@univ-lyon1.fr

José Manuel Piçarra d'Almeida

LNEG - LGM (Laboratório Nacional de Energia e Geologia – Laboratório de Geologia e Minas). Unidade de Geologia, Hidrogeologia e Geologia Costeira, Ap. 104, 7801-902 Beja Codex, Portugal

Tel.: 351 210924672; Email: jose.picarra@lneg.pt

Teresa Podhalańska

Energy Security Program, Polish Geological Institute - National Research Institute, 4 Rakowiecka St. 00-975 Warszawa, Poland

Tel.: +48 22 4592258; Fax: +48 22 4592001; Email: podhalanska.teresa@pgi.gov.pl

Leonid POPOV (UK). I have slow, but steady progress in work on the Silurian brachiopods of Nuratau and Turkestan ranges, Central Asia in cooperation with Irina Kim (Geological Survey of Uzbekistan), and on the late Silurian brachiopods from Derenjil Mountains, Iran in cooperation with Mansoureh Ghobadi Pour and Vachik Hairapetian.

Leonid E. Popov

Department of Natural Sciences, National Museum of Wales, Cathays Park, Cardiff CF10 3NP, UK

Tel.: +44 2920573158; Email: lepbarry@yahoo.co.uk

Sigitas RADZEVIČIUS (Lithuania). I am working on Silurian graptolites from Lithuania and the Holy Cross Mountains. In addition, I am working on several projects: 1) Upper Homeric lundgreni extinction; 2) the Ludlow graptolites biostratigraphy and biodiversity; 3) the phylogeny of the Wenlock and Ludlow monograptids; 4) partly on the Silurian cyclostratigraphy.

Sigitas Radzevičius

Department of Geology and Mineralogy, Institute of Geosciences, Vilnius University, M.K. Čiurlionio 21/27, LT-03101 Vilnius, Lithuania

Email: Sigitas.radzevicius@gf.vu.lt

David RAY (UK). My research activities over the past year have focused upon the Wenlock Series of the Midland Platform (England and Wales). In particular, collaboration with Emilia Jarochowska and others has focused upon details of sedimentology, sequence stratigraphy and the Homeric carbon isotope excursion within the Malvern and Dudley areas. Ongoing collaboration with Helen Hughes, Emilia Jarochowska, Anna Claussen and others is focused on the Dolyhir and Nash Scar limestones (Powys) and relates to the early Sheinwoodian carbon isotope excursion, sedimentology, sequence stratigraphy and faunas (trilobites, conodonts and bryozoans). In addition, ongoing collaboration with Helen Hughes and Alan Thomas is focused upon the trilobite record from the Lower Hill Farm Borehole (Wenlock Edge). Finally, fieldwork is underway within the Usk inlier (Monmouthshire). These projects aim to further refine regional stratigraphy.

David C. Ray (Ph.D.)

65 Hill View Crescent, Banbury, Oxfordshire, OX16 1BW, UK

Tel. +44 7792 638177 (mobile) or +44 1235 438683; Email: daveray01@yahoo.com

RONG Jiayu (China). In 2018, I completed a manuscript dealing with the *Hirnantia* fauna from a new locality of the Mandalay Region, Myanmar and submitted it to *Palaeoworld*. The paper is now formally accepted after revision. Meanwhile, Chen Di and I finished a manuscript establishing a new genus *Xenocrania* of the craniide brachiopods from the *Hirnantia* fauna of South China and Myanmar that has been just published in *Papers in Palaeontology* recently.

Rong Jiayu

State Key Laboratory of Palaeobiology and Stratigraphy, Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, 39 East Beijing Road, Nanjing 210008, China

Tel./Fax: +86 25 83282169; Email: jyrong@nigpas.ac.cn

Claudia Viviana Rubinstein

IANIGLA-CCT-CONICET-Mendoza. Av. Ruiz Leal s/n, Parque General San Martín, 5500 Mendoza, C.C. 131, Argentina

Tel.: +54 264 5244217; Fax: +54 264 5244201;

Email: crubinstein@mendoza-conicet.gov.ar

Valeri SACHANSKI (Bulgaria). Since 2013, I continue to teach students at the University of Mining and Geology “St. Ivan Rilski”, Sofia, Bulgaria. Teaching takes most of my time. I am working on Ordovician–Devonian stratigraphy of Bulgaria and Turkey and especially on Silurian–Lower Devonian graptolite biostratigraphy.

Valeri Sachanski

Geological Institute, Bulgarian Academy of Sciences, Acad. G. Bonchev St. Bl. 24, 1113 Sofia, Bulgaria; University of Mining and Geology “St. Ivan Rilski”, Department of Geology and Geo-Information, Studentski Grad, Sofia 1700, Bulgaria

Tel.: +359 886608373; Fax: +359 2 8724 638; Email: v_savhanski@geology.bas.bg

Paul SELDEN (USA). I did not publish or do any work in the Silurian last year. Most things I am involved with the beginning with 'C': Cambrian, Carboniferous, Cretaceous.

Paul A. Selden (Director of the Paleontological Institute, Gulf-Hedberg Distinguished Professor of Invertebrate Paleontology)

Department of Geology, University of Kansas, Lindley Hall, 1475 Jayhawk Boulevard, Lawrence, KS 66045, USA

Tel.: +1 785 8642751; Lab: +1 785 8649049; Email: selden@ku.edu

Paleontological Institute web site: <http://paleo.ku.edu>

Lawrence Sherwin

Geological Survey of New South Wales, Locked Bag 21, Orange, New South Wales 2800, Australia

Tel.: +61 2 63605349; Fax: +61 2 63605363;

Email: lawrence.sherwin@industry.nsw.gov.au

Andrew SIMPSON (Australia). I am currently engaged in research on Silurian conodont faunas from the Broken River in north Queensland and Boree Creek NSW Australia. And I spent time in both areas during 2018 with colleagues undertaking detailed sampling through recognised Silurian extinction events. Collaborative work with former Macquarie University colleagues, John Talent, Ruth Mawson and David Mathieson continues.

Andrew Simpson (Honorary Fellow)

c/- Museum of Ancient Cultures, Department of Ancient History, Macquarie University, NSW 2109, Australia

Tel.: +61 98509261, 419417240; Email: andrew.simpson@mq.edu.au

<https://researchers.mq.edu.au/en/persons/andrew-simpson>

Constance M. Soja

Department of Geology, Colgate University, Hamilton, NY 13346, USA

Tel.: +1 315 2287201; Fax: +1 315 2287187; Email: csoja@colgate.edu

Cristian Solano

IANIGLA-CCT-CONICET-Mendoza. Av. Ruiz Leal s/n, Parque General San Mart ın, 5500 Mendoza, C.C. 131, Argentina
Tel.: +54 264 5244217/4259; Fax: +54 264 5244201;
Email: csolano@mendoza-conicet.gov.ar

Andrej SPIRIDONOV (Lithuania). Together with Misha Whittingham and Sigitas Radzevičius working on the stratocladistics, disparity and completeness of the fossil record of late Wenlock to Ludlow pristiograptine graptolites. With Robertas Stankevič working on the development of the paradigm of generalized quantitative integrated stratigraphy. Completing the work on the Pridoli conodont palaeoecological dynamics in the Baltic Basin.

Andrej Spiridonov

Department of Geology and Mineralogy, M.K. Čiurlionio 21/27, Vilnius, LT 03101, Lithuania
Email: andrej.spiridonov@gf.vu.lt

Colin SPROAT (Canada). I have taken up a new position as an assistant professor at the University of Saskatchewan following my postdoctoral fellowship in Nanjing, China (note new contact information below). Work will continue on the previously unpublished Late Ordovician brachiopods of the Tarim Basin in northwestern China and their evolutionary and palaeobiogeographical significance in collaboration with Renbin Zhan, but now back in Canada, I am looking forward to returning to my research on the Ordovician and Silurian brachiopods of North America. I am particularly interested in evolutionary trends in terms of time and space.

Colin D. Sproat (Ph.D.)

Department of Geological Sciences, University of Saskatchewan, 114 Science Place, Saskatoon, Saskatchewan, S7N 5E2 Canada
Tel.: +1 306 966 5705; Email: c.sproat@usask.ca

Philippe Steemans

D ́pt. de G ́ologie, Unit ́e de recherche PPP, Universit ́e de Li ́ge, Campus du Sart Tilman, Quartier Agora, All ́e du 6 Ao ́t, 14, B ́t. B-18, B-4000 Li ́ge 1, Belgique
T ́l.: +32 4 3665333; Fax: +32 4 3665338; Email: p.steemans@ulg.ac.be

Alycia L. Stigall

Department of Geological Sciences, Ohio Center for Ecology and Evolutionary Studies, Ohio University, 316 Clippinger Laboratories, Athens, Ohio 45701, USA
Tel.: +1 740 5930393; Email: stigall@ohio.edu
<http://alyciastigall.org> (lab website)
<http://www.ohio.edu/paleo> (OU Paleo program)

Petr ŠTORCH (Czech Republic). My efforts were largely focused on re-evaluation and presumed replacement of the Aeronian GSSP. Multidisciplinary, multi-authored study of the Hlásná Třebaň section – a candidate for GSSP of the Aeronian Stage – was published in 2018 in *Lethaia*. I and Mike Melchin completed systematic revision of the zonal index graptolite *Demirastrites triangulatus* – proposed base-Aeronian marker species – and related early Aeronian demirastritids during my James Chair visiting professorship at St. Francis Xavier University in Antigonish in summer 2018. It has been published in *Bulletin of Geosciences*. Together with Sun Zongyuan from NIGPAS, a detailed comparative study has been performed on early and middle Aeronian rastritids with a view to test presumed cosmopolitan distribution of selected biostratigraphically important taxa.

Further progress was made in the multi-proxy study of a continuous Homeric succession exposed in Kosov Quarry with respect to ongoing revision of the Homeric GSSP. Systematic bed-by bed study of the middle and upper Homeric section revealed detailed anatomy of the mid-Homeric biotic crisis (*Lundgreni* Event) including subsequent faunal recovery. New manuscript “The mid-Homeric (Silurian) biotic crisis in offshore settings of the Prague Synform, Czech Republic: integration of the graptolite fossil record with conodonts, shelly fauna and carbon isotope data” co-authored with Š. Manda, J. Frýda, L. Slavík and Z. Tásáryovás has been recently submitted for publication in *Palaeogeography, Palaeoclimatology, Palaeoecology*.

I have been also working on graptolite-rich Ordovician-Silurian boundary succession of Spanish Pyrenees in collaboration with J. Roqué-Bernal and J. C. Gutiérrez-Marco. Our paper entitled “A graptolite-rich Ordovician–Silurian boundary section in the south-central Pyrenees, Spain” has been published online in *Geological Magazine*.

Since 2017 I am involved in a project focused on potential chronostratigraphic subdivision of Pridolí Series. The project coordinated by L.Slavík is funded by Czech Science Foundation.

Last but not least, I was engaged in recent research by M. Libertín et al. on the oldest known poly-sporangiate land plants recovered from middle Sheinwoodian marine succession adjacent to ancient Svatý Jan Volcanic Island, Prague Synform, Czech Republic.

In the next couple of years, before I get retired, I intend to make a synthesis on Silurian graptolite biostratigraphy and faunal dynamics based upon my life-long studies on graptolite bearing Silurian succession of the Czech Republic.

Petr Štorch

Institute of Geology CAS, Rozvojová 269, Praha 6, CZ 165 00, Czech Republic

Tel.: +420 233087261; Email: storch@gli.cas.cz

Christopher STOCKER (UK). I am continuing to research the Silurian and Devonian trilobites of Japan, as part of a Leverhulme Trust funded international project led by Mark Williams (University of Leicester, UK). European colleagues include David Siveter and Carys Bennett of the University of Leicester, Derek Siveter of the Oxford University Museum of Natural History, Phil Lane of Keele University, Thijs Vandenbroucke of Ghent University, and Peep Männik and Olle Hints of Tallinn University of Technology; colleagues in Japan include Simon Wallis from Tokyo University, Tatsuo Oji of Nagoya

University Museum, Gengo Tanaka of Kanazawa University, Toshifumi Komatsu and Takumi Maekawa of Kumamoto University and Yukiyasu Tsutsumi of the National Museum of Nature and Science, Ibaraki. Palaeontological research has focused on ostracods, chitinozoans, conodonts, scolecodonts and trilobites.

My PhD research to date has provided a detailed analysis of the biogeographical affinities of six groups of Japanese trilobites (Illaenidae, Scutelluidae, Phacopidae, Proetida, Aulacopleurida and Encrinuridae). This includes an update of their taxonomic assignments, establishes a working biostratigraphy across Japan for strata of Silurian and Devonian age, and examines links with the faunas of South and North China, and those of Australia. I have studied the geographical, lithological, and palaeoecological controls on the distribution patterns of these Japanese trilobites. Extensive museum collections from throughout Japan have been studied, supplemented with targeted fieldwork collecting in northeastern and central Honshu and Kyushu. Future work will include an analysis of other Japanese trilobite groups including Calymenida, Cheirurida and Lichida. The results of my research have been published in a special issue of *Island Arc* entitled 'The Palaeozoic evolution of the Korean Peninsula and Japan' with guest editors Simon Wallis, Tatsuo Oji, Mark Williams and Moon-sup Cho.

Christopher Stocher

School of Geography, Geology and the Environment, University of Leicester, University Road, Leicester, LE1 7RH, UK

Email: cps10@le.ac.uk; <https://www2.le.ac.uk/departments/geology/people/stocker-c>

Paul STROTHER (USA). I am interested in non-marine palynology and especially the fossil record of cryptospores and related algal spores and plant-like debris from the Silurian. Right now, I am associated with a project at the University of Sheffield that is exploring the fossil record of the euglenids, beginning with the acritarch, *Moyeria*. We have re-collected from the holotype locality near Illion New York and will be working on *Moyeria* and other freshwater algal microfossils associated with ponded habitats. Wilson Taylor (University of Wisconsin - Eau Claire) has shown through TEM of the wall ultrastructure that *Moyeria* is indeed a euglenid, confirming a proposal made by Gray & Boucot in 1989. We will be expanding work on other possibly fossil euglenids in the next year or so.

I have set up a website at "www.cryptospores.com" that will be building a resource on cryptospores, including posting images of type and paratype material. It's a work in progress, but does currently include a basic set of images related to Silurian and older cryptospores.

Paul K. Strother

Department of Earth & Environmental Sciences, Weston Observatory of Boston College, 381 Concord Road, Weston MA 02493, USA

Tel.: +1 617 552 8395 (office); Email: strother@bc.edu

<https://sites.google.com/bc.edu/paulkstrothersbcwebsite/home>

Desmond STRUSZ (Australia). The study with Ian Percival of the Wenlock brachiopod fauna from the Quidong area near Delegate in southern New South Wales was published at

the end of 2018. I will now start tying up some loose ends, looking to see if there are any new taxa in the extensive Geoscience Australia collections from the Canberra Formation, and also having another look at a few residuals from my doctoral thesis on the Lower Devonian Garra Limestone in central-west New South Wales. I have also helped Ross McLean check through my Garra material [now held by the New South Wales Geological Survey at the W.B. Clarke Centre in Londonderry, western Sydney] for a variety of unpublished coral taxa worth revisiting.

While now working entirely from home, I continue to hold a Research Associate position with the Australian Museum in Sydney, and am still affiliated with the Australian National University in Canberra, as a member of the Emeritus Faculty.

Desmond L. Strusz

97 Burnie Street, Lyons A.C.T., Australia 2606

Tel: +61 2 62814569; Email: desmond-strusz@homemail.com.au

Stuart Sutherland

Department of Earth, Ocean and Atmospheric Sciences, the University of British Columbia, Room 2020, Earth Sciences Building, 2207 Main Mall, Vancouver, British Columbia, Canada, V6T 1Z4

Tel.: +1 604 3280426; Email: ssutherland@eos.ubc.ca

John TALENT (Australia). I report that Macquarie University (Sydney) conodont and brachiopod workers are persevering with research on Silurian sequences in eastern Australia, continuing on from studies (published and unpublished) by the late Peter Molloy (Boree Creek, Ireviken Event conodonts), John Talent and Andrew Simpson (Lau Event conodonts following earlier studies with the late Lennart Jeppsson et al.), Margaret Harvey (Klonk Event silicified brachiopod faunas following on from published conodont work by John Farrell) and stable isotopes by Jiri Fryda (all three events). Sequences through the Klonk Event in northern Queensland (all in the watershed of the Broken River and tributaries) and New South Wales (Yarrangobilly) have been sampled for conodonts and stable isotopes.

John Talent (Emeritus Professor)

Earth and Planetary Sciences, Macquarie University, 228 Ridgeway Drive, Castle Hill, NSW 2121, Australia

Email: jatalent32@gmail.com

TANG Peng (China). A new project “Chitinozoans and comprehensive study on Late Ordovician-Early Silurian Strata in the Western Yangtze Region, China”, which is sponsored by the National Natural Foundation of China, began execution in 2018. Much work on chitinozoans, graptolites and isotope analysis will be carried out in the next four years in the Western Yangtze Region. In addition, more than 400 samples from Lower Silurian strata were sampled from three boreholes in the Lower Yangtze Region. These samples will be processed for chitinozoans and acritarchs in 2019.

Tang Peng

State Key Laboratory of Palaeobiology and Stratigraphy, Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, 39 East Beijing Road, Nanjing 210008, China

Tel.: +86 25 83282274; Email: pengtang@nigpas.ac.cn

Zuzana Tasáryová

Czech Geological Survey, Klárov 3, Praha 1, CZ 118 21, Czech Republic

Tel.: +420 257089546; Fax: +420 257531376; Email: zuzana.tasaryova@geology.cz

Alan T. Thomas

School of Earth Sciences (GEES), University of Birmingham, Birmingham, B15 2TT, UK

Email: a.t.thomas@bham.ac.uk

Oive Tinn

Email: oive.tinn@ut.ee

Petra Tonarová

Czech Geological Survey, Geologická 6, 152 00 Prague 5, Czech Republic

Tel.: +420 251 085216; Email: petra.tonarova@geology.cz

Susan TURNER (Australia). I am still working on mid-Palaeozoic vertebrates and their biostratigraphy, concentrating on thelodonts and ‘sharks’. Various projects continue on the ORS fishes of Britain (Welsh Borders, S Wales, Midland Valley Scotland and Ireland), Pennsylvania, USA and arctic Canada, and across Gondwana (Australia, China, Morocco, Pakistan).

Sue is co-author on publications about thelodonts and stem chondrichthyans (with Carole Burrow and others) in the AGP volume based on presentations at the Early Vertebrates/Lower Vertebrates conference in Poland in 2017, a symposium that was held in honour of Sue’s 50 years of work. Several papers recently published (Turner & Burrow 2018) and in progress deal with biostratigraphy and correlation of Australian and other vertebrate microremain occurrences from assemblages previously unstudied or only superficially studied, with better known sequences in other regions.

Susan Turner (Honorary Research Fellow)

c/o Queensland Museum Geosciences, 122 Gerler Road, Hendra Queensland 4011, Australia

Tel.: +61734068350; Fax: +61734068355; Email: sue.turner@qm.qld.gov.au (contact via email only); <http://www.paleodeadfish.com>

Thijs VANDENBROUCKE (Belgium). I remain interested in reconstructing the Silurian palaeoclimate and palaeo-environment. Julie De Weirdt continues her PhD research

project with me at UGent, focussing on geochemistry and palynology of the Upper Ordovician - lower Silurian in N. America (in collaboration with Poul Emsbo, USGS, Patrick McLaughlin, Indiana Geol. Survey and André Desrochers, UOttawa). Julie's first paper on the chitinozoan biostratigraphy from the Rheidol Gorge in Wales is now accepted, and will be of interest to those amongst you involved in the ongoing discussions on the new Aeronian GSSP. I also continue to co-supervise Matthias Sinnesael, who works on a PhD project with Philippe Claeys at the VUB (Belgium) on astronomical forcing during the Ordovician and Silurian. MSc student Thomas De Potter is involved in the BGS remapping of the Silurian strata around Knighton (UK). With an international team coordinated by Mark Williams (University of Leicester, UK) and funded by the Leverhulme Trust, we have been re-investigating the early Palaeozoic strata of Japan, and our results are now published in a special issue of *Island Arc*.

Thijs R. A. Vandenbroucke

Dept. of Geology (WE13), Ghent University, Krijgslaan 281 / S8, 9000 Ghent, Belgium
Tel.: +32 9 2644515; Email: Thijs.Vandenbroucke@UGent.be
<http://www.earthweb.UGent.be>

Jacques VERNIERS (Belgium). I am still partly active at the Ghent University, working on a summary article on Ordovician and Silurian lithostratigraphic units of Belgium, where we will include unpublished results of the Chitinozoa research by Jan Mortier (PhD, 2014) and Jan Vanmeirhaeghe (PhD, 2006) and some other MSc students.

Jacques Verniers

Dept. of Geology (WE13), Ghent University, Krijgslaan 281 / S8, 9000 Ghent, Belgium
Email: Jacques.Verniers@UGent.be

Viive Viira

Institute of Geology, Tallinn University of Technology, Ehitajate tee 5, 19086 Tallinn
Estonia
Tel: +372 58846899; Email: viive.viira@ttu.ee

Olev VINN (Estonia). I am working on the evolution of symbiosis, predation, bioerosion and biofouling in the Silurian. My current research interests include trace fossils of the Silurian of Estonia and beyond. I am also working on the palaeontology of problematic calcareous tubeworms from the Palaeozoic (e.g. cornulitids, tentaculitids, microconchids etc.) and evolution of tubeworm biomineralization.

Olev Vinn

Department of Geology, University of Tartu, Ravila 14A, 50411 Tartu, Estonia
Tel.: +372 7375891; Fax: +372 7375896; Email: olev.vinn@ut.ee

WANG Chuanshang (China). I am working on the shale gas in western Hubei Province in 2018. A restudy concerning the subdivision and correlation of graptolite zones of the uppermost Ordovician to lower Llandovery black shale was carried out by my group. We

collected a large amount of specimens from YD-1 drill core and from classical sections in western Hubei Province, China. A relevant article "Katian (Ordovician) to Aeronian (Silurian, Llandovery) graptolite biostratigraphy of the YD-1 DRILL CORE, Yuanan County, Hubei Province, China" by Jörg Maletz, Wang Chuanshang and Wang Xiaofeng has been published in *Palaeontology*. We will continue to study the graptolite fossils from western Hubei Province in 2019 for a better understanding the time-spatial distribution of the black shale during the Ordovician-Silurian transitional period in western Hubei Province.

Wang Chuanshang

Wuhan Center of China Geological Survey, 69 Guanggu Road, Wuhan, 430205, China
Email: wangchuanshang@163.com

WANG Guangxu (China). In 2018, I continued working on the end-Ordovician mass extinction event. A paper on a refined litho- and biostratigraphy of Hirnantian near-shore carbonate rocks in South China has been published in *Geological Journal*. Besides, I also made a systematic revision of a Silurian amplexoid rugose coral *Pillophyllia* Ge and Yu, 1974, resulting in an introduction of a new genus *Neopilophyllia*. The results have been published in *Journal of Paleontology*. Currently, I am working on a global review of benthic faunas across the Ordovician and Silurian transition in collaboration with Renbin Zhan (NIGPAS) and Ian Percival (Geological Survey of NSW). In this review, we recognize three Transitional Benthic Faunas (TBFs 1–3) through the Ordovician-Silurian boundary, which contributes to an integrated, much higher-resolution timescale for understanding the tempo and nature of this mass extinction.

Wang Guangxu

State Key Laboratory of Palaeobiology and Stratigraphy, Nanjing Institute of Geology and Palaeontology (NIGP), Chinese Academy of Sciences, 39 East Beijing Road, Nanjing 210008, China

Tel.: +86 25 83282129; Email: gxwang@nigpas.ac.cn

Wang Jian

Xi'an Centre of Geological Survey, China Geological Survey, 438 Youyidonglu Road, Xi'an, Shaanxi, China 710054

Tel.: +86 29 87888070; Fax: +86 29 87803890; Email: wangjian_7610@163.com

WANG Wenhui (China). Most of my research activities in 2018 have been involved in Ordovician-Silurian boundary projects. Samples from Himalaya area were collected by Paul Myrow (India) for the palynology (chitinozoans and acritarchs) study by Thomas Servais (France) and me. Primary results of chitinozoans show that the samples represent an age around the latest Ordovician to the earliest Silurian. Also, an integrated study on both graptolites and chitinozoans from South China show that the distribution of both chitinozoans and graptolites are eco-dependent but show different onshore-offshore diversity trends. Chitinozoans are more diverse nearer to shore whereas graptolites are more diverse offshore, preferring slope facies (see the article in the reference list). In the

past few months, I am working on the ultrastructures of carinae with Liang Yan (China) and Olle Hints and Jaak Nõlvak from Estonia.

Wang Wenhui

School of Geosciences and Info-Physics, Central South University, Changsha, China
Tel: +86 13951830656 (mobile); Email: wwhatever@126.com

WANG Xiaofeng (China). In 2018, I spent most of my time on two projects, besides the study on the subdivision of Cambrian-Ordovician boundary of the Xiaoyangqiao section, Dayangcha, North China and its precise comparison with the Green Point GSSP section, Newfoundland, Canada on the basis of studying accumulation over the past more than 30 years and high-resolution integrated research over the recent 4 years, as well as a serious deficiencies exposed by the Newfoundland GSSP section over the past 10 years.

First, organizing nearly all palaeontological workers in Hubei Province, China, separately from the China University of Geosciences (Wuhan), the Hubei Academy of Geological Sciences and the Wuhan Center for China Geological Survey (formerly Yichang Institute of Geology and Mineral Resources), to complete three monographs on palaeontological fossils, i.e. "Palaeontology in Hubei", "Precise and rare palaeontological community in Hubei" and "Hubei fossils". These three monographs will be published by Hubei Science and Technology Press in June or July, 2019. The first two, are applicable tertiary education, institutes and related geological departments. The last one characterized by pictures and photos with a few explanation, intended to meet the needs of relevant management departments and the popularization of knowledge of palaeontological science and culture.

Second, we extended a re-study concerning the subdivision and correlation of graptolite zones of the uppermost Ordovician to lower Llandovery black shale bearing shale gas between the underground and ground in western Hubei Province, China under Dr. Wang Chuanshang (graptolite), together with Jorg Maletz. A relevant articles "Katian (Ordovician) to Aeronian (Silurian, Llandovery) graptolite biostratigraphy of the YD-1 DRILL CORE, Yuanan County, Hubei Province, China by Jorg Maletz, Wang Chuanshan and Wang Xiaofeng will soon be published in the Palaeontology.

Wang Xiaofeng

Wuhan Center for China Geological Survey, Guanggu Road 62, Donghu High and New Development Zone, Wuhan 443225, China
Email: ycwangxiaofeng@163.com

Wang Yi

State Key Laboratory of Paleobiology and Stratigraphy, Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, 39 East Beijing Road, Nanjing 210008, China
Tel./Fax: +86 25 83282146; Email: yiwang@nigpas.ac.cn

James WILKINSON (UK). Coming to an end on my thesis "Ludlow Graptolites of the Welsh Basin" with the imminent publication of a Graptolite Monograph for the area and a

discussion paper on the closing of the Welsh Basin.

The Atlas of Graptolite Type Specimens is a multi-authored publication that supplies clear, large scale illustrations of the holotypes, lectotypes, syntypes and neotypes of described graptolite species. The aim is to make each of the several contributors' first-hand knowledge of specimens available to other graptolite workers worldwide. Each figure is either drawn from the primary type specimen (or specimens) and is presented at a standard magnification (for example x10 or x5) or is a digitally edited SEM image where finer detail is preferable. The drawings are annotated with essential measurements, such as stipe width (w). Thecal spacings are generally given as the "two thecae repeat distance "(2TRD), after Howe, Geological Magazine, vol. 120, pp. 635-8. In some cases, the equivalent number of thecae per cm follows in brackets. The associated text is brief, but includes comments on the preservation, the repository of each specimen and its registration number, together with the original citation and one or two key subsequent references. The Atlas is to be issued in folios of 100 species, and is supplied loose-leaf, allowing the user to arrange the contributions alphabetically or taxonomically, according to taste. A cumulative index is supplied in this and subsequent folios. The Atlas is an international co-operative enterprise and will be published occasionally, namely when material for 100 species has been received and edited. The editors invite contributions from workers worldwide. Material should be prepared in the style of the present contributions and may be submitted electronically.

James Wilkinson

Tel.: 07814902185; Email: jcw38@leicester.ac.uk

Mark Williams

School of Geography, Geology and the Environment, University of Leicester, University Road, Leicester LE1 7RH, UK; Email: mri@leicester.ac.uk

Anthony Wright

School of Earth and Environmental Sciences, University of Wollongong, Wollongong NSW 2522, Australia

Tel.: 61242297129 (home); Email: tony.wright@optusnet.com.au

YUAN Wenwei (China). I did field work in Chongqin District in October 2018, visiting some Ordovician and Silurian sections, and collecting Silurian trilobites at several localities. Now I am working on Telychian trilobites from Ningqiang with Zhou Zhiqiang (Xi'an) and Zhou Zhiyi (Nanjing).

Yuan Wenwei

Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, 39 East Beijing Road, Nanjing 210008, China

Tel.: +86 25 83282289; Fax: +86 25 83357026; Email: wyyuan@nigpas.ac.cn

Jan Zalasiewicz

School of Geography, Geology and the Environment, University of Leicester, University Road, Leicester LE1 7RH, UK; Email: jaz1@leicester.ac.uk

ZHAN Renbin (China). In 2018, together with some of my colleagues both from China and Australia, I was mainly working on the recovery benthic shelly faunas (brachiopods and corals) after the end-Ordovician mass extinction near the beginning of Silurian. We found that the formerly recognized *Hirnantia* fauna in South China and the world could be further differentiated into three different faunas, i.e. the Transitional Benthic Fauna (TBF) 1~3. And only TBF 1 represents the typical cool water *Hirnantia* fauna, while the TBFs 2 and 3 represent typical warm water faunas. So, the end-Ordovician mass extinction might be a single pulse event rather than two pulses as previously thought. The paper has already been published by *Earth-Science Reviews* (Wang, Zhan and Percival, 2019).

Zhan Renbin

State Key Laboratory of Palaeobiology and Stratigraphy, Nanjing Institute of Geology and Palaeontology (NIGP), Chinese Academy of Sciences, 39 East Beijing Road, Nanjing 210008, China

Tel./Fax:+86 25 83282132, 83282196; Email: rbzhan@nigpas.ac.cn

ZHANG Yuandong (China). I am continuously working on: (1) Geological characteristics of Palaeozoic black shales in China. This has been the main tasks of a project supported by the Chinese Academy of Sciences (2014-2018) and one of the recently launched National Science and Technology Major Projects (2017-2019). As results of the projects, over 5000 m long of drill cores of the most potential gas shale in China (Lower Cambrian, Upper Katian–Llandovery) have been accumulated in the past years for multi-disciplinary analysis. The cores are opened to global scientists for study and sampling, and from which some samples have been collected for geochemical and microfacies analysis. Those who are interested in this work or aim at some other related approaches, please contact the project leader (Zhang Yuandong). (2) Hirnantian Conservat-Lagerstätte in Anji (Anji Fauna), Zhejiang Province, in cooperation with Joe Botting and Lucy Muir of UK, financially supported by President's International Fellowship Initiatives (PIFI) program and a recently approved NSFC grant (2018-2021). This sponge-dominated lagerstätte, discovered in late 2012, is typified by the abundant and highly diverse articulate sponges (over 75 species) often with soft tissues, in association of graptolites, nautiloids, arthropods, echinoderms, etc. The Anji Fauna is preserved within a 9-meter-thick black shale, underlain and overlain by siltstone and sandstones, in the Wenchang Formation of clastic facies. Up to date, over 5000 specimens have been collected from seven sections in the Anji County. As constrained by the associated graptolites, the fauna is of latest Hirnantian age. A preliminary study indicates that this extraordinarily diverse, sponge-dominated community thrived immediately after the Hirnantian mass extinction in South China.

Zhang Yuandong

Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, 39 East Beijing Road, Nanjing 210008, China

Tel.: +86 25 83282145; Fax: +86 25 83357026; Email: ydzhang@nigpas.ac.cn

ZHAO Wenjin (China). Most of my research in 2018 was still related to the Siluro-Devonian vertebrate palaeontology, and relative stratigraphy. The main achievements can be represented by the discovery of the galeaspids *Platylomaspis serratus* from the Silurian Tataertag Formation in Xinjiang and *Nanningaspis zengi* from the Devonian Nakaoling Formation in Guangxi, and the subdivision and correlation of the Silurian fish-bearing strata in South China.

In addition, I conducted the field works both in Yunnan and Hunan in South China during August 2 to September 10 in 2018, supported by the Special Grant for Fossil Excavation and Preparation of the Chinese Academy of Sciences, the National Natural Science Foundation of China and the Strategic Priority Research Program of Chinese Academy of Sciences. Lots of new important and interesting fossil fishes have been collected from Silurian and Lower Devonian during the excursions, and we made some new progress on the Siluro-Devonian stratigraphic division and correlation in South China.

Zhao Wenjin

Institute of Vertebrate Paleontology and Paleoanthropology (IVPP), Chinese Academy of Sciences, 142 Xi-Zhi-Men-Wai Street, Beijing 100044, China

Tel.: +86 10 88369290; Fax: +86 10 68337001; Email: zhaowenjin@ivpp.ac.cn

ZHEN Yongyi (Australia). I am working on the Silurian and Devonian conodonts from New South Wales and their biostratigraphy, while still maintaining the major interests in the Ordovician. In 2018 I documented late Silurian conodont and coral faunas from the Cuga Burga Volcanics in central-western New South Wales. I am currently working with John Pickett, Ian Percival and other colleagues to document the conodont and coral faunas from the late Silurian Molong Limestone of NSW.

Zhen Yongyi

Geological Survey of NSW, WB Clarke Geoscience Centre, 947-953 Londonderry Rd, Londonderry NSW 2753, Australia

Tel.: +2 47770318; Email: yong-yi.zhen@planning.nsw.gov.au

RECENT PUBLICATIONS ON THE SILURIAN RESEARCH

[Note that a few publications are of 2017 or even earlier that were not included in previous Silurian Times, and some papers are dealing with Ordovician topics by members of ISSS. There are also a few papers in the list that are in press or online publication.]

- Alvarez, F. and Alonso-Zarazaga, M.A. 2018. *Paleopetria* Özdikmen, 2008 is a junior objective synonym of *Petriathyris* Lee and Jin, 2006, new name pro *Petria* Mendes, 1961 (Brachiopoda, Terebratulida) preoccupied by *Petria* Semenov 1893 (Arthropoda, Coleoptera). *Zootaxa*, 4429 (3), 585–588. <https://doi.org/10.11646/zootaxa.4429.3.10>
- Alvarez, F. and Talent, J. 2018. Book Review: Phanerozoic Brachiopod Genera of China, by Rong Jiayu (editor-in-chief, Jin Yugan, Shen Shuzong and Zhan Renbin (eds), 2017. *Carnets Geol.*, Madrid, (18), Book Review 1, 183–186.
- Antoshkina, A.I. 2018. Bacteriomorph Structures in Nodules, a Characteristic of Euxinic Conditions of Nodule Formation. *Paleontological Journal*, 52(10), 28–39. DOI: 10.1134/S0031030118100040.
- Antoshkina, A.I. 2018. The Ludfordian Lau Event (upper Silurian) in the Northeastern Regions of European Russia. *Stratigraphy and Geological Correlation*, 26(6), 622–646.
- Antoshkina, A.I. and Shmeleva, L.A. 2018. Peculiarities of composition, structure, and environments of the Hirnantian deposits in the Timan-northern Ural sedimentary basin. *Litosfera*, 18(4), 543–565 (in Russian with English abstract and figures subscription).
- Barnes, C.R. 2018. Impacts of climate-ocean-tectonic changes on Lower Paleozoic conodont evolution and ecologic organization evidenced by the Canadian part of Laurentia. Canadian Paleontology Conference, Saskatoon, 21-23 September. Program with Abstracts, Proceedings, 15, 5–6.
- Barnes, C.R. *In press*. Impacts of climate-ocean-tectonic changes on Lower Paleozoic conodont evolution and ecologic organization evidenced by the Canadian part of Laurentia. *Palaeogeography, Palaeoclimatology, Palaeoecology*, Special Issue (Ferretti, A., Bancroft, A. and Repetski, J., eds.).
- Barrick, J.E. and Meyer, B.D. 2019 (*in press*). Silurian-Devonian conodont biostratigraphy in the southern Midcontinent region. *In Anatomy of a Paleozoic Basin: The Permian Basin U.S.A.* American Association of Petroleum Geologists Memoir.
- Barrick, J.E., Kleffner, M.A. and Sundgren, J.R. 2018. Conodont faunas across the Silurian-Devonian boundary and the Klonk isotope event in western Tennessee, and the appearance of endemic earliest Devonian *Icriodus* species. *Geological Society of America Abstracts with Programs*, 50(4), doi: 10.1130/abs/2018NC-312125.
- Bartlett, R., Elrick, M., Wheeley, J.R., Polyak, V., Desrochers, A. and Asmerom, Y. *In review*. Abrupt global-ocean anoxia during the Late Ordovician-early Silurian detected using uranium isotopes of marine carbonates. *Proceedings of the National Academy of Sciences*, 115(23), doi: 10.1073/pnas.1802438115
- Bogolepova, O.K. and Gubanov, A.P. 2018. Source rock geochemistry of Silurian black shales of the Eurasian Arctic, ICAM VIII, June 2018, Stockholm.
- Bogolepova, O.K., Donovan, S.K., Harper, D.A.T., Suyarkova, A.A., Yakupov, R. and Gubanov, A.P. 2018. New records of brachiopods and crinoids from the Silurian (Wenlock) of the southern Urals, Russia. *GFF*, 140(4), 323–331
- Botting, J.P., Candela, Y., Carrió, V. and Crighton, W.R.B. *in press*. A new hexactinellid

- sponge from the Silurian of the Pentland Hills (Scotland) with similarities to extant rossellids. *Earth and Environmental Science transactions of the Royal Society of Edinburgh*.
- Botting, J.P., Muir, L.A., Wang Wenhui, Qie Wenkun, Tan, J.Q., Zhang Linna and Zhang Yuandong. 2018. Sponge-dominated offshore benthic ecosystems across South China in the aftermath of the end-Ordovician mass extinction. *Gondwana Research*, 61, 150–171.
- Botting, J.P., Muir, L.A., Zhang Yuandong and Wang Wenhui. 2018. The post-extinction Anji Biota (Zhejiang, China) and a wider Hirnantian sponge mega-community. *In: Zhang Yuandong, Zhan Renbin, Fan Junxun and Muir, L.A. (eds). Proceedings of the International Geoscience Programme (IGCP) Project 653 Annual Meeting, October 8th -12th, 2017, Yichang, China*. Hangzhou, Zhejiang University Press. 9–11.
- Botting, J.P., Zhang Yuandong and Muir, L.A. 2018. A candidate stem-group rossellid (Porifera, Hexactinellida) from the latest Ordovician Anji Biota, China. *Bulletin of Geosciences*, 93(3), 275–285.
- Bowman, C., Young, S., Kaljo, D., Eriksson, M., Them, T., Martma, T., Hints, O. and Owens, J. 2018. Thallium Isotopic Evidence for Widespread Oceanic Anoxia Associated with the Late Silurian Lau Extinction Event. *Goldschmidt Abstracts: Goldschmidt 2018*, Boston, 12–17 August 2018. Geochemical Society and the European Association of Geochemistry.
- Brett, C.E. and Brunton, F. eds. 2018. Sequence Stratigraphy and Paleontology of the Classic Upper Ordovician-Silurian Succession in Niagara County, New York. Association of Earth Science Editors, 52nd Annual Meeting, Niagara Falls, N.Y., 98 p., 5 appendices.
- Brett, C.E., Hartshorn, K.R., Waid, C.B.T., McLaughlin, P.I., Bulinski, K.V., Thomka, J.R., Paton, T.R., Freeman, R.L. and Dattilo, B.F. 2018. Lower to Middle Paleozoic sequence stratigraphy and paleontology in the greater Louisville, Kentucky area. *In: Florea, L.J. (ed.), Ancient Oceans, Orogenic Uplifts, and Glacial Ice: Geologic Crossroads in America's Heartland*. Geological Society of America Field Guide 51, p. 35–93. [https://doi.org/10.1130/2018.0051\(03\)](https://doi.org/10.1130/2018.0051(03)).
- Brett, C.E., Pratt, B.R. and Landing, E. 2018. North American commission on stratigraphic nomenclature note 68 – Application for addition of submembers to the North American Stratigraphic Code: A case for formalizing lithostratigraphic units of intermediate rank. *Stratigraphy*, 15, 103–108.
- Brett, C.E., Zambito, J., McLaughlin, P.I. and Emsbo, P. 2018. Revised perspectives on Devonian biozonation and environmental volatility in the wake of recent time-scale revisions. *Palaeogeography, Palaeoclimatology, Palaeoecology*, Special Issue (published on-line)
- Breuer, P., Al Hajri, S., Le Herisse, A., Paris, F., Steemans, P., Verniers, J. and Wellman, C.H. 2017. A distinctive marginal marine palynological assemblage from the Přídolí of northwestern Saudi Arabia. Un assemblage palynologique marin marginal distinctif du Přídolí du nord-ouest d'Arabie Saoudite. *Revue de Micropaléontologie*, 60(2017), 371–402.
- Burrow C.J. and Turner, S. 2018. Microvertebrates from the Silurian-Devonian boundary beds of the Eastport Formation, Maine, eastern USA. *Atlantic Geology*, 54, 171–187 doi:10.4138/atlgeol.2018.006
- Burrow, C.J. and Turner, S. 2018. Stem chondrichthyan microfossils from the Lower Old

- Red Sandstone of the Welsh Borderland. *Acta Geologica Polonica*, 68(3), 321–334.
- Burrow, C.J., Ivanov, A.O. and Ershova, V.B. 2018. Acanthodians from the Silurian–Devonian boundary beds of Novaya Zemlya Archipelago, Russia. *GFF*, 140(3), 1–8. doi:10.1080/11035897.2018.1474381
- Burrow, C.J., Turner, S., Trinajstić, K. and Young, G.C. 2019. Late Silurian vertebrate microfossils from the Carnarvon Basin, Western Australia. *Alcheringa*, doi: 10.1080/03115518.2019.1566496
- Burrow, C.J., Turner, S., Trinajstić, K. and Young, G.C. 2019. Late Silurian vertebrate microfossils from the Carnarvon Basin, Western Australia. *Alcheringa*, 16. doi:10.1080/03115518.2019.1566496
- Candela, Y. and Crighton, W.R.B. *in press*. Synoptic revision of the Silurian fauna from the Pentland Hills described by Lamont (1978). *Palaeontologia Electronica*.
- Caruthers, A.H., Gröcke, D.R., Kaczmarek, S.E., Rine, M.J., Kuglitsch, J. and Harrison, W.B., III. 2018. Utility of organic carbon isotope data from the Salina Group halite (Michigan Basin): A new tool for stratigraphic correlation and paleoclimate proxy resource. *Geological Society of America Bulletin*, 130(11/12), 1782–1790.
- Chen Di and Rong Jiayu. 2019. A new craniid brachiopod genus from the terminal Ordovician *Hirnantia* fauna of Myanmar and South China. *Papers in Palaeontology*, 2019(1), 1–15. doi: 10.1002/spp2.1250.
- Claussen, A.L., Munnecke, A., Wilson, M.A. and Oswald, I. 2019. The oldest deep boring bivalves? Evidence from the Silurian of Gotland (Sweden). *Facies*, *in press*.
- Cocks L.R.M. and Rong Jiayu. *in press*. A global analysis of distribution and endemism within late Llandovery (Telychian) brachiopods. *Alcheringa*.
- Cocks, L.R.M. and Torsvik, T.H. 2018. Useful and useless – brachiopods and palaeogeography. *Permophiles*, 66 (Supplement), 44.
- Corradini, C. and Corrigan, M.G. 2018. The new genus *Walliserognathus* and the origin of *Polygnathoides siluricus* (Conodonts, Silurian). *Estonian Journal of Earth Sciences*, 67(2), 113–121. doi:10.3176/earth.2018.
- Corradini, C. and Spalletta, C. 2018. Continuity of fossil record and biozonation schemes: an example across the Devonian/Carboniferous boundary. *IPC 4 Parigi*, Abstract: 789.
- Corradini, C., Corrigan, M.G., Lapini, L., Pondrelli, M., Suttner, T.J. and Simonetto, L. 2018. *Passo Volaiia*. Le guide del Geoparco della Carnia, 2, 48 pp. Edizioni UTI della Carnia. ISBN: 978 88 96546 07 9
- Corradini, C., Corrigan, M.G., Pondrelli, M., Serventi, P., Simonetto, L. and Ferretti, A. 2019. Lochkovian (Lower Devonian) marine-deposits from the Rio Malinfier West section (Carnic Alps, Italy). *Italian Journal of Geosciences*, 138, 18 pp. doi: 10.3301/IJG.2018.33 (in press)
- De Baets, K. and Munnecke, A. 2018. Evidence for Palaeozoic orthoconic cephalopods with bimineralic shells. *Palaeontology*, 61(2), 173–181.
- De Weirdt, J., Vandenbroucke, T.R.A., Cocq, J., Russel, C., Davies, J.R., Melchin, M. and Zalasiewicz, J.A. *in press*. Chitinozoan biostratigraphy of the Rheidol Gorge Section, Central Wales, UK: a GSSP replacement candidate for the Aeronian-Rhuddanian boundary. *Papers in Palaeontology*.
- Deng Qiaoyan, Tang Peng and Wang Wenhui. 2018. Melanosclerites: a special rod-shaped microfossil group in Palaeozoic. *Acta Micropalaeontologica Sinica*, 35(2), 181–189.
- Di Bella, M., Italiano, F., Sabatino, G., Quartieri, S., Ferretti, A., Cavalazzi, B., Barbieri, R.,

- Foucher, F. and Messori, F. 2018. New insight on the nature of iron ooid formation – a study from Panarea island (Sicily, Italy). SGI-SIMP Catania, 12-14 September 2018: 12.
- Di Bella, M., Sabatino, G., Quartieri, S., Ferretti, A., Cavalazzi, B., Barbieri, R., Foucher, F., Messori, F. and Italiano, F. 2018. Back in time: modern iron ooids as a key to fossil ironstones. Trento e Predazzo 2018, XVIII Paleodays, XVIII edizione delle Giornate di Paleontologia, 6–8 giugno 2018 - Libro degli abstract: 19.
- Emig, C.C., Bitner, A.M. and Alvarez, F. 2018. Brachiopoda Database. *In: Species 2000 & IT IS Catalogue of Life, 2018 Annual Checklist* (Roskov Y. et al. eds). DVD - Digital resource at WWW.catalogueoflife.org/annual-checklist/2018. Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-884X / ISSN 2405-917X.
- Ferretti, A., Schönlau, H.P., Todesco, R. and Corradini, C. 2018. Conodont fauna and biostratigraphy of the Valentin Törl Section, Carnic Alps, Austria. IPC 4 Parigi, Abstract: 530.
- Ferron, H., Martínez-Pérez, C., Turner, S., Manzanares, E. and Botella, H. 2018. Patterns of ecological diversification of thelodonts. *Palaeontology*, 61, 303–315.
- Gai Zhikun, Lu, L.-W., Zhao Wenjin and Zhu Min. 2018. New polybranchiaspiform fishes (Agnatha: Galeaspida) from the Middle Palaeozoic of China and their ecomorphological implications. *PLoS One*, 13(9), 1–21 (e0202217; <https://doi.org/10.1371/journal.pone.0202217>).
- Gómez, M.J., Mestre, A., Garcías, Y. and Corradini, C. 2018. First documentation of the *Polygnathoides siluricus* conodont Zone (Ludfordian) in South America (Argentina) and the stratigraphic significance of the younger species of *Kockelella* (Conodonta). *Geological Journal*, 13 pp. doi:10.1002/gj.3325
- Gubanov, A.P., Ebbestad, J.-O. and Bogolepova, O.K. 2018. A new record of the enigmatic mollusc *Jinonicella* from the Silurian of the Carnic Alps, Austria. *Estonian Journal of Earth Sciences*, 67(2), 158–164.
- Harrison, W.B. III and Voice, P.J. 2018. Evaporite facies of the Michigan basin. *In: Grammer, G.M., Harrison, W.B. III, and Barnes, D.A., eds, Paleozoic Stratigraphy and Resources of the Michigan Basin. Geological Society of America Special Paper*, 531, 197–216.
- Huang Bing, David A.T. Harper, Zhou Hanghang, Zhan Renbin, Wang Yi, Tang Peng, Ma Junye, Wang Guangxu, Chen Di, Zhang Yuchen, Luan Xiacong and Rong Jiayu. 2019. A new *Cathaysiorthis* (Brachiopoda) fauna from the Lower Llandovery of eastern Qinling, China. *Papers in Palaeontology. in press*.
- Huang Bing, Jin Jisuo and Rong Jiayu. 2018. Post-extinction diversification patterns of brachiopods in the early–middle Llandovery, Silurian. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 493, 11–19.
- Italiano, F., Di Bella, M., Sabatino, G., Quartieri, S., Correale, A., Barbieri, R., Ferretti, A., Cavalazzi, B., Foucher, F. and Messori, F. 2018. Exceptional discovery at Panarea Island! The unique recent iron ooids deposit known in the world: multidisciplinary study to constrain their hydrothermal/volcanic origin. SGI-SIMP Catania, 12-14 September 2018: 445.
- Jarochovska, E., Ray, D.C., Röstel, P., Worton, G. and Munnecke, A. 2018. Harnessing stratigraphical bias at the section scale: conodont diversity in the Homeric (Silurian) of the Midland Platform, England. *Palaeontology*, 61(1), 57–76.

- Johnson, M.E. and Baarli, B.G. 2018. Storm tracks predict land-to-sea sediment transfer: Erosional patterns from the Upper Ordovician (Hirnantian) in the Oslo Region, Norway. *Journal of Geology*, 126, 325–342.
- Kaczmarek, Ł., Kozłowska, A., Maksimczuk, M. and Wejrzanowski, T. 2017. The use of high-resolution X-ray computed microtomography for graptolite detection in rock based on the core internal structure visualization. *Acta Geologica Polonica*, 67, 299–306. doi: 10.1515/apg-2017-0010
- Kaljo, D. 2018. Good traditions deserve to be continued and supported. *Estonian Journal of Earth Sciences*, 67(1), 1–2.
- Kershaw, S., Munnecke, A. and Jarochovska, E. 2018. Understanding Palaeozoic stromatoporoid palaeobiology and its applications in carbonate facies analysis. *Earth Science Reviews*, 187, 53–76.
- Kershaw, S., Munnecke, A. and Jarochovska, E. 2018. Understanding Palaeozoic stromatoporoid growth. *Earth Science Reviews*, 187, 53–76.
- Knaust, D. and Desrochers, A. *In press*. Exceptionally preserved soft-bodied assemblage in Ordovician carbonates of Anticosti Island, eastern Canada. *Gondwana Research*.
- Kozłowska, A. 2016. A new generic name, *Semigothograptus*, for *Gothograptus? meganassa* Rickards and Palmer, 2002, from the Silurian post-lundgreni Biozone recovery phase, and comparative morphology of retiolitids from the lowermost upper Homeric (upper Wenlock). *Zootaxa*, 4208(6), 534–546.
- Kozłowska, A. 2017. The best record of the Silurian graptolite *Gothograptus nassa* from Poland, Baltica. 10th Baltic Stratigraphic Conference, Chęciny 12-14 September 2017, Abstracts and Guide Book, Warszawa, p. 46.
- Kozłowska, A. 2018. Atlas of Graptolite Type Specimens, Folio 3: 3.03, 3.12, 3.13, 3.37, 3.38, 3.44, 3.54, 3.63, 3.68, 3.73, 3.79, 3.85, 3.92, 3.94.
- Kozłowska, A., Bates, D.E.B., Zalasiewicz, J. and Radzevičius, S. *in press*. Evolutionary significance of the retiolitine *Gothograptus* (Graptolithina) with four new species from the Silurian of the East European Platform, Baltica. *Zootaxa*.
- Kraft, P., Pšenička, J., Sakala, J. and Frýda, J. 2019. Initial plant diversification and dispersal event in upper Silurian of the Prague Basin. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 514, 144–155. doi: 10.1016/j.palaeo.2018.09.034
- Lavoie, D., Castagner, A., Haghazari-Liseroudi, M., Ardakani, O.-H. and Desrochers, A. 2018. High-temperature alteration and porosity generation in Upper Ordovician microbial reefs, Hudson Bay intracratonic Basin, Arctic Canada. *Sedimentary Geology*, 374, 1–16.
- Lenz, A., Bates, D., Kozłowska, A. and Maletz, J. 2018. Part V, Chapter 26. Family Retiolitidae: Introduction, morphology, and systematic descriptions. *Treatise of Invertebrate Paleontology*, Treatise Online, 114, 1–37.
- Leone, M.F. and Benedetto, J.L. 2019. The brachiopod *Dalmanella testudinaria* (Dalman, 1828) across the end-Ordovician extinction event in the Cuyania terrane of western Argentina. *Ameghiniana*, *in press*.
- Li Chao, Fan Junxuan, Zhang Yuandong and Sun Zongyuan. 2018. Carbon isotope chemostratigraphy of the Ordovician–Silurian boundary strata of the Yihuang-1 Drillcore, Yichang, Hubei, South China. *In: Zhang Yuandong, Zhan Renbin, Fan Junxuan and Muir, L.A., eds, Proceedings of the International Geoscience Programme (IGCP) Project 653 Annual Meeting, October 8th -12th, 2017, Yichang, China.*

- Hangzhou, Zhejiang University Press. 69–72.
- Li Qijian, Ernst, A., Munnecke, A., Yu Shenyang and Li Yue. 2018. Early Silurian (Telychian) bryozoan reefs in the epeiric sea of South China: Are heterotrophic metazoan buildups promoted by internal waves? *Sedimentary Geology*, 376, 50–59.
- Liang Kun, Elias, R.J. and Lee, D.-J. 2018 Morphometrics, growth characteristics, and phylogenetic implications of *Halysites catenularius* (Tabulata, Silurian, Estonia). *Journal of Paleontology*, <https://doi-org.uml.idm.oclc.org/10.1017/jpa.2018.73>
- Liang Yan, Hints, O., Luan XiaoCong, Tang Peng, Nölvak, J. and Zhan Renbin. 2018. Lower and Middle Ordovician chitinozoans from Honghuayuan, South China: Biodiversity patterns and response to environmental changes. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 500, 95–105.
- Libertín, M., Kvaček, J., Bek, J. and Štorch, P. 2018. Plant diversity of the mid Silurian (lower Wenlock, Sheinwoodian) terrestrial vegetation preserved in marine sediments from the Barrandian area, the Czech Republic. *Fossil Imprint*, 74(3-4), 327–333.
- Libertín, M., Kvaček, J., Bek, J., Žárský, V. and Štorch, P. 2018. Sporophytes of early polysporangiate land plants from the early Silurian may have been photosynthetically autonomous. *Nature Plants*, 4, 269–271.
- LoDuca, S.T. 2018. New Ordovician marine macroalgae from North America, with observations on *Buthograptus*, *Callithamnopsis*, and *Chaetocladus*. *Journal of Paleontology*, 93, 197–214.
- Loydell, D.K. and Large, R.R. 2019. Biotic, geochemical and environmental changes through the early Sheinwoodian (Wenlock, Silurian) carbon isotope excursion (ESCIE), Buttington Quarry, Wales. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 514, 305–325.
- Loydell, D.K., Udchachon, M. and Burrett, C. 2019. Llandoverly (lower Silurian) graptolites from the Sepon Mine, Truong Son Terrane, central Laos and their palaeogeographical significance. *Journal of Asian Earth Sciences*, 170, 360–374.
- Maletz, J., Bates, D., Lenz, A. and Kozłowska, A. 2017. The Retiolitid Graptolites. *In*: Maletz, J. (ed.) *Graptolite Paleobiology*. Chichester, West Sussex, Wiley-Blackwell, pp. 207–220.
- Mannik, P., Maekawa, T., Tanaka, G., Komatsu, T., Siveter D. J., Williams, M., Hints, O. and Vandenbroucke, T.R.A. 2018. The Ordovician and Silurian conodonts of Japan: their biostratigraphical, palaeoecological and palaeobiogeographical significance. *Island Arc*, 27, e12269. doi: 10.1111/iar.12269
- Mauviel, A. and Desrochers, A. *In press*. The stratigraphic and geochemical imprints of Late Ordovician glaciation on far-field neritic carbonates, Anticosti Island, Eastern Canada. *Palaeogeography, Palaeoclimatology, Palaeoecology*.
- McAdams, N.E.B., Schmitz, M.D., Kleffner, M.A., Verniers, J., Vandenbroucke, T.R.A., Ebert, J.R. and Cramer, B.D. 2018. A new, high-precision CA-ID-TIMS date for the ‘Kalkberg’ K-bentonite (Judds Falls Bentonite). *Lethaia*, 51(3), 344–356. doi: 10.1111/let.12241.
- McLaughlin, P.I., Bancroft, A.M., Brett, C.E. and Emsbo, P. 2018. The rise of pinnacle reefs: Islands of diversity in seas of despair. *In*: Florea, L.J. (ed.), *Ancient Oceans, Orogenic Uplifts, and Glacial Ice: Geologic Crossroads in America’s Heartland*. Geological Society of America Field Guide, 51, 23–33, [https://doi.org/10.1130/2018.0051\(02\)](https://doi.org/10.1130/2018.0051(02)).

- Medici, L., Malferrari, D. Savioli, M. and Ferretti, A. *in press*. Mineralogy and crystallization patterns in conodont bioapatite from first occurrence (Cambrian) to extinction (end-Triassic). *Palaeogeography, Palaeoclimatology, Palaeoecology*, doi: 10.1016/j.palaeo.2019.02.024.
- Melchin, M.J., Lenz, A.C. and Kozłowska, A. 2017. Retiolitine graptolites from the Aeronian and lower Telychian (Llandovery, Silurian) of Arctic Canada. *Journal of Paleontology*, 91, 116–145. doi: 10.1017/jpa.2016.107
- Modzalevskaya, T.L. 2018. Upper Ordovician and Silurian brachiopods, *In*: L.V. Nekhorosheva, L.V. and Sobolevskaya, R.F. (eds), *The Ordovician, Silurian, and Devonian stratigraphy and fauna of Kotelnny Island (New Siberian Islands)*. St. Petersburg: FBU “VNIIOkeangeologia, 61–73 (in Russian).
- Nohl, T., Jarochovska, E. and Munnecke, A. 2019. Revealing the genesis of limestone-marl alternations: a taphonomic approach. *Palaios*, *in press*.
- Papazzoni, C.A., Ferretti, A., Medici, L., Seddighi, M. and Filipescu, S. 2018. An unusual nummulite-iron ooid association from the Middle Eocene of Transylvania (Romania). *FORAMS*, 2018, 17-22 June 2018, Edinburgh.
- Päßler, J.-F., Jarochovska, E., Bestmann, M. and Munnecke, A. 2018. Distinguishing biologically controlled calcareous biomineralization in fossil organisms using electron backscatter diffraction (EBSD). *Frontiers in Earth Science*, 6, 16 (12 pages).
- Peel, J.S. 2018. A new look at *Pleurotomaria perlata* Hall, 1852 (Gastropoda) from the Silurian of Laurentia. *GFF*, 140, 249–253.
- Peel, J.S. 2018. Teller’s operculum; revising a rare operculate gastropod from the Silurian of Wisconsin (Laurentia). *Bulletin of Geosciences*, 93(4), 499–511.
- Pogge von Strandmann, P., Desrochers, A., Murphy, M.J., Finlay, A.J., Selby, D. and Lenton, T.M. 2017. Global climate stabilisation by chemical weathering during the Hirnantian glaciation. *Geochemical Perspectives Letters*, 3, doi: 10.7185/geochemlet.1726
- Powell, J., Schneider, D.A., Desrochers, A., Flowers, R.M., Metcalf, J., Gaidies, F. and Stockli, D.F. 2018. Low-temperature thermochronology of Anticosti Island: a case study on the application of conodont (U-Th)/He thermochronology to carbonate basin analysis. *Marine and Petroleum Geology*, 96, doi: 10.1016/j.marpetgeo.2018.05.018
- Rine, M., Garrett, J. and Kaczmarek, S. 2018. A new sequence stratigraphic model for the Silurian A-1 carbonate of the Michigan basin. *In*: Grammer, G.M., Harrison, W.B., III and Barnes, D.A., eds, *Paleozoic Stratigraphy and Resources of the Michigan Basin*. Geological Society of America Special Paper, 531.
- Rinkevičiūtė, S., Spiridonov, A., Radzevičius, S. and Garbaras, A. 2018. The impact of the Mulde bioevent (lower Silurian) on Ostracod ecological Dynamics. 5th International Paleontological Congress, Paris, 9th-13th July, *The Fossils Week Abstract Book* 120.
- Ritter (Varga), A. and Grammer, G.M. 2018. Utilizing sequence stratigraphy to develop a depositional model for Silurian (Niagaran) reefs in the Michigan basin. *In*: Grammer, G.M., Harrison, W.B. III and Barnes, D.A., eds, *Paleozoic Stratigraphy and Resources of the Michigan Basin*. Geological Society of America Special Paper, 531, 81–103.
- Rong Jiayu, Kyi Pyar Aung, Zhan Renbin, Huang Bing, David A. T. Harper, Chen Di, Zhou Hanghang and Zhang Xiaole. *in press*. The latest Ordovician *Hirnantia* brachiopod Fauna of Myanmar: Significance of new data from the Mandalay Region. *Palaeoworld*.

- Rong Jiayu, Wang Yi, Zhan Renbin, Fan Junxuan, Huang Bing, Tang Peng, Li Yue, Zhang Xiaole, Wu Rongchang, Wang Guangxu and Wei Xin. 2019. Silurian integrative stratigraphy and timescale of China. *Science China Earth Sciences*, 62(1), 89–111.
- Rong Jiayu, Wei Xin, Zhan Renbin and Wang Yi. 2018. A deep water shelly fauna from the uppermost Ordovician in northwestern Hunan, South China and its paleoecological implications. *Science China Earth Sciences*, 61(6), 730–744.
- Sabatino, G., Italiano, F., Barbieri, R., Cavalazzi, B., Ferretti, A., Magazù, S., Tripodo, A., Leonetti, F., Romano, D., Messori, F. and Di Bella, M. 2018. From Earth to Mars: mineralogical and geochemical perspective from NASA's rovers and from a recent discovery in the Aeolian Arc, Sicily. *SGI-SIMP Catania, 12-14 settembre 2018*: 839.
- Sachanski, V., Loydell, D. and Chatalov, A. 2018. New data from graptolites and quartz arenites for the Ordovician–Silurian boundary in the Murzuq Basin, Libya. *Comptes rendus de l'Académie bulgare des Sciences*, 71(4), 506–515.
- Savioli, M., Ferretti, M.L. and Malferrari, D. 2018. How did vertebrates sharpen their teeth? A new perspective in bioapatite analysis. 1° Convegno in Paleontologia dei Vertebrati per Giovani Ricercatori VPday, Firenze, 14 September 2018. *Fossilia - Reports in Palaeontology*, 53–55.
- Shen Shuzhong and Rong Jiayu. 2019. Preface: New advances in the integrative stratigraphy and timescale of China. *Science China Earth Sciences*, 62(1), 1–6.
- Siveter, D., Tanaka, G., Williams, M. and Männik, P. 2019. Japan's earliest ostracods. *Island Arc*, <https://doi.org/10.1111/iar.12284>
- Spalletta, C. and Corradini, C. 2018. History of conodont researches in the Carnic Alps (Austria and Italy): an overview. *Gortania Geologia, Paleontologia, Paleontologia*, 39, 5–26.
- Spiridonov, A., Stankevič, R., Samsonè, J., Brazauskas, A., Meidla, M., Ainsaar, L. and Radzevičius, S. 2018. Cross recurrence plot analyses of conodont community turnover – a model free, continuous, high-resolution correlation tool. Opening Meeting IGCP 652 - “Reading Time in Paleozoic sedimentary Rock”, Bremen, 12-19 September, Program.
- Sproat, C.D. and Zhan Renbin. 2018. *Altaethyrella* (Brachiopoda) from the Late Ordovician of the Tarim Basin, Northwest China, and its significance. *Journal of Paleontology*, 92, 1005–1017.
- Stocker, C.P., Siveter, D.J., Lane, P., Williams, M., Oji, T., Wallis, S.R., Tanaka, G., Komatsu, T., Siveter, D.J. and Vandenbroucke, T.R.A. 2019. The paleobiogeographical significance of the Silurian and Devonian trilobites of Japan. *Island Arc*. doi: 10.1111/iar.12287.
- Stocker, C.P., Siveter, D.J., Lane, P.D., Williams, M., Oji, T., Tanaka, G., Komatsu, T., Wallis, S., Siveter, D.J. and Vandenbroucke, T.R. A. (*in press*) The Silurian and Devonian proetid and aulacopleurid trilobites of Japan. *Fossils and Strata*.
- Stocker, C.P., Tanaka, G., Siveter, D.J., Lane, P., Tsutsumi, Y., Komatsu, T., Wallis, S., Oji, T., Siveter, D.J. and Williams, M. 2018. Biogeographical and Biostratigraphical Significance of a New Middle Devonian Phacopid Trilobite from the Naidaijin Formation, Kurosegawa Terrane, Kyushu, Southwest Japan. *Paleontological Research*, 22(1), 75–90.
- Štorch, P. and Melchin, M.J. 2018. Lower Aeronian triangulate monograptids of the genus *Demirastrites* Eisel, 1912: biostratigraphy, palaeobiogeography, anagenetic changes and speciation. *Bulletin of Geosciences*, 93(4), 513–537.

- Štorch, P., Manda, Š., Tasáryová, Z., Frýda, J., Chadimová, L. and Melchin, M.J. 2018. A proposed new global stratotype for Aeronian Stage of the Silurian System: Hlášná Třeboň section, Czech Republic. *Lethaia*, 51(3), 357–388.
- Strother, P.K. and Taylor, W.A. 2018. The evolutionary origin of the plant spore in relation to the antithetic origin of the plant sporophyte. *In*: Michael Krings, Carla J. Harper, N. Rubén Cúneo and Gar W. Rothwell (eds), *Transformative paleobotany: Papers to commemorate the life and legacy of Thomas N. Taylor*. Elsevier, 3–20.
- Strusz, D.L. and Percival, I.G. 2018. Silurian (Wenlock) brachiopods from the Quidong district, southeastern New South Wales, Australia. *Australasian Palaeontological Memoirs*, 51, 81–129.
- Syverson, V.J.P., Brett, C.E., Gahn, F.J. and Baumiller, T.K. 2018. Spinosity, regeneration, and targeting among Paleozoic crinoids and their predators. *Paleobiology*, 44, 290–305. 3955 <https://doi.org/10.1017/pab.2017.38>
- Teichert, S., Woelkerling, W. and Munnecke, A. 2019. *Aguirrea fluegelii* gen. et sp. nov. (Corallinales, Corallinophycidae, Rhodophyta), the first known mid-Silurian (c. 430 Ma) coralline red alga with uniporate conceptacles. *Palaeontology*, *in press*.
- Thomka, J.R., Sullivan, N.B. and Brett, C.E. 2018. *Arthropycus* as a mimic of crinoid column impressions in the lower Silurian of central Kentucky, USA. *Lethaia*, 51, 96–101.
- Toelle, B. and Ganshin, Y.V. 2018. Porosity characterization in a Silurian reef, northern Michigan basin, using azimuthal seismic and potential impacts for EOR. *In*: Grammer, G.M., Harrison, W.B., III and Barnes, D.A., eds, *Paleozoic Stratigraphy and Resources of the Michigan Basin*. Geological Society of America Special Paper, 531.
- Toom, U., Vinn, O. and Hints, O. 2018. Ordovician and Silurian ichnofossils from carbonate facies in Estonia: a collection-based review. *Palaeoworld*, 27, 1–22. doi:10.1016/j.palwor.2018.07.001.
- Torsvik, T.H. and Cocks, L.R.M. 2018. The integration of palaeomagnetism, the geological record and mantle tomography in the location of ancient continents. *Geological Magazine*, doi:10.1017/S001675681700098X
- Trout, J.L., Grammer, G.M. and Harrison, W.B., III. 2018. Windward vs. Leeward variability of faunal distribution in a Silurian (Wenlock) Pinnacle Reef Complex – Ray Reef, Macomb County, Michigan. *In*: Grammer, G.M., Harrison, W.B., III and Barnes, D.A., eds, *Paleozoic Stratigraphy and Resources of the Michigan Basin*. Geological Society of America Special Paper, 531, 131–156.
- Turner, S. and Burrow, C.J. 2018. Microvertebrates from the Silurian–Devonian boundary beds of the Eastport Formation, Maine, eastern USA. *Atlantic Geology*, 54, 171–187. doi:<https://doi.org/10.4138/atlgeol.2018.006>
- Vandenbroucke, T.R.A., Hints, O., Williams, M., Wallis, S., Velleman, J., Kurihara, T., Tanaka, G., Komatsu, T., Mannik, P., Siveter D.J. and De Backer, T. *In press*. Chitinozoans and scolecodonts from the Silurian and Devonian of Japan. *Island Arc*.
- Vinn, O. and Toom, U. 2018. First description of rare *Teichichnus* burrows from the carbonate rocks of early Paleozoic of Estonia. *Carnets de Géologie*, 18, 305–312.
- Voice, P.J., Harrison, W.B. III and Grammer, G.M. 2018. A reevaluation of the Burnt Bluff Group (lower Silurian, Michigan basin) from the subsurface and outcrop data: Development of a time-transgressive depositional model. *In*: Grammer, G.M., Harrison, W.B. III and Barnes, D.A., eds, *Paleozoic Stratigraphy and Resources of the Michigan Basin*. Geological Society of America Special Paper, 531, 55–80.

- Walasek, N., Loydell, D., Fryda, J., Männik, P. and Loveridge, R. 2018. Integrated graptolite-conodont biostratigraphy and organic carbon chemostratigraphy of the Llandovery of Kallholn quarry, Dalarna, Sweden. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 508, 1–16.
- Wang Guangxu, He Xinyi, Tang Lan and Percival, I.G. 2018. Silurian amplexoid rugosan genera *Pilophyllia* Ge and Yu, 1974 and *Neopilophyllia* new genus from South China. *Journal of Paleontology*, 92(6), 982–1004.
- Wang Guangxu, Zhan Renbin, Rong Jiayu, Huang Bing, Percival, I.G., Luan Xiaocong and Wei Xin. 2018. Exploring the end-Ordovician extinctions in Hirnantian near-shore carbonate rocks of northern Guizhou, SW China: A refined stratigraphy and regional correlation. *Geological Journal*, 53, 3019–3029.
- Wang Wenhui, Tang Peng, Chen Wenjian and Tan Jingqiang. 2018. Integrated Lower-Middle Ordovician graptolite and chitinozoan biostratigraphy of the Jiangnan Slope Region, South China. *Palaeoworld*. doi:10.1016/j.palwor.2018.06.001
- Wang Wenhui, Zhang Ran, Muir, L.A., Li Ming and Tan Jingqiang. 2018. Darriwilian (Middle Ordovician) chitinozoans from the Qaidam Paleoplate, Northwest China. *Review of Palaeobotany and Palynology*, 259, 123–133.
- Wang Yi, Jiang Qing, Tang Peng, Zhang Xiaole, Huang Bing, Zhan Renbin, Sun Cunli and Rong Jiayu, 2018. Discovery of late Silurian Xiaoxi Formation and emendation of Lower Silurian Xikeng Formation from northwestern Jiangxi, South China. *Journal of Stratigraphy*, 42(2), 257–266 (in Chinese with English abstract).
- Wang Yi, Tang Peng, Zhang Xiaole, Zhang Yucheng, Huang Bing and Rong Jiayu. 2018. Discovery of late Silurian Xiaoxi Formation from Shamaoshan section, Yichang, Hubei, South China. *Journal of Stratigraphy*, 42(3), 371–380 (in Chinese with English abstract).
- Whittingham, M., Radzevičius, S. and Spiridonov, A. 2018. Iterative speciation in late Silurian Pristiograptine graptolites of the Baltic Basin and the value of stratigraphy in cladistics. Opening Meeting IGCP 652 - “Reading Time in Paleozoic sedimentary Rock”, Bremen, 12 - 19 September, Program.
- Wold, J.L. and Grammer, G.M. 2018. Rock-based 3-D reservoir characterization of a Silurian (Niagaran) reef – Ray Gas Storage Field, Macomb County, Michigan. *In*: Grammer, G.M., Harrison, W.B. III and Barnes, D.A., eds, *Paleozoic Stratigraphy and Resources of the Michigan Basin*. Geological Society of America Special Paper, 531, 105–129.
- Wu Rongchang, Huang Bing, Wang Guangxu, Wei Xin, Zhan Renbin, Tang Peng, Luan Xiaocong and Zhang Yuchen. 2018. The Silurian Zhuxi Formation in the Zhuxi area, northwestern Hubei Province. *Journal of Stratigraphy*, 42(3), 243–256 (in Chinese with English abstract).
- Zagorchev, I., Krstić, B., Milovanović, D., Sachanski, V. and Goranov, E. 2018. Key stratigraphic and tectonic problems of the pre-Alpine geology within the border area between Bosilegrad and Vlasina (Serbia) and Treklyano and Zemen (Bulgaria). – Book of Abstracts, 17th Serbian Geological Congress, Vrnjačka Banja, May 17-20, 2018, 23–29.
- Zhan Renbin, Liu Jianbo, Zhu Xuejian, Wang Yi, Zhang Yuandong and Luan Xiaocong. 2018. Field Guide for Cambrian and Ordovician Succession in SW Hubei and NW Hunan Provinces, Central China. *In*: Zhang Yuandong, Zhan Renbin, Fan Junxuan and Muir, L.A., eds, *Proceedings of the International Geoscience Programme (IGCP)*

- Project 653 Annual Meeting, October 8th -12th, 2017, Yichang, China. Hangzhou, Zhejiang University Press. 277–359.
- Zhang Xiaole, Liu Jianbo, Wang Yi, Rong Jiayu, Zhan Renbin, Xu Honghe and Tang Peng. 2018. Onset of the middle Telychian (Silurian) clastic marine red beds in the western Yangtze platform of South China. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 497, 52–65.
- Zhang Yuandong, Chen Qing, Fan Junxuan, Wang Xiaofeng, Li Qijian, Zhang Linna and Fang Xiang. 2018. Guide for the Mid-Conference Field Trip of the IGCP Project 653 — Annual Meeting 2017. *In: Zhang Yuandong, Zhan Renbin, Fan Junxuan and Muir, L.A., eds, Proceedings of the International Geoscience Programme (IGCP) Project 653 Annual Meeting, October 8th -12th, 2017, Yichang, China. Hangzhou, Zhejiang University Press, 253–276.*
- Zhang Zhao, Luo Hui and Zhang Yuandong. 2018. Radiolarian faunas of the Wufeng Formation (Upper Ordovician) at Lunshan, Jiangsu Province, and Yihuang-1 Well, Yichang, Hubei Province, China. *Acta Micropalaeontologica Sinica*, 35(2), 170–180 (in Chinese with English Abstract).
- Zhao Wenjin, Zhu Min, Gai Zhikun, Pan, Z.-H., Cui, X.-D. and Cai, J.-C. 2018. A review of Silurian fishes from north-western Hunan, China and related biostratigraphy. *Acta Geologica Polonica*, 68(3), 475–486.
- Zhen Yongyi. 2018. Conodonts, corals and stromatoporoids from Late Ordovician and latest Silurian allochthonous limestones in the Cuga Burga Volcanics of central western New South Wales. *Proceedings of the Linnean Society of New South Wales*, 140, 265–294.

MEMBERSHIP NEWS

1. List of all Silurian workers and interested colleagues (*updated March 2019*)

Guillermo ACENOLAZA	<insugeo@csnat.unt.edu.ar>
Aicha ACHAB	<achabai@ete.inrs.ca>
Leho AINSAAR	<Leho.ainsaar@ut.ee>
Fernando ALVAREZ	<fernando@geol.uniovi.es>
Anna ANTOSHKINA	<Antoshkina@geo.komisc.ru>
Howard A. ARMSTRONG	<h.a.armstrong@durham.ac.uk>
Esther ASSELIN	<EAsselin@nrcan.gc.ca>
Gudveig BAARLI	<Gudveig.Baarli@williams.edu>
Loren BABCOCK	<lbabcock@ccad.edu>
Alyssa M. BANCROFT	<ambancroft@gmail.com>
Christopher R. BARNES	<crbarnes@uvic.ca>
J.E. BARRICK	<ghjeb@ttacs.ttu.edu>
Richard BATCHELOR	<rab@st-andrews.ac.uk>
Denis BATES	<deb@aber.ac.uk>
Dorjsuren BYAMBADASH	<b_dorjsuren56@yahoo.com>
Juan Louis BENEDETTO	<juan.benedetto@unc.edu.ar>
Stig BERGSTRÖM	<Bergtrom.1@osu.edu>
Alain BLIECK	<alain.blieck@yahoo.fr>
Bujinlkham BOIJIR	<bujinlkham_b@yahoo.com>
Joe BOTTING	<joe@asoldasthehills.org>
Art J. BOUCOT	<boucota@science.oregonstate.edu>
Margaret BRADSHAW	<Margaret.Bradshaw@canterbury.ac.nz>
Carlton BRETT	<Carlton.Brett@uc.edu>
Olga BOGOLEPOVA	<olga.bogolepova@ires.uu.se> <olga.bogolepova@gmail.com>
Thomas BROADHEAD	<twbroadhead@utk.edu>
Frank BRUNTON	<frank.brunton@ndm.gov.on.ca>
Petr BUDIL	<Petr.Budil@geology.cz>
Carole BURROW	<Carole.burrow@gmail.com>
Anthony BUTCHER	<Anthony.butcher@port.ac.uk>
Mikael CALNER	<Mikael.calner@geol.lu.se>
Tamara CAMILLERI	<tamara.camilleri@deakin.edu.au>
Yves CANDELA	<y.candela@nms.ac.uk>
M.V. CAPUTO	<caputo@interconect.com.br>
CHAI Yucheng	<chaiyc@nsfc.gov.cn>
Tom CHALLANDS	<Tomchallands@googlemail.com>
CHEN Qing	<qchen@nigpas.ac.cn>
CHEN Xiaohong	<yccxiaohong@163.com>
CHEN Xu	<xuchen@nigpas.ac.cn>
Lesley CHERNS	<cherns@cardiff.ac.uk>
Robin COCKS	<r.cocks@nhm.ac.uk>

Paul COPPER <pcopper@laurentian.ca>
 Carlo CORRADINI <Corradin@unica.it>
 Maria CORRIGA <maria.corriga@unica.it> or
 <corrigamaria@hotmail.it>
 Brad CRAMER <cramerbd@gmail.com>
 Peter CROWTHER <peter.crowther.um@nics.gov.uk>
 Susana DE LA PUENTE <sudelapiente@gmail.com>
 Andr e DESROCHERS <andre.desrochers@uottawa.ca>
 Richard DIECCHIO <rdiecchi@gmu.edu>
 Andrey DRONOV <dronov@ginras.ru> or <dronov@GG2686.spb.edu>
 DUAN Yun <yun.duan@asu.edu>
 Diane EDWARDS <edwardsd2@cardiff.ac.uk>
 Rein EINASTO <reine@tktk.ee>
 Robert ELIAS <eliasrj@ms.umanitoba.ca>
 <Robert.Elias@umanitoba.ca>
 Mats E. ERIKSSON <mats.eriksson@geol.lu.se>
 Frank ETTENSOHN <fettens@pop.uky.edu>
 FAN Juanxuan <fanjunxuan@gmail.com>
 Olda FATKA <fatka@natur.cuni.cz>
 Annalisa FERRETTI <Annalisa.Ferretti@unimore.it>
 Stan FINNEY <scfinney@csulb.edu>
 Richard FORTEY <r.fortey@nhm.ac.uk>
 Jiri FRYDA <Jiri.Fryda@geology.cz>
 Mansoureh GHOBADI POUR <mghobadipour@yahoo.co.uk>
 Daniel GOLDMAN <Dan.Goldman@notes.udayton.edu>
 Cemal GONCUOGLU <mcgoncu@metu.edu.tr>
 GUO Jinyi <guojy@nsfc.gov.cn>
 Juan Carlos GUTI RREZ-MARCO <jcgrapto@geo.ucm.es>
 Vachik HAIRAPETIAN <vh_hai@yahoo.com>
 David A.T. HARPER <david.harper@durham.ac.uk>
 William HARRISON <william.harrison_iii@wmich.edu>
 Luke HAUSER <Luke.Hauser@port.ac.uk>
 Olle HINTS <olle.hints@ttu.ee> or <olle.hints@gmail.com>
 Catherine (Kathleen) HISTON <hiscat@interfree.it>
 Charles HOLLAND <hepwholl@tcd.ie>
 David HOLLOWAY <dhollow@museum.vic.gov.au>
 HOU Xudong <houcudonggis@gmail.com>
 Mike HOWE <mhowe@bgs.ac.uk>
 HUANG Bing <bhuang@nigpas.ac.cn>
 Hellen HUGHES <helen.hughes@plymouth.ac.uk>
 Emilia JAROCHOWSKA <emilia.j@gmail.com>
 Lennart JEPPSSON <Lennart.Jeppsson@gmail.com>
 Jisuo JIN <jjin@uwo.ca>
 Markes E. JOHNSON <markes.e.johnson@williams.edu>
 Dimitri KALJO <kaljo@gi.ee>
 Donatas KAMINSKAS <Donatas.Kaminskas@gf.vu.lt>

Stephen KERSHAW	<Stephen.kershaw@brunel.ac.uk>
Erika KIDO	<Erika.Kido@uni-graz.at>
Tarmo KIIPLI	<tarmo.kiipli@gi.ee>
Joanne KLUESSENDORF	<jkluesse@uwc.edu>
Anna KOZŁOWSKA	<akd@twarda.pan.pl>
Petr KRAFT	<kraft@natur.cuni.cz>
Jiri KRIZ	<jiri.kriz@geology.cz>
Björn KRÖGER	<bjoekroe@gmx.de>
Jeff KUGLITSCH	<kug@globaldialog.com>
Veronica B. KUSHLINA	<vkush@paleo.ru>
Jorge Colmenar LALLENA	<colmenar@unizar.es>
Phil LANE	<phil@telychian.co.uk>
Philippe LEGRAND	<legrandblain@wanadoo.fr>
Alain LE HERISSE	<alain.le.herisse@univ-brest.fr>
Oliver LEHNERT	<lehnert@geol.uni-erlangen.de>
Alf LENZ	<aclenz@uwo.ca>
LI Jun	<junli@nigpas.ac.cn>
LI Lixia	<lqli@nigpas.ac.cn>
LI Qijian	<qijianli@hotmail.com>
LIANG Yan	<liangyan@nigpas.ac.cn>
LIU Jianbo	<jbliu@pku.edu.cn>
LIU Yu	<liuyu@nsfc.gov.cn>
Rhian LLEWELLYN	<Rhian.Llewellyn@port.ac.uk>
Steven LODUCA	<sloduca@emich.edu>
Darrel LONG	<dlong@laurentian.ca>
David LOYDELL	<david.loydell@port.ac.uk>
Stefan LUBESEDER	<stefan_lubeseder@web.de>
Robert LUNDIN	<robert.lundin@asu.edu>
Gil MACHADO	<Machadogil@gmail.com>
Eugene MACDONALD	<eugenewm@rocketmail.com>
Jörg MALETZ	<yorge@zedat.fu-berlin.de>
Andy MALLETT	<Andy.Kaz@btinternet.com>
Štěpán MANDA	<stepan.manda@geology.cz>
Peep MÄNNIK	<mannik@gi.ee>
Tiiu MARSS	<marss@gi.ee>
Ruth MAWSON	<rmawson37@gmail.com>
Sandy MCCRACKEN	<samccrac@NRCan.gc.ca>
Tõnu MEIDLA	<tonu.meidla@ut.ee>
Mike MELCHIN	<mmelchin@stfx.ca>
Carl MENDELSON	<mendelsn@beloit.edu>
Donald MIKULIC	<mikulic@isgs.uiuc.edu>
Giles MILLER	<G.Miller@nhm.ac.uk>
Chuck MITCHELL	<cem@nsm.buffalo.edu>
Tatiana MODZALEVSKAYA	<TModzalevskaya@vsegei.ru> or <Modz@ib2567.spb.edu>
Lucy A. MUIR	<lucy@asoldasthehills.org>

Axel MUNNECKE <axel.munnecke@gzn.uni-erlangen.de>
 Mike MURPHY <Mamurphy85@gmail.com> or <mamurphy@ucr.edu>
 Heldur NESTOR <hnestor@gi.ee>
 Viiu NESTOR <vnestor@gi.ee>
 Keith NICHOLLS <keithhnicolls@gmail.com>
 Arne Thorshøj NIELSEN <arnet@snm.ku.dk>
 Paula NOBLE <noblepj@unr.edu>
 Jaak NÕLVAK <nolvak@gi.ee>
 Brian NORFORD <bnorford@nrcan.gc.ca>
 Godfrey NOWLAN <gnowlan@nrcan.gc.ca>
 Olga T. OBUT <Obutot@ipgg.nsc.ru>
 OLARU <olaru@yahoo.com>
 Gladys ORTEGA <gcortega@arnet.com.ar>
 Jeffrey OVER <over@geneseo.edu>
 Florentin PARIS <Florentin.Paris@orange.fr>
 Helje PÄRNASTE <helje@gi.ee>
 John PEEL <John.Peel@pal.uu.se>
 PENG Shanchi <scpeng@nigpas.ac.cn>
 Silvio PERALTA <speralta@unsj-cuim.edu.ar>
 Ian PERCIVAL <ian.percival@planning.nsw.gov.au>
 Vincent PERRIER <vp110@leicester.ac.uk>
 Jos é Manuel PICARRA <jose.picarra@lneg.pt>
 Teresa PODHALANSKA <podhalanska.teresa@pgi.gov.pl>
 Anne PÕLDVERE <anai@ut.ee>
 Leonid POPOV <leonid.popov@museumwales.ac.uk> or
 <lepbarry@yahoo.co.uk>
 Helga PRIEWALDER <helga.priewalder@geologie.ac.at>
 Grzegorz RACKI <grzegorz.racki@us.edu.pl>
 Sigitas RADZEVICIUS <Sigitas.radzevicius@gf.vu.lt>
 Christian RASMUSSEN <christian@snm.ku.dk>
 Jan RASMUSSEN <Audun.janr@snm.ku.dk>
 David RAY <daveray01@yahoo.com>
 John RICHARDSON <jbr@nhm.ac.uk>
 RONG Jiayu <jyrong@nigpas.ac.cn>
 Mike ROSENBAUM <msr@waitrose.com>
 Charles ROSS <Charlesalexross@gmail.com> or <ross@biol.wwu.edu>
 Sergej ROZHNOV <rozhnov@paleo.ru>
 Claudia RUBINSTEIN <crubinstein@mendoza-conicet.gov.ar>
 Artur SA <asa@utad.pt>
 Valeri SACHANSKI <v_sachanski@geology.bas.bg>
 Ivan SANSOM <I.J.Sansom@bham.ac.uk>
 Hans Peter SCHÖNLAUB <hp.schoenlaub@aon.at> or
 <hp.schoenlaub@geologie.ac.at>
 Paul SELDEN <Selden@ku.edu>
 Nikolay V. SENNIKOV <SennikovNV@ipgg.nsc.ru>
 Thomas SERVAIS <Thomas.Servais@univ-lille1.fr>

Peter SHEEHAN	<sheehan@uwm.edu>
Lawrence SHERWIN	<lawrence.sherwin@planning.nsw.gov.au>
Andrew SIMPSON	<asimpson@els.mq.edu.au>
David SIVETER	<DJS@leicester.ac.uk>
Ken SOEHN	<ksoehn@hotmail.com>
Constance SOJA	<csoja@mail.colgate.edu>
Rob STALLARD	<rob@silurian.com>
Philippe STEEMANS	<P.Steemans@ulg.ac.be>
Ronald STIEGLITZ	<stieglir@uwgb.edu>
Alycia STIGALL	<stigall@ohio.edu>
Petr ŠTORCH	<storch@gli.cas.cz>
Svend STOUGE	<Svends@Snm.Ku.Dk>
Paul STROTHER	<strother@bc.edu>
Des STRUSZ	<desmond-strusz@homemail.com.au>
Owen E. SUTCLIFFE	<Owen.Sutcliffe@Neftex.Com>
Stuart SUTHERLAND	<ssutherland@eos.ubc.ca>
Thomas J. SUTTNER	<Thomas.Suttner@uni-graz.at>
John TALENT	<jatalent32@gmail.com>
TANG Lan	<tlan1990@126.com>
TANG Peng	<pengtang@nigpas.ac.cn>
Zuzana TASARYOVA	<zuyana.tasaryova@geology.cz>
Alan T. THOMAS	<A.T.Thomas@bham.ac.uk>
Oive TINN	<oive.tinn@ut.ee>
Petra TONAROVÁ	<petra.tonarova@ttu.ee>
Blanca Azucena TORO	<btorogr@mendoza-conicet.gov.ar>
Wieslaw TRELA	<wieslaw.trela@pgi.gov.pl>
Julie TROTTER	<Julie.trotter@uwa.edu.au>
Susan TURNER	<paleodeadfish@yahoo.com>
Fons VANDENBERG	<avandenberg@museum.vic.gov.au>
Jos éIgnacio VALENZUELA R ÍOS	<jose.i.valenzuela@uv.es>
Thijs VANDENBROUCKE	<Thijs.Vandenbroucke@UGent.be>
Jan VANMEIRHAEGHE	<Jan.Vanmeirhaeghe@wienerberger.be>
Jacques VERNIERS	<jacques.verniers@UGent.be>
Viive VIIRA	<viira@gi.ee>
Enrique VILLAS	<Villas@Posta.Unizar.Es>
Olev VINN	<olev.vinn@ut.ee>
Christopher WAID	<cbw3@geneseo.edu>
WANG Chuanshang	<>wangchuanshang@163.com>
WANG Guangxu	<gxwang@nigpas.ac.cn>
WANG Haifeng	<hfwang@nigpas.ac.cn>
WANG Jian	<>wangjian_7610@163.com>
WANG Wenhui	<wwhever@126.com>
WANG Xiaofeng	<ycwangxiaofeng@163.com>
WANG Yi	<yiwang@nigpas.ac.cn>
WEI Xin	<xwei@nigpas.ac.cn>
Brian WHITE	<bwhite@science.smith.edu>

Rosie WIDDISON	<rewiddison@hotmail.com>
Mark WILLIAMS	<mri@leicester.ac.uk>
Mark WILSON	<mark.wilson@ualberta.ca>
Tony WRIGHT	<tony.wright@optusnet.com.au>
Ryszard WRONA	<wrona@twarda.pan.pl>
YANG Qun	<qunyang@nigpas.ac.cn>
YAO Yupeng	<yaoy@nsfc.gov.cn>
Graham YOUNG	<gyoung@cc.umanitoba.ca>
YUAN Wenwei	<wwyuan@nigpas.ac.cn>
Jan ZALASIEWICZ	<jaz1@leicester.ac.uk>
ZHAO Wenjin	<zhaowenjin@ivpp.ac.cn>
ZHAN Renbin	<rbzhan@nigpas.ac.cn>
ZHANG Linna	<lnzhang@nigpas.ac.cn>
ZHANG Xinglang	<xzhang69@nwu.edu.cn>
ZHANG Yuandong	<ydzhang@nigpas.ac.cn>
ZHANG Yuanyuan	<yuanyuanzh85@163.com>
ZHEN Yongyi	<yong-yi.zhen@planning.nsw.gov.au>
ZHOU Zhiqiang	<zsy1940@163.com>
ZHOU Zhiyi	<zyizhou@nigpas.ac.cn>
ZHU Min	<zhumin@ivpp.ac.cn>
ZHU Xuejian	<xjzhu@nigpas.ac.cn>
Živilė ŽIGAITĖ	<Zivile.Zigaite@gmail.com> or <zivile.zigaite@ebc.uu.se>

2. Brief introduction of new Silurian workers

Mohammed AL-MUSAWI (USA)

Date of Birth: Nov. 06, 1990.

Affiliation: Department of Geosciences, Western Michigan University

Education: B.S. in geology, University of Baghdad.

M.S. in geology, Western Michigan University.

Starting Ph.D. in Fall 2019, Western Michigan University.

Research Interests: Right now I am working in redefining the stratigraphy of the Llandovery section in the Michigan Basin by using an integrated data set includes carbon isotope, strontium isotope, and conodont data.

Contact:

Mohammed Al-Musawi
Western Michigan University
Tel. :+1 (269) 873-4793
Email: Mohammedahmed.almusawi@wmich.edu

LUAN Xiaocong (China)

Date of Birth: June 18, 1990

Affiliation: Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, Nanjing, China

Education: PhD (University of Chinese Academy of Sciences, China)

Present position: Research Assistant, Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences

Research interests: Carbonate sedimentology; sedimentary geochemistry; environmental background of Ordovician and Silurian bioevents.

Information to share: I am interested in Ordovician and Silurian sedimentology and stratigraphy, especially the environmental background of bioevents. Ongoing studies include Early-Middle Ordovician marine red beds and special ferric oncolitic deposits in South China. I am part of Lower Paleozoic Working Team of Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences.

Contact:

LUAN Xiao-Cong

Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, No. 39 East Beijing Road, Nanjing, 210008 CHINA

Mobile phone: +8615996296823; Email: xcluan@nigpas.ac.cn

Simona RINKEVIČIŪTĖ (Lithuania)

Research interest: Simona is finishing her MSc thesis on the upper Wenlock ostracodes and will continue to do her Ph.D. on the palaeoecology, systematics, and morphometry of Silurian ostracodes.

Contact:

Simona Rinkevičiūtė

Email: [<xsimoniukas@gmail.com>](mailto:xsimoniukas@gmail.com)

Robertas STANKEVIČ (Lithuania)

Date of birth: 1988

Education: Bachelor (2017) in Bioinformatics from the Vilnius University, Lithuania

Present position: Student of classical Geology master degree at the Vilnius University

Research interests: Robertas works on the development of recurrence plot techniques for the correlation of Silurian geological sections, and characterization of abundance and diversity dynamics. He will start this year his Ph.D. project on the development of dynamical systems approaches in describing Silurian benthic communities. His major research interests are:

- 1) Interested in series correlation (synchronization) and cross-recurrence plots.
- 2) Working on the correlation of Silurian microfossil abundance series of different wells.

Contact:

Robertas Stankevič

Email: <dunedimensia@gmail.com> or <robertas.geo@gmail.com>

Condolence to Dr. Joanne Kluessendorf

April 8, 1949 to June 1, 2018

by Don Mikulic (USA)

Dr. Joanne Kluessendorf passed away on June 1, 2018 after a long illness. Born and raised in Milwaukee, Wisconsin, U.S.A. she received her Ph.D. in geology at the University of Illinois. Joanne had a long career which included associations of some of the most prominent Silurian workers in the country including Robert Shrock, Heinz Lowenstam, Bill Berry, and Art Boucot. Her university classwork started with Katherine Greacen Nelson at the University of Wisconsin at Milwaukee where she also worked in its Greene Museum as a curator. She later took classes from Art Boucot at Oregon State University in Corvallis, Oregon where she was employed for many years as his assistant. Her research interests focused on Silurian carbonate deposition, reef development, and ichnology among other related topics and also took classes on these subjects from Albert Carozzi at the University of Illinois. Joanne was author or coauthor of many Silurian related research papers, including some in conjunction with David Loydell and his students at the University of Portsmouth and provided important information to Lennart Jeppsson when he was developing his Oceanic Episodes and Events model. She led many Silurian related field trips to the Thornton Reef near Chicago including the 1996 Hall Symposium post meeting field trip, was co-discoverer of the Waukesha Biota and was co-discoverer of the Brussels Hill impact site in the Silurian rocks of Wisconsin. A noted expert on the Silurian geology and paleontology of the central U.S. she also conducted research projects in the U. K. and on Gotland. Joanne was a scientific consultant and designer of a well-known Silurian Reef diorama, first built for a museum in Milwaukee, and later reproduced in many other North American and European museums. Two other Silurian related activities she was engaged in were the designations by the National Park Service of the first described Silurian reefs (Schoonmaker Reef) as National Historic Landmarks in the History of Science and was strong advocate of preserving the Niagara Escarpment and promoting it as an important geotourism destination. Joanne was most proud of her work as the founding Director of the Weis Earth Science Museum in Menasha, Wisconsin. Additional information on Joanne can be viewed at wichmannfuneralhomes.com and in the Summer 2018 GAEA newsletter on the Association For Women Geoscientist website.



Joanne Kluessendorf birthday at Three Chimneys for the Murchison Symposium post meeting field trip on August 4, 1989.
