

SILURIAN TIMES

THE NEWSLETTER OF THE

INTERNATIONAL SUBCOMMISSION ON SILURIAN STRATIGRAPHY (ISSS)

SILURIAN TIMES No. 16

February 2009 for the Year 2008

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INTERNATIONAL UNION OF GEOLOGICAL SCIENCES

President: Prof. Alberto C. Riccardi (Argentina)

Secretary General: Dr. Peter T. Bobrowsky (Canada)

<http://www.iugs.org/>

INTERNATIONAL COMMISSION ON STRATIGRAPHY

Chairman: Prof. Stanley Finney (USA)

Vice-Chairman: Prof. Shanchi Peng (China)

Secretary-General: Prof. Paul R. Bown (UK)

<http://www.stratigraphy.org/>

1 INTERNATIONAL SUBCOMMISSION ON SILURIAN STRATIGRAPHY (ISSS)

Subcommission officers

Chairman (sept. 2008-2012): Michael J. Melchin, Professor, Department of Earth Sciences, St. Francis Xavier University, P.O. Box 5000, Antigonish, Nova Scotia B2G 2W5, Canada,
e-mail: mmelchin@stfx.ca.

Vice Chairman (sept. 2008-2012): Peep Männik, Senior researcher,
Institute of Geology at Tallinn University of Technology,
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Secretary: Jacques Verniers, Research Unit Palaeontology, Department of Geology and Pedology,
Ghent University, Krijgslaan 281 building S8, BE-9000, Gent, Belgium,
e-mail: Jacques.Verniers@ugent.be.

List of Task Groups and their officers

Base of Silurian: Mike Melchin, Canada: mmelchin@stfx.ca

Base of Wenlock: David Loydell, England: david.loydell@port.ac.uk

List of Titular Members (sept 2008- 2012) (n=14)

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EDITOR'S NOTES

I wish to thank all of those who contributed to this issue and apologise to anyone whose contributions I may have inadvertently left out. We have received the current projects and recent publications of 62 voting or corresponding members. The list of Silurian workers who showed an interest to receive "Silurian Times" contains close to 250 persons. Possibly still more researchers want to inform the Silurian community about their current projects and publications.

I could include all the references on Silurian publications that you sent me, together with publications of 2008 on the Silurian I collected from the Web of Science: a total of 265 references.

I was our goal to distribute the Silurian Times well in advance of our next ISSS meeting in June in Sardinia.

Jacques Verniers, Secretary (22 January 2009)

THE WEB SITE FOR THE SILURIAN SUBCOMMISSION

All members can check the website for the ISSS (<http://www.silurian.cn>) prepared by Fan Juanxuan and Zhao Hui at the Nanjing Institute of Geology and Palaeontology, with input from the ISSS executive.

INTERNATIONAL SUBCOMMISSION ON SILURIAN STRATIGRAPHY (ISSS)

Corresponding members (n= 63)

(with year of election)

(without date: corresponding member from before 1995)

Aldridge (UK)		Maletz (USA)	2002
Antoskhina (Russia)		Märss (Estonia)	1999
Baarli (USA)	2002	Modzalevskaya (Russia).	1999
Barnes (Canada)		Musteikis (Lithuania)	
Bassett (UK)		Nestor H. (Estonia)	
Berry (USA)		Norford (Canada)	1995/1996
Bjerreskov (Denmark)		Paris (France)	
Blieck (France)		Piçarra (Portugal)	
Bogolepova (UK)	2002	Predtechensky (Russia)	
Boucot (USA)		Radziadicius (Lithuania)	2007
Calner (Sweden)	2005	Rickards (UK)	
Caputo (Brazil)		Robardet (France)	
Chen (China)		Rong, Jiayu (China)	
Cocks (UK)		Schonlaub (Austria)	
Corradini (Italy)	2007	Sennikov (Russia)	1999
Einasto (Estonia)	1996	Serpagli (Italy)	
Eriksson (Sweden)	2005	Simpson (Australia)	2002
Fan Junxuan (China)	2005	Storch (Czech Rep.)	
Ferretti (Italy)	1996	Strusz (Australia)	
Fu (China)		Su Wembo(China)	
Geng (China)		Suyarkova (Russia)	2007
Gutierrez-Marco (Spain)	1995	Tang Peng (China)	2005
Hansch (Germany)		Teller (Poland)	
Hints (Estonia)	2007	Tesakov (Russia)	
Holland (Ireland)		Walliser (Germany)	
Jell (Australia)		Wang Nian Zhong (China)	1999
Jeppsson (Sweden)	1995	Wang Yi (China)	2005
Kaljo (Estonia)		Yolkin (Russia)	
Kozłowska (Poland)		Zhan Renbin (China)	2005
Larsson (Sweden)		Zhang Yuan Dong (China)	1999
Lenz (Canada)		Zigaite (Lithuania)	2007
Legrand (France)			

2 CHAIRMAN'S CORNER

Dear Colleagues,

This is my first year serving as Chair of the International Subcommittee on Silurian Stratigraphy. I greatly look forward to working with all of the members of the community of researchers on the Silurian System in the coming years to move forward our understanding of this dynamic interval of Earth History.

I wish say a wholehearted “thank you” to Prof. Rong Jiayu, who has served as ISSS Chair for the past eight years with tremendous dedication. His contributions to the community of Silurian researchers have been outstanding and we look forward to his continued involvement in the activities of the ISSS. I also wish to thank our outgoing Vice-Chair, Dr. Tatyana Koren⁷, and Titular Member, Prof. Robin Cocks, both of whom have made outstanding contributions to the Subcommittee and to Silurian research, and I am sure will continue to do so. Of course, I greatly look forward to the ongoing support and collaboration of our continuing members, especially Dr. Jacques Verniers, who is continuing as Secretary, and Dr. Peep Männik, our new Vice-Chair.

Among the wide range of research challenges that face us as researchers on the Silurian System, I feel that there are two particularly pressing issues that the ISSS needs to pursue over the coming years. The first is to continue to work toward gaining a more precise understanding of the definition of Silurian time, as represented in our GSSPs. As stratigraphic research seeks to resolve finer intervals of geologic time for precise correlation and understanding of rates of Earth's physical, chemical and biological processes, the role of GSSPs takes on increasing importance as the benchmarks against which all other successions are correlated. Therefore, imprecision in the definition of GSSPs leads to loss of resolution in correlation and fine stratigraphic subdivision.

I have recently learned that the British Geological Survey is currently engaged in a program of detailed stratigraphic research and mapping in Wales and extending into the Welsh Borders where many of the Silurian GSSPs occur. This new research is giving rise to a wealth of new insights into the sequence stratigraphy, biostratigraphy, and overall temporal and paleoenvironmental framework of these classic, type areas. In view of the importance of this work in terms of enhancing our understanding the stratigraphic framework of the GSSPs in those regions, I have written a letter to the senior management at the BGS expressing our enthusiastic support for the importance of this research, its potential global impact, and encouraging its continuation on behalf of the ISSS. This was done with the enthusiastic approval of those members of the ISSS that attended the business meeting at the IGC in Oslo last August.

I believe that this integrated stratigraphic research in the type areas will be an essential step not only in refining our definitions of Silurian time, but also in the integration of biostratigraphic, lithostratigraphic, and chemostratigraphic data sets with regional and global sea level and climate histories. This type of integrated approach, not only in the type areas but globally, is another research direction that needs to be promoted by the ISSS. For this reason, the integration of multidisciplinary approaches has been adopted as the primary theme of our next Field Meeting, this coming June in Sardinia. I look forward to seeing as many of you there as possible to tour the interesting geology of Sardinia, enjoy its legendary culture and scenery, and take part in challenging and interesting technical sessions and discussions that will help to move our science forward. I also hope that the next four years will see much more precise correlations among various biostratigraphic scales, more refined chemostratigraphic records, further improved understanding of sea level, climate changes, and paleogeography, and better radiometric calibration of Silurian time.

Mike Melchin, January 9, 2009

3. ANNUAL REPORT 2008 OF THE INTERNATIONAL SUBCOMMISSION ON SILURIAN STRATIGRAPHY (ISSS) to THE INTERNATIONAL COMMISSION ON STRATIGRAPHY



**International Commission on Stratigraphy
Subcommission on Silurian Stratigraphy**

ANNUAL REPORT 2008

1. TITLE OF CONSTITUENT BODY

International Subcommission on Silurian Stratigraphy ISSS

Submitted by:

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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 and palaeontologically important sites such as GSSPs

Goals

- Rationalization of global chronostratigraphical classification.
- Intercalibration of fossil biostratigraphies, integrated zonations, and recognition of global datums.
- Establishment of magneto- and chemo-stratigraphic scales.
- Definition of Stage boundaries and restudy of global stratotype sections.
- Correlation of Silurian rock successions and events, including marine to non-marine.

3. ORGANIZATION

The ISSS is a Subcommission of the 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 new Subcommission elected for 2008-2012 there are eleven other Voting Members. The network of Corresponding Members have 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.

Officers for 2008-2012:

Chair: Michael Melchin, Antigonish, Canada.
Vice-Chair: Peep Mannik, Tallinn, Estonia
Secretary: J. Verniers, Ghent, Belgium

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

Websites: <http://www.silurian.cn/home.asp> contains newsletters, meeting announcements, discussion posting-boards, bibliography of Silurian articles, links to related sites, and other information. The former web site for the Silurian Subcommittee: <http://iago.stfx.ca/people/mmelchin/SILURIAN.HTML> has access to pre-2005 issues of *Silurian Times* in PDF format.

4. INTERFACES WITH OTHER INTERNATIONAL PROJECTS

Collaboration on an IGCP Project N° 503 entitled “*Ordovician Palaeogeography and Palaeoclimate*”.

5. CHIEF ACCOMPLISHMENTS AND PRODUCTS IN 2008

Silurian Times No 15 was edited by the secretary in June 2008, and circulated as an email attachment to all titular, corresponding and interested members of the Subcommittee. It contained the result of the votes on the base of the Silurian, the final report on the restudy of the base of the Wenlock, the report on 3rd International Symposium on the Silurian System and the IGCP 503 4th Annual meeting both in Nanjing, China, 27 – 30 June, 2007, announcement of upcoming meetings and the latest news and recent publications on Silurian research.

One of the most significant accomplishments of the SSS in 2008 was the final ratification of the proposed revision to the biostratigraphic definition of the GSSP for the Base of the Silurian System. This is the first formal restudy of the GSSP to be undertaken and successfully completed under the purview of the International Commission on Stratigraphy. This proposed revision was presented to the SSS titular members in 2006 for approval by the chair of the boundary restudy working group, Michael Melchin. It was ratified by the SSS titular members and then forwarded to ICS and IUGC for approval and ratification. Final ratification by IUGS was given in 2008 and a final report on this revision was published in the September, 2008 issue of *Episodes*. More details of the decision are presented below.

A report was also presented in *Silurian Times* 15 on the formal restudy of the GSSP for the Base of the Wenlock Series. A summary of this report is presented below.

IGCP 503 formally concluded its 5-year program with an International Congress on Palaeozoic Climates in Lille, France during August, 2008. An extension of this successful project has been sought and a further meeting on ‘Early Palaeozoic Palaeogeography’ will be held in Copenhagen during September 2009.

The Subcommittee participated three further major conferences: 7th Baltic Stratigraphic Conference, Tallinn, and associated field excursions, May 2008; ‘Development of Early Paleozoic Biodiversity: The role of biotic and abiotic factors, and event correlation’ Moscow, June 2008; and the International Geological Congress in Oslo, August 6-14, 2008, where the SSS participated in sessions

organized by IGCP Project N° 503 and by the ICS. SSS Also held a business meeting at the ICS in Oslo where planning was undertaken for future SSS activities, as outlined below.

Planning is reaching its final stages for the next Silurian Field Meeting in Sardinia, June 4-11, 2009. The theme of the meeting will be “Time and Life in the Silurian: an Interdisciplinary Approach”. This is in keeping with the recommendations of the voting members of the SSS, as expressed at the 2007 business meeting in Nanjing, that a significant focus of future work of the Subcommittee should be chemostratigraphy of the Silurian, integrated with biostratigraphy with graptolites, conodonts, chitinozoans and acritarchs and the study on the environment, climate and sea level changes.

Tentative plans began for the next International Symposium on the Silurian System. The proposed meeting location is in St. Petersburg, Russia, with a field trip in the Polar Urals of Russia, due to its extremely well-exposed succession of Silurian Strata.

The SSS Chair met with scientists at the British Geological Survey to discuss future collaborative research between BGS scientists and members of the Silurian Subcommittee, particularly focusing on the restudy of the type areas for the GSSPs for the Silurian, all of which occur in the UK except for the base of the Pridoli. Such work could form the basis of future refinement of the definition and correlation of the GSSP, particularly those in Wales and the Welsh borders, including the bases of Aeronian, Telychian, Wenlock (Sheinwoodian), Homerian, Ludlow (Gorstian), and Ludfordian. Each of these GSSPs can be shown to be in need of refinement.

6. CHIEF PROBLEMS ENCOUNTERED IN 2008

No major problems except for the old problem related to difficulties in obtaining grants for research on stratigraphical topics and travel to meetings of Subcommittee. Applications are often given low priority by National grant-awarding agencies. It would be helpful if IUGS emphasized to its member countries the importance it attaches to the GSSP programme and encouraged the relevant research funding bodies to give priority to funding relevant basic research.

7. SUMMARY OF EXPENDITURES IN 2008

Income

Carried forward from 2007	00.00
ICS Allocation	US\$2500

Total	US\$2500
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Expenditure

IGC expenses for Chair	US\$1400
Part of travel costs Vice-Chair	US\$700

<u>Balance</u>	<u>US\$400</u>
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8. WORK PLAN, CRITICAL MILESTONES, ANTICIPATED RESULTS AND COMMUNICATIONS TO BE ACHIEVED NEXT YEAR (2009):

8.a The most important planned event for 2009 is the Silurian Field Meeting in Sardinia, June 4-11. Publication of proceedings is planned for this conference in an international, peer-reviewed journal. We also anticipate that this conference will result in formation of a collaborative focus group on the integration of biostratigraphic, chemostratigraphic, and sequence stratigraphic scales for the Silurian System.

8b. Regular updating the website for Silurian Subcommittee. We gratefully acknowledge the support of the Nanjing Institute of Geology and Palaeontology Academia Sinica for this work.

8c. Publication of Silurian Newsletter 16

8d. IGCP Project 503 proposed extension: A conference on “Early Palaeozoic Palaeogeography” will be held in Copenhagen during September 2009.

8e Continued progress on the refinement of our understanding of Silurian GSSPs, particularly in collaboration with the ongoing regional mapping programme of the British Geological Survey in Wales and the Welsh Borders.

9. BUDGET AND ICS COMPONENT FOR 2009

Contribution toward transportation, accommodation & registration of the Chairman and Vice-Chair to participate in the field meeting in Sardinia \$2400.00

Financial support for the Silurian Field Meeting, Sardinia \$2000.00

Please note that the island of Sardinia is home to classic successions of Silurian strata. The Silurian is represented either both calcareous and shaly sediments with two distinct and peculiar facies exposed in the southwestern and southeastern part of the island that mainly resemble the coeval sequences of Bohemia and Thuringia respectively. Their mutual relation is still unclear, but they were likely deposited in different areas of the North Gondwana margin, several dozens of km apart, and joined together by the subsequent Variscan Orogeny. Unfortunately, the high cost of travel and accommodation has made it difficult for many Silurian researchers to visit this island and its spectacular successions. Therefore, we are requesting some modest financial support for this conference to enable a larger number of Silurian specialists to attend, especially titular and executive members of SSS.

Total requested from ICS: \$4400.00

Potential funding sources outside IUGS

Most of the costs of Working Group newsletter, meetings and other activities will be met by local support from host institutions and participation by individuals by national research and travel grants from their own authorities. In addition, the organizers of the Sardinia conference are seeking other external funding sources.

10. CHIEF ACCOMPLISHMENTS OVER PAST FIVE YEARS (2004-2008)

Over the period of 2004-2008 the Subcommittee on Silurian Stratigraphy was active in several respects.

1) The Silurian Field Meeting of the SSS was held in Gotland, Sweden between August 15 and 22, 2005. A three day symposium followed by five days excursion was organized by Eriksson, M.E., Calner, M. and L. Jeppsson (Lund University and support of the Swedish Geological Survey). The field guide and the abstract book were published in the volume “*The Dynamic Silurian Earth*”. In:

Eriksson, M.E., Calner, M. (Eds.), Field Meeting of the Subcommittee on Silurian Stratigraphy 2005, Gotland, Rapport och meddelanden-Sveriges Geologiska Undersökning vol. 121, pp.1-99.

2) The restudy of the base of the Silurian System. A restudy of the GSSP for the Base of Silurian was prepared in 2002 by a working group under the leadership of Michael Melchin. After three years work, the working group has unanimously agreed that the current GSSP, at 1.6 m above the base of the Birkhill Shale, at Dob's Linn, Scotland, should be maintained as the GSSP, but the biostratigraphical definition of the boundary needs to be revised. The GSSP should be regarded as coinciding with the first appearance of *Akidograptus ascensus*, defining the base of the *A. ascensus* Biozone at that GSSP section. By the middle of March 2006 all titular members have voted in favour of the proposal of Mike Melchin for the base of the Silurian at Dob's Linn. It has now been ratified by ICS and IUGS and, as noted above, a final report has been published in the September, 2008 issue of Episodes.

3) Regarding the restudy of the base of the Wenlock Series. The working group to restudy the Base of the Wenlock Series (base of Sheinwoodian Stage) was led by David Loydell, looked at potential GSSP sections in the Czech Republic and Wales, as possible alternatives to the current GSSP in England. The primary marker for the base-Wenlock was a graptolite, but the GSSP in England is notably poor in allowing exact determination of their ranges. Recent evidence has shown that the current GSSP does not coincide with the base of the *Cyrtograptus centrifugus* Biozone, as was supposed when the GSSP was defined. It has been suggested to retain the GSSP location in England but revise the level of the GSSP slightly to coincide with a conodont event -- the Ireviken conodont datum 2, which coincides approximately with the base of the lower *murchisoni* graptolite biozone (instead of the current *centrifugus* graptolite zone). Alternatively, another GSSP locality with a precise base of the *Cyrtograptus centrifugus* Biozone could be chosen (e.g., potential sections in Great Britain and the Czech Republic), but this process would be quite lengthy. The report of this work at the Silurian Field Meeting in Gotland, in August, 2005, was discussed over the winter and spring, 2006. Most voting members appreciated very much the amount of work by the working group and especially the leader of the group. But most felt that for the moment that no good alternative for the previous GSSP can be proposed. It was decided not to propose a new GSSP and stick for the time being to the old GSSP, although it had many short comings, until new studies can propose a better alternative. This time consuming study could however not be effectuated before the deadline of the ISC, ending at the International Geological Congress in Oslo summer 2008.

4) An International Conference on the Silurian System was held in Nanjing, China, in June-July 2007, hosted by the Nanjing Institute of Geology and Palaeontology. 22 talks and posters were presented on the Silurian and three excursions to the extensive Silurian outcrop areas of South China with more than 70 participants impressed the participants by the good exposures and the extensive work that was done in these sections. Conference proceedings were published in a special issue of Acta Palaeontologica Sinica.

5) Participated in 17 conferences in which IGCP 503 held sessions or symposia.

OBJECTIVES AND WORK PLAN FOR NEXT 4 YEARS (2009-2012)

The priorities (not in order of merit) proposed for the Silurian Subcommittee for the next four years include:

Involvement in the aims and objectives of IGCP Project 503 which has applied for extension into 2009. Associated with this there will be the development and expansion of the Thematic Working

Groups: for example, searching for and interpreting data from all sources relevant to reconstructing the palaeobiogeography or the climate of one or more specific time-intervals.

Investigate the establishment of data-bases which would bring together and make available information from all sources associated with the Silurian researchers.

As noted above we will be holding the Silurian Field Meeting in Sardinia in June 2009. We are tentatively planning the next International Symposium on the Silurian System for 2011 in St. Petersburg, Russia, associated with a field trip to the subpolar Urals.

As also noted above, we plan to collaborate with the British Geological Survey in the remapping and stratigraphic reinvestigation of the GSSPs and surrounding type regions for the bases of the Aeronian, Telychian, Wenlock (Sheinwoodian), Homerian, Ludlow (Gorstian), and Ludfordian. It is our objective to complete integrated biostratigraphic, chemostratigraphic, and sequence stratigraphic of each of the GSSPs. At the present time, each of these GSSPs has a significant level of imprecision in its definition for the purposes of high resolution stratigraphic correlation. It is our hope that these restudies will increase the precision with which the GSSPs can be defined and correlated, as has been the case with the restudy of the Base of the Silurian. If not, this work may provide a compelling rationale for seeking a replacement section and point for one or more of the current GSSPs.

Other activities include participation in the production of a new volume synthesizing our current understanding of Palaeozoic Palaeobiography. This volume is being edited by D.A.T. Harper and T. Servais.

APPENDIX

[Names and Addresses of Current Officers and Voting Members, 2008-2012] (Same as page 2)

4. Obituary

Communicated by Aby Weiss, Dipl.-Ing. Aby Weiss,
Am Sanderhof 33,
D 40789 Monheim am Rhein , Germany

Brief biographical data:

Mrs. Dr. Roseline Huguette Weiss was born April 25, 1937, in Galati, Romania.

After being qualified as a geologist (B.Eng.), she studied at the Technical University in Bucharest, receiving her diploma (M. Eng) as a mining-engineer in 1962.

In 1975, she joined the University of Cologne, worked as scientific assistant with the Geological Institute and graduated (Dr. rer. nat.) in 1981, with a dissertation on Oligocene Marine Ostracoda.

Dr. Weiss researched in the fields of micropaleontology, sedimentology and palynology. Her activity was concretized in more than 25 publications appeared between 1983 and 2001.

As editor, she published two voluminous books containing valuable contributions of scientists from around the globe. She participated active at countless geological congresses and collaborated intensively with colleagues world-wide.

Dr. Roseline H. Weiss died on December 8, 2008, in Düsseldorf, and is survived by her husband Aby Weiss, which she married in 1964.

5. Reports of Meetings in 2008

Closing meeting of the International Geoscience Programme (IGCP) 503 “Ordovician Palaeogeography and Palaeoclimate” Conference on “Palaeozoic Climates” (22-31 August 2008, Lille)

The Congress “Palaeozoic Climates”, initiated by the UMR CNRS 8157 ‘Géosystèmes’ (University Lille 1 and the Catholic University of Lille), focused on the past climate and sea level changes (end-Ordovician glaciation, end-Devonian extinction, greenhouse-icehouse transitions). Subjects such as climate models and the impact of climate change on Palaeozoic biodiversity were also discussed. The conference brought together about 120 scientists from all over the world, who presented their results in more than 90 scientific contributions (60 talks and 30 posters). Two field trips, dealing respectively with the Lower and Upper Palaeozoic, were held in Belgium and northern France.

Pre-congress excursion: Lower Palaeozoic of Belgium, including the Brabant Massif and the Condruz Inlier. (23-24/08/08)

Organizers: Jacques Verniers, Jan Vanmeirhaeghe, Jan Mortier, Thijs Vandenbroucke, Tim Debacker & Thomas Servais.

The day before the first field trip (22/08/08) the participants were invited by the organizers to a small welcoming party followed by a dinner in the brewery house “Les Trois Brasseurs” in order to prepare themselves for the two days that would follow in Belgium.

The first day of the field trip was entirely devoted to the Condruz Inlier. This inlier is situated between the Namur Synclinorium in the north and Dinant Synclinorium in the south. It consists of Ordovician and Silurian sediments and extends from Châtelet (near Charleroi) to Clermont-sur-Meuse (near Engihoul and Liège) over a width that does not exceed 2 km. The Condruz Inlier is cut by Variscan thrust and satellite faults that allows to connect in a single accident the ‘Faille du Midi’ (Hainaut) and the ‘Faille Eifélienne’ (near Liege). The first stop (Tihange, Rue de Bonne Espérance) allowed us to see an almost continuous section from the upper Ordovician to the lower Silurian with five typical units of the Condruz Inlier. The second outcrop (Neuville-Sous-Huy) located in a forest in a small brook allowed us to see typical Silurian facies (Telychian, Llandovery) of the Condruz Inlier: dark graptolitic shales, interbedded with red shales and volcanosedimentary levels. The first drops of rain starting to fall, the lunch break came on time, with its ‘little’ Belgium beer ... In the early afternoon, during the third and fourth stops in the village of Faulx-les-Tombes we observed a continuous section in the upper Ordovician. The third outcrop located on both sides of the Rue de Courière contained many macrofossils (trilobites, bryozoans, etc.). The fourth stop (Rue du Bois Grand-Père) allowed us to study a section of bioturbated ‘mottled’ shale in the type locality of the Faulx-les-Tombes Member. The 5th and 6th outcrops were located in the vicinity of the Dave village southeast of Namur. In the Ruisseau des Chevreuils (5th stop) we observed the only section where outcrops the Chevreuil Formation (Darriwilian-Sandbian limit, upper-middle Ordovician). The fault / cleavage relationship in this outcrop shows a possible Caledonian deformation prior to the Variscan deformation; this would be the first indication of a Caledonian deformation in the Condruz Inlier. Finally, along the Rue de Naninne (6th stop), we were able to see that the alleged ‘unconformity’ described by Michot (and for him of Caledonian age) in the Condruz Inlier is the result of a fault, also present in other localities (e.g. Faulx-les-Tombes). The day ended with a well-deserved hot shower, followed by a gargantuan dinner ‘à la française’, which we all will remember.

The second day of the field trip focused on the Brabant Massif. It contains Cambrian, Ordovician and Silurian formations, but is often hidden under a Meso-Cenozoic cover and appears only in the deeper parts of the valleys on the southern margin of the massif. The day began with a Lower Cambrian outcrop of turbidites (Blanmont and Turbize formations) located under the church of Mont-Saint-Guibert. Then we visited an old graphite quarry near Mousty. The black shales, dated from the late Cambrian (Mousty Formation), were deposited in pelagic environment and have seen their organic matter transformed into graphite by metamorphism. It contains not very well preserved radiolarians. In the third outcrop located on the western side

of the Thyle valley (close to the Abbey of Villers) we observed the silty shales and clayey sandstone succession of the Abbaye de Villers formation (Dapingian / Darriwilian limit, Middle Ordovician). The lunch was held in the cellars of the Abbey of Villers (Cistercian Abbey of the 12th century). The first outcrop of the afternoon (previous site of the Fauquez castle) allowed us to observe graptolitic black shales dated from the Katian end (Fauquez and Huet Formations). During the fifth stop along the Brussels - Charlebois canal we studied the type locality of the Mado Fromation (Katian / Hirnatian limit). This section contains mainly mudstones along with some volcano-sedimentary intercalations, delivered numerous macrofossils, including bryozoans, brachiopods and echinoderms. The sixth outcrop (near Ronquières) propelled us into the Upper Silurian (Ronquières Formation, Ludlow, Gorstian) where we examined the typical turbiditic facies of the Brabant Massif. For the last stop we observed the Caledonian (Brabantian) unconformity between the Silurian turbidites and the Devonian (Givetian) at the large trench of the inclined shiplift of Ronquières.

The day ended with the ice breaker and a tasting of typical Belgian beers at the Catholic University of Lille.



Participants of the first excursion, under the rain, in front of the Ronquières section.

Program of communications (25-29/08/08):

Monday, August 25th

IGCP 503 - LOWER PALAEOZOIC PALAEOCLIMATE AND PALAEOGEOGRAPHY

Session 1 : Cambrian-Ordovician Palaeogeography and Palaeoclimate – Part I

Session 2 : Cambrian-Ordovician Palaeogeography and Palaeoclimate – Part II

Session 3 : The Ordovician biodiversification and its driving factors – Part I

Session 4 : The Ordovician biodiversification and its driving factors – Part II

Session 5 : Ordovician and Silurian geochemistry and climate

Business Meeting International Geoscience Programme n°503 Ordovician Palaeogeography and Palaeoclimate

Tuesday, August 26th

IGCP 503 - LOWER PALAEOZOIC PALAEOCLIMATE AND PALAEOGEOGRAPHY

Session 6 : Ordovician Palaeoclimate

Session 7 : Late Ordovician Palaeoclimate

Session 8 : Ordovician-Silurian palaeoenvironments

Session 9 : The Silurian world

Annual meeting of the Groupe Français du Paléozoïque

Wednesday, August 27th

Plenary Session - PALAEOZOIC PALAEOCLIMATE AND PALAEOGEOGRAPHY
Visit of the breweries Du Buisson and Conference Dinner.

Thursday, August 28th

UPPER PALAEOZOIC PALAEOCLIMATE AND PALAEOGEOGRAPHY

Session 10 : The terrestrialisation process : the invasion of the land

Session 11 : Devonian Palaeoclimate Evolution

Session 12 : Devonian biotas – Part I

Session 13 : Devonian biotas – Part II

Friday, August 29th

UPPER PALAEOZOIC PALAEOCLIMATE AND PALAEOGEOGRAPHY

Session 14 : Carboniferous Climates

Session 15 : Permian Palaeoclimate

Guided pedestrian tour through Lille at 14h30

The organizers gave two awards for best talks to Zivile Zigaite (University Lille1) and Timothy Kearsy (University of Plymouth), respectively for Lower and Upper Paleozoic talks. The prize for best poster has been awarded to Maria Liljeroth (University of Copenhagen).

Communications on the Silurian:

Among the 90 communications, 21 were dealing with the Silurian.

ANTOSHKINA, A. I. Role of climate in drowning of the Upper Ordovician-Lower Devonian reefs in the northeast European Platform.

CALNER, M. Silurian global events: A review of the associated changes in shallow-marine benthic ecosystems.

COCKS, M. & Torsvik, T.H. Ordovician and Silurian geography.

CRAMER, B. D., Loydell, D. K., Munnecke, A., Kaljo, D., Männik, P., Martma, T., Jeppsson, L., Kleffner M.A., Johnson C.A., Emsbo P. & Saltzman, M.R. Bringing the Lower Paleozoic into the 21st Century: A case study of methods, objectives, pitfalls, and potential of high-resolution (<500,000yrs) integrated global chronostratigraphic correlation in the Silurian.

CRAMER, B.D., McLaughlin, P.I., Kleffner, M.A. & Brett, C.E. 'Paleozoic stratigraphy has all been done before': An opposing view from Silurian high-resolution stratigraphy across the Cincinnati Arch.

DELABROYE, A., Vecoli, M. Munnecke, A. Nölvak J. & Pouille L. Disruption into the palaeophytoplankton realm across the Ordovician-Silurian boundary: timing and scenario.

DESROCHERS, A., Farley, C., Achab, A. & Asselin, E. A high-resolution stratigraphic model to resolve the longstanding issues relative to the correlation and interpretation of the O/S boundary on Anticosti Island.

DESROCHERS, A., James, N.P., Ausich, W., & Kershaw, S. Multi-order glacio-eustatic fluctuations recorded in Lower Silurian tropical carbonate ramp deposits, Anticosti Island, Quebec, Canada.

FAN Junxuan, Chen Xu, Melchin M.J., & Fang Yi-Ting. Graptolite recovery after the Late Ordovician Extinction – with data from South China.

LEHNERT, O., Männik, P., Joachimski M.M. & Buggisch, W. Palaeoclimate perturbations before the early Sheinwoodian glaciation: A trigger for extinctions during the Ireviken Event?

MEYERS, S.R., Cramer, B.D., Jeppsson, L., Corfield, R.J., Siveter, D.J. & Munnecke, A. Towards the establishment of a Silurian astrochronology.

PERRIER, V., Vannier, J. & Siveter, D.J. Are there pelagic ostracods in the Silurian?

POIRÉ, D.G. & Spalletti, L.A. The transition from Upper Ordovician ice house to Lower Silurian green house in the Tandilia System, Rio de la Plata Craton, Argentina.

SCHOFIELD, D.I., Davies, J.R., Waters, R.A., Williams, M. & Wilson, D. Interpreting the effects of glacioeustatic and locally influenced sea-level changes during the Early Palaeozoic: an example from the Early Silurian of Wales.

SHEEHAN, P.M. Anomalous paleozoogeographic patterns of Hirnantian and Early Silurian brachiopods in western Laurentia.

TRELA, W. & Podhalanska, T. The Ordovician/Silurian boundary in the northern Holy Cross Mountains (Central Poland).

- Vecoli, M. & SPINA, A. Silurian-Devonian palynology of MG-1 borehole section in the Ghadamis Basin, North Africa: implications for the early evolution of vegetation cover in Gondwana.
- VECOLI, M., Cesari, C., Spina, A., Riboulleau, A. & Versteegh, G. Documenting carbon isotope excursions and associated palaeoenvironmental changes in the Silurian of North Africa (peri-Gondwana): a coupled geochemical-palynological approach .
- VIDET, B., Rubino, J.-L., Guillocheau, F., Robin, C., Boumendjel, K. & Paris, F. Silurian sea level fluctuations on northern Gondwana.
- WELLMAN, C.H. Origin and early diversification of land plants: Effects on the environment and climate of planet Earth.
- ZIGAITE, Z., Joachimski, M.M. & Lehnert, O. $\delta^{18}\text{O}$ composition from conodont apatite indicates climatic cooling during the Middle Pridoli sea level fall in the Baltic Basin.

The electronic version of the abstracts can be found on the internet :

<http://www.univ-lille1.fr/geosciences/>

<http://sarv.gi.ee/igcp503/>



Participants of the congress in the hall of the Catholic University of Lille

Post-congress excursion: *Upper Palaeozoic of northern France and Belgium: Avesnois, Meuse Valley, Ardennes.* (30-31/08/08)

Report by Vincent Perrier

6. MEETINGS IN 2009 AND FUTURE

6.1. SILURIAN FIELD MEETING IN SARDINIA, ITALY, IN 2009.

(Already announced in newsletter 14)



"Time and life in the Silurian: a multidisciplinary approach". Petr Storch, Enrico Serpagli and Annalisa Ferretti announce the ISSS field-meeting in **Sardinia (Italy), June 4-11 in 2009**

Dear Silurian workers,

The Subcommittee on Silurian Stratigraphy and associated researchers will meet in 2009 in Sardinia, Italy, from June 5th to 7th. The scientific sessions as well as the ISSS Business Meeting will be held in the coastal resort of Villasimius, a small town in the southeastern coast of Sardinia, about 40 km from Cagliari. Any paper dealing with Silurian stratigraphy, palaeoecology and palaeogeography is welcome, but main emphasis will be paid to integrated multidisciplinary approaches to Silurian topics. The main topic of the meeting is "***Time and Life in the Silurian: a multidisciplinary approach***".

Four days of field trip in the southern part of the island will follow the meeting. The field trip will be followed by a workshop of graptolite Treatise working group, which will take place in Cagliari from June 12 to June 16.

The field trip is limited to 30 participants and attendance is guaranteed only after payment is done. Places will be filled on a first come first serve

The second circular and the registration form of the Subcommittee on Silurian Stratigraphy field meeting 2009 in Sardinia are now available: Time and Life in the Silurian: a multidisciplinary approach, Sardinia, June 4-11, 2009. This meeting is open to all Silurian workers. The leaders of IGCP 503 will get in contact with the organizers in order to sponsor a session related to our project. Additional information is available on the meeting website: www.unica.it/silurian2009. The second circular is attached at the end of this newsletter.

6.2. Symposium “Paleozoic Seas”

A symposium on “Paleozoic Seas” as contribution to the “International Year of Planet Earth” (2007-2009) is scheduled for **summer 2009** in **Graz (Austria)**.

Those who are interested are kindly invited to respond to the following email: thomas.suttner@uni-graz.at.

Updates and circulars are provided: please check: <http://palstrat.uni-graz.at/>

Proposed topics:

- Iapetus Ocean
- Panthalassic Ocean
- Paleo-Tethys Ocean
- Rheic Ocean
- Tornquist Sea

6.3. NAPC 2009 - Symposium S5

June 21-26 2009 Cincinnati, USA

Title: Late Ordovician-Silurian oceanic/climatic events and biotic response
(conveners K. Histon, C.E. Brett, P. McLaughlin)

The 2009 North American Paleontological Convention (NAPC) will be organized at Cincinnati, Ohio, June 21-26, 2009. The second circular is available now, and abstract submission has now begun online. Field trips will be organized, including trips to the type-Cincinnatian (Upper Ordovician type area of North America). Several symposia concern the Ordovician and Silurian, of which one is directly related to and sponsored by IGCP 503 : symposium S22 : The Cambrian-Ordovician radiation: the geological and biological context (Thomas Servais, Peter Sheehan).

The Late Ordovician-Silurian interval is punctuated by a series of environmental disturbances that had significant impacts on marine organisms. These disturbances occurred at multiple spatial and temporal scales and included fluctuations in sea level, climate, sea water chemistry, primary productivity, etc. The direct effects these disturbances had on marine faunas are difficult to unravel. Nevertheless, major strides have been made over the last decade toward refining our understanding of these environmental perturbations and the role they played in extinction, origination, and the spatial distribution of organisms.

This symposium will bring together researchers pursuing diverse lines of investigation that explore environment-organism interactions during this critical period in Earth history.

For further information and abstract submission, visit the conference website:
<http://www.napc2009.org/>

6.4. IGCP 503 Symposia in 2009

All related IGCP 503 information is on the website. Here a copy of the email of Thomas Servais with meetings proposed for 2009:

April 2009:

We propose an IGCP 503 session at the EGU2009 at Vienna, Austria, **April 19-24, 2009**. The following session has been scheduled :

SSP4 The Great Ordovician Biodiversification: causes and consequences
(co-sponsored by PalAss)

Convener: T. Servais

Co-Conveners: D. Harper, H. Armstrong

Please, use the following link to register and submit your abstract:
<http://meetingorganizer.copernicus.org/EGU2009/session/924>

You can also contact one of the conveners for further information.

June 2009:

6.5. NAPC 2009 - Symposium S5

see previous page

6.6. September 2009:

Final Conference dedicated to the IGCP 503 project Copenhagen, Denmark

After the final meeting at Lille in August 2008, IGCP 503 will organize a further congress entirely dedicated to our project at Copenhagen, Denmark, including a conference in the Geological Museum, **August 31-September 4**, but also several excursions. Please, find here the schedule for this meeting, that should be considered the main annual meeting of IGCP 503 in 2009 :

1. Conference 31st August - 4th September in the Geological Museum
2. Pre conference excursion to Central Sweden and Oslograben 25th-30th August
3. Mid conference excursion to Stevns Klint and Faxe Quarry (and museum) 3rd September
4. Post conference excursion to the 'Baltoscandian Basin' 5th-12th September.

A circular with all details is available from January on. All relevant information will be available on the IGCP 503 website:

<http://www.igcp503.org>

7 Invitation to contribute to the Siluro-Devonian volume of the Association of Australasian Palaeontologists (AAP)

(message from David Holloway)

The Memoirs series of the Association of Australasian Palaeontologists (AAP) is a monographic series which publishes, among other volumes, thematic sets of papers. The runaway success of the 'Cambro-Ordovician Studies' volumes (see below*) seemed to indicate there was a place for such publications in which the latest research on particular geological systems is published together. The logical conclusion reached was that other parts of the column should not be left out. As a consequence a volume covering the Silurian and Devonian has been proposed and accepted with enthusiasm. We hereby invite contributions to this volume. Papers dealing with any aspect of Silurian or Devonian invertebrate palaeontology anywhere in the world will be considered for publication, subject to the usual peer review process.

The Memoirs series prides itself on its quick turnaround time, with Cambro-Ordovician Studies I being published within 10 months from submission of the first paper, while the larger Cambro-Ordovician Studies II was published 12 months after submission of the first paper.

If you wish to submit a paper to the proposed Siluro-Devonian Studies volume, please let David Holloway know by email (dhollow@museum.vic.gov.au) as soon as possible. When doing so, please advise the probable authorship and preliminary title to assist us in tracking proposed submissions. Title and authorship can subsequently be changed at any time up to submission. The submission deadline is 1 October 2009.

Laurie, J.R. (ed.) 2004. Cambro-Ordovician Studies I. Memoir of the Association of Australasian Palaeontologists 30, 260 p.

Paterson, J.R. and Laurie, J.R. 2006. Cambro-Ordovician Studies II. Memoir of the Association of Australasian Palaeontologists 32, 422 p.

Laurie, J.R., Brock, G.A. & Paterson, J.R. (in prep.) Cambro-Ordovician Studies III: to be published in 2009.

If you wish to obtain copies of the first two volumes above, they can be ordered online at <http://www.gsa.org.au/bookshop.html>

8. SILURIAN RESEARCH in 2008

Anna Antoshkina (Russia): I am actively working on Lower Devonian carbonate sedimentation of the Timan-northern Ural region, the global correlation of geological events and Paleozoic reefs of the Urals.

Dick Aldridge (U.K.): The monograph on Silurian conodonts of South China with Wang Cheng-Yuan has been completed (at last) and will be submitted for publication in January 2009. Several papers on the Soom Shale Lagerstätte in South Africa are published, in press or submitted, including one on the chitinozoans (Vandenbroucke et al., submitted) that constrains the age of the deposit to very latest Ordovician or very earliest Silurian.

Chris Barnes (Canada): Work with Shunxin Zhang (Geological Survey of Canada) continues using my extensive conodont database to relate conodont biostratigraphy, biofacies and biogeography to the pattern of eustasy and tectonism that affected northern Laurentia in the early Paleozoic. Several joint papers have appeared recently with others in preparation, which deal with Ordovician and Silurian conodont taxonomy, evolution, paleoecology, analyses and the response of the conodont communities to eustatic change. The geochemistry of Lower Paleozoic conodonts is being pursued further in collaboration with Julie Trotter (Australian National University and CSIRO), with a paper this year in *Science*. Work in press includes: Late Ordovician-Early Silurian conodonts from the Edgewood Group, Missouri-Illinois (with Tyler Kuhn and Felicity O'Brien). Other work nearing completion includes Ashgill-Wenlock conodonts from the Canadian Arctic with David Jowett.

Jim Barrick (USA): My research on Silurian conodonts and oceanic events in southern Laurentia with Mark Kleffner continues. We have traced the Wenlock Mulde Event from the subsurface of west Texas eastward into central Tennessee. At most localities the Mulde Event coincides with an unconformity that omits the greater part of the event. The most complete preservation of conodont faunas and geochemical excursions occurs in central and western Tennessee. The Ludlow Lau Event is represented in a similar manner across southern Laurentia. In sections in Oklahoma and the western Illinois Basin, the Lau Event is mostly missing at an unconformity or strongly condensed. In western Tennessee, however, the full expression of the Lau Event appears to be present and the Lau Event coincides with Bob Limestone Member of the Brownsport Formation. Additional work is underway to obtain a more detailed record of the Lau Event in the Tennessee region.

Denis Bates (U.K.): I am working on a number of retiolitid graptolites, in collaboration with Anna Kozłowska, Alf Lenz and Jörg Maletz. Following publication in 2006, of a paper on the genus *Plectograptus*, genera being worked on include *Paraplectograptus*. With Anna Kozłowska, a paper on a new retiolitid Genus, *Kirkigraptus* has just been published. Work on the ultrastructure of a number of dendroid and graptoloid genera, and on *Mastigograptus*, with Anna Kozłowska, David Loydell, Adam Urbanek and Stephen Wade, is in press. A paper on the ultrastructure, and the stolon system, of *Desmograptus*, with Kate Saunders, David Loydell, Joanne Kluessendorf and Donald Mikulic, is in press. Work continues on other graptolites, including the Ordovician genus *Cryptograptus*.

Huang Bing (China): I have been working on Silurian brachiopods and stratigraphy at Nanjing Institute of Geology and Palaeontology, Academia Sinica (NIGPAS) as an Assistant Researcher. When I was doing my Ph.D under the supervision of Prof. Rong Jiayu at NIGPAS, I worked on brachiopods of the earliest Silurian age, especially on the fossils from western Zhejiang and northeastern Jiangxi provinces, East China. I described 23 species and genera of brachiopods from the lowermost Rhuddanian. After measuring most of the specimens and comparing their body sizes of the Hirnantian and late Katian brachiopods of the same plate, I have found the Lilliput Effect existed through the end Ordovician mass extinction which is also quite different from that of the end Permian mass extinction. Such difference may reflect the differences of the intensity of these two major bioevents.

Currently I am studying the late Llandovery and Ludlow brachiopods from southwest China. I am also trying to applying some quantitative methods in my research, for example, Robust Regression and Covariance Analysis being used for the brachiopod systematic palaeontology, which was partially shown in my poster at the O-S symposiums 2007 in Nanjing.

Olga K. Bogolepova (U.K.): I am actively working on projects focusing on the Early Paleozoic evolution of Eastern Siberia and the Russian high Arctic.

Carl Brett (U.S.A.): Most of my research on Silurian sequence stratigraphy during 2008 involved collaborative field study with Dr. Patrick McLaughlin (C.M., Wisconsin Geological Survey); see contribution of McLaughlin for details). In addition, I continue to work with colleagues Kathleen Histon (C.M.) and Annalisa Ferretti, (University of Modena, Italy) and Hans Peter Schönlaub (Geological Survey of Austria) on comparative sequence stratigraphy of the Carnic Alps terrane vs. that of North America. We have established sequence stratigraphy and a relative sea level curve that shows many similarities with that of M.E. Johnson (2006); results will be described in forthcoming paper in *Palaeogeography, Palaeoclimatology, Palaeoecology*.

In addition to work with Pat McLaughlin on the sequence stratigraphy of the lower Wenlock in Gotland I also examined Llandovery sections in the Oslo, Norway region with Gudveig Baarli, Williams College, and Kathleen Histon during the IGC in Norway.

I have worked with Frank Brunton of the Ontario Geological Survey and Alyssa Bancroft (Ohio State University) on the details of Wenlock depositional sequences in southern Ontario. In particular, we are examining the details of sequence, event, and biostratigraphy of the Eramosa and Guelph formations in their type area and correlations of these units into western New York and the Michigan Basin.

Mikael Calner (Sweden): I have been co-authoring eight publications that came out in 2008 (see reference list).

Robin Cocks (UK). I have had another effective year, which saw the substantial review of British Lower Palaeozoic brachiopods through the press to publication. Brachiopod work continued on strophomenoids and plectambonitoids from the Caradoc of the Anglo-Welsh area. Palaeogeographical work with Trond Torsvik (Trondheim) included submission and publication of a paper (also with Bernhard Steinberger and Kevin Burke) linking Large Igneous Provinces (LIPs) with plumes originating near heterogeneities at the core-mantle boundary, thus enabling an objective assessment of palaeolatitudes of old LIPs before the Mesozoic for the first time. Another paper submitted with Trond unravels the Variscides and has produced Palaeozoic palaeogeographical maps for southern and central Europe; and new work has started on a review of the palaeogeography of the Palaeozoic of Laurentia and adjacent terranes.

Carlo Corradini (Cagliari, Italy): Carlo Corradini (Cagliari, Italy). I'm working on Silurian and Devonian of North Gondwana, mainly in Sardinia and in the Carnic Alps, and I'm organizing the SSS Field Meeting scheduled in Sardinia in June 2009. In Sardinia my researches are focused on the different Silurian facies cropping out in the island. Several Silurian outcrops and sections that will be visited during the ISSS 2009 field trip are re-studied. A project on the graptolite limestones of SW Sardinia, comparing graptolite and conodont faunas for biostratigraphic purposes, is in progress (with S. Piras). In the Carnic Alps I'm investigating the Orthoceras Limestones in the Italian side of the chain, and several sections are in study, mainly in the Lake Wolayer, Mt. Zermula and Mt. Cocco areas (with L. Simonetto, P. Serventi, M. Pondrelli and M.G. Corriga). The conodont fauna of a few sections spanning the Silurian/Devonian boundary is in progress. A project with the goal to achieve a formal lithostratigraphy of the pre-Variscan sequence of the Carnic Alps is in progress: it involves several colleagues from Italy, Austria and other countries.

Maria Giovanna Corriga (Cagliari, Italy): I'm in my second year of a PhD project at the University of Cagliari (Italy) under the supervision by Prof. Carlo Corradini on conodont taxonomy and biostratigraphy S/D boundary in Sardinia, the Carnic Alps and other North Gondwana regions. I'm co-operating in the organizing of the SSS Field Meeting 2009 in Sardinia.

Bradley D. Cramer (USA): This past year I finished two long-standing Silurian projects that were finally submitted over the holidays. The first was a pilot study using early Sheinwoodian carbon isotope ($\delta^{13}\text{C}_{\text{carb}}$) stratigraphy for Milankovitch studies. This work, a collaboration with Stephen Meyers, Lennart Jeppsson, Richard Corfield, Derek Siveter, Axel Munnecke, Julie Cartlidge and Georg Maier, demonstrated that orbital signals are well-preserved in marine strata at least as far back as the middle Silurian. The second project was a compilation of all available (and new) carbon isotope, conodont, and graptolite data from seven of the chronostratigraphically best-constrained sections from Baltica, Avalonia, and Laurentia (Aizpute, Viki, Ohesaare, and Ruhnu cores; Gotland; Banwy River; and Niagara). The direct comparison between these three methods of chronostratigraphic correlation demonstrated that it is now possible (at least in these extremely well-studied areas) to chronostratigraphically correlate global sections with a resolution approaching 100,000 yrs (or better in some cases). Perhaps more importantly, this work highlighted how much basic stratigraphy still remains to be done. This work was a gigantic collaboration with David Loydell, Christian Samtleben, Axel Munnecke, Dimitri Kaljo, Peep Männik, Tõnu Martma, Lennart Jeppsson, Mark Kleffner, Jim Barrick, Craig Johnson, Poul Emsbo, Michael Joachimski, and Matt Saltzman.

My ongoing collaboration with Mark Kleffner, Carl Brett, and Pat McLaughlin on Silurian stratigraphy of east-central Laurentia continues and in April, 2008, we held a field trip and session at the GSA-North Central meeting. This work demonstrated the need to seriously revise the age assignment for several Silurian stratigraphic units, and the results were published in the Geological Society of America Field Guide Series (Vol. 12). The manuscript is available online as a 'bloc-of-docs' purchase from the GSA website (see McLaughlin et al. 2008 below).

Rein Einasto (Estonia): I am actively working on the sedimentary cyclicity of carbonate sediments of Ordovician- Silurian Baltic basin, especially O\S boundary-beds.

Mats Eriksson (Sweden): My Silurian research continues although I have recently been working more actively on Cambrian and Ordovician geology and paleontology. My research still largely focuses on various aspects of jawed polychaetes. I am still working at Lund University but my current position terminates in March 2009. Therefore it was with great pleasure that I got noticed in November 2008 and that I have received a new three-year grant from the Swedish Science Council, allowing me to stay in the Academia for a little longer.

Annalisa Ferretti (Italy): My Silurian research continues to be concentrated on the biosedimentology and paleoecology of the Austrian Carnic Alps. The work is being carried out together with Kathleen Histon, Hans Peter Schonlaub and Carlton Brett. I was recently involved, together with Alessandra Negri, Phil Meyers, and Thomas Wagner, in editing a Special Issue of Palaeogeography, Palaeoclimatology, Palaeoecology concerning "Organic carbon rich sediments through the Phanerozoic: Processes, Progress and Perspectives". Together with Carlo Corradini, Petr Storch and some other friends, we are currently organizing the next ISSS Field Meeting in Sardinia (June 4-7, 2009).

Other news: The Subcommittee on Silurian Stratigraphy and associated researchers will meet in 2009 in Sardinia, Italy, from June 4 to 7. The scientific sessions and the ISSS Business Meeting will be held in a small town on the southern coast of the island, a few km East of Cagliari. A four-day field trip in the southern part of Sardinia will follow the meeting. All Silurian workers are welcome to join the meeting. Any contribution on Silurian stratigraphy, palaeoecology and palaeogeography is welcome, however the major emphasis will be on integrated multidisciplinary studies on Silurian rocks and fossil biota. The second circular have just been distributed and is available at the congress web-page <http://www.unica.it/silurian2009>

Stan Finney (USA): In August 2008, I began a 4-year term as chair of the International Commission on Stratigraphy. Among other commitments, this position is consuming much of my available time.

Maurizio Gnoli (Italy) – I'm continuing to work on Silurian cephalopods mainly systematics from the Carnic Alps and peri Gondwanan area and at present I submitted to press tree papers shall be published in the Volume devoted to the Cagliari Silurian meeting of the Subcommittee.

Vachik Hairapetian (Iran). I'm actively working on Silurian Niur Formation in Derenjal Mountains, east central Iran with Giles Miller (London). Numerous ostracods and conodonts have been collected. A paper on fish (thelodonts and a few acanthodians) material is recently appeared.

Olle Hints (Estonia): The focus of my research is on Ordovician and Silurian scolecodonts (polychaete jaws) and other microfossils (chitinozoans, conodonts) and on various problems of regional stratigraphy and geology.

Kathleen Histon (Italy): I am actively working on nautiloid cephalopods from the Carnic Alps (Austria) as part of a multidisciplinary study (with Annalisa Ferretti, Modena, Italy and Hans Peter Schönlaub, Vienna, Austria) of prevalently pelagic faunas from the Silurian successions in the Carnic Alps in order to document faunal recovery and exchange during the Silurian and response to eustatic changes on a local scale.

A sequence stratigraphy study of the Silurian of the Carnic Alps in cooperation with Carlton Brett (Cincinnati, USA) continues. Comparative studies with Alan Thomas and Dave Ray of the sequence stratigraphy of the Carnic Alps and the British Isles is in progress. Comparative studies of nautiloid faunas between the Carnic Alps and the British Isles with Charles Holland continues.

David Holloway (Australia): My work with Phil Lane (Keele University, UK) on diverse assemblages of scutellid trilobites from mid-late Wenlock to Ludlow limestones from central western New South Wales is nearing completion. The fauna includes 25 species belonging to seven genera, one of the genera being new. As is the case with the illaenimorph trilobites previously described by us from the same limestones, the scutelluids show strong faunal similarities with those from contemporaneous limestones in Japan and Kazakhstan. Work continues with Phil Lane on trilobites from a late Llandovery allochthonous limestone unit from north-eastern Queensland. A recently completed paper with Maria da Gloria Pires de Carvalho (American Museum of Natural History) on the extraordinary fenestrate trilobite *Fenestraspis* from the Lower Devonian of Bolivia has been accepted for publication in *Palaeontology*.

Helen Hughes (U.K.). Research continues on collections of trilobites from the Silurian reefs of North Greenland. Lithofacies analysis and the identification of trilobite associations and their taphonomic attributes are providing a palaeoenvironmental and taphonomic context for the reefs. Systematic work on the Scutelluidae is in progress.

Lennart Jeppsson (Sweden): I continue actively working with the Wenlock and younger Silurian events which in most cases included mass extinctions and with conodont-based biostratigraphy, taxonomy. For the moment I mostly work with parts of the Sheinwoodian and the late Ludfordian, occasionally with the intervals of other planned manuscripts.

Jisuo Jin (Canada): I am currently working on the origin, radiation, and extinction of various Silurian brachiopod faunas of Anticosti Island (with Paul Copper), Manitoulin Island (with PhD student Chris Stott), and Arctic Canada (with Alf Lenz and PhD student Pengfei Chen). Also, my collaborative research with David Harper (Geological Museum, Copenhagen) on the Early Silurian pentamerides of North Greenland is ongoing, as a result of a field expedition to Peary Land in 2006.

Dimitri Kaljo (Estonia): I continue to work on the Ordovician and Silurian bio- and chemostratigraphy of Baltica and elsewhere for comparison. Some projects (team works) reported earlier are still in progress, but some results about the uppermost Silurian of Podolia and the Hirnantian of the Mirny Creek should be published

in 2009. I am pleased to tell that the “Estonian Journal of Earth Sciences” is indexed in Science Citation Index Expanded (ISI Web of Science) beginning with 2007 and all papers are freely available at www.eap.ee/earthsciences. The journal accepts internationally interesting (peer reviewed) papers, especially on the Ordovician and Silurian, from any geographical region.

Mark Kleffner (USA). I am presently actively involved in six projects:

- (1) a revised conodont-, graptolite-, and chitinozoa-based Silurian chronostratigraphy (with James Barrick);
- (2) $\delta^{13}\text{C}$ chemostratigraphy of Ordovician/Silurian boundary strata of the North American Midcontinent (with Stig Bergström);
- (3) conodont biostratigraphy, oceanic episodes, and $\delta^{13}\text{C}$ chemostratigraphy of Silurian/Devonian boundary strata in New York;
- (4) Ireviken Event and Ireviken $\delta^{13}\text{C}$ excursion (with Brad Cramer and many others);
- (5) oceanic episodes, ^{13}C chemostratigraphy, and updated Homerian, Gorstian, and Ludfordian (Silurian) conodont biostratigraphy of southern Laurentia; and
- (6) Silurian high-resolution stratigraphy on the Cincinnati Arch (with Brad Cramer, Pat McLaughlin, and Carlton Brett).

Anna Kozłowska (Poland): I am working on evolution of retiolitid graptolites from Poland, Arctic Canada, Lithuania in collaboration with Denis Bates, Alf Lenz, Mike Melchin, Jorg Maletz, and Sigitas Radzevicius. Together with Alf Lenz and Denis Bates we are working on the new edition of Treatise on Invertebrate Paleontology, Graptolithina.

Jiri Kriz (Czech Republic): I continued to study in detail the Silurian (Ludlow) sections in the Prague Basin Bohemia together with Stepan Manda from the Czech Geological Survey as the part of our research of the „Environment and the paleo-communities in the Ludlow of the Prague Basin (Perunica, Bohemia)“ – a grant which will be completed in 2008. I am working on the new Treatise on Invertebrate Paleontology; Bivalvia. I studied the new bivalvia community from the shallow water lower Ludlow of the Prague Basin, Bohemia. Other news: I am already retired and I work for the Czech Geological Survey just for 50%. Since 2006 I transfer my collection of Lower Palaeozoic bivalves from Bohemia and abroad into the collections of the Czech Geological Survey, where it will be deposited in the future. The collection is accompanied by the detailed database with all the necessary informations about each specimen including inventory number, name, short description of the specimen (valve, size), locality data, stratigraphy data, collector name, date of collection, if the specimen is the type the information about publication date and author are added etc. Before the end of 2009 I plan to transfer my complete Bivalvia collection to the Czech Geological Survey collections, which represents more than 20,000 specimens.

Philippe Legrand (France): I continue the comparison between the Uppermost Ordovician and lowermost Silurian graptolites from Algeria and Mauretania. Preliminary results were presented last summer at the IPA Graptolite working group meeting (Prague).

Alain Le Hérisse (France): I continue to work on Paleozoic organic-walled protists assemblages, with particular interest in biostratigraphy and paleoenvironmental studies, and relationships between evolution of the palynological signal and paleoclimatic changes. I am currently working on the upper Ordovician and lower Silurian palynomorph assemblages from Saudi Arabia and Morocco, Algeria and Chad; the Silurian of Gotland area and the Devonian of South America (Brazil and Bolivia).

Alfred Lenz (Canada). I, in collaboration with Anna Kozłowska (Poland) and Mike Melchin (Canada), have begun a study of beautifully preserved, isolated Aeronian and lower Telychian retiolitids from Arctic Canada. Some of the retiolitids, particularly *Pseudoretiolites*, are among the oldest in the world, and the study of these will, hopefully, provide further insights into the early evolution of the Retiolitidae. Preliminary results of this study will, hopefully, be presented at the Silurian meeting in Sardinia, 2009.

A second study, involving the same three individuals, as well as Sherrill Senior (Canada), will focus on the graptolites of the upper Sheinwoodian, predominantly those from the *Cyrtograptus perneri* Biozone. Of particular interest, the study examines cyrtograptids preserved in both isolated and flattened form. Interestingly, the cyrtograptid species diversity, while overall large for that group, shows some taxonomic differentiation between the isolated forms derived from nodular carbonates and those flattened on shale surfaces.

The third project, involving Anna Kozłowska, Denis Bates (United Kingdom) and me, is the updating of the Retiolitidae (entirely Silurian) section for the revision of the Treatise on Invertebrate Paleontology, Graptolithina. The revision and updating are nearing completion.

Steve LoDuca (U.S.A.): I continue to work on the taphonomy, systematics, functional morphology, paleobiogeochemistry, and evolution of early Paleozoic macroalgae, especially dasyclads. Work also continues on the stratigraphy of Silurian units within and adjacent to the Michigan Basin. Current collaborators include Michael Melchin (Canada), Heroen Verbruggen (Belgium), Filippo Barattolo (Italy), Denis Tetreault (Canada), Ernie Behringer (USA), and Carl Brett (USA).

David Loydell (U.K.): The Kolka core integrated biostratigraphy project (with Viiu Nestor and Peep Männik) was completed in 2008 and has been submitted for publication. This extends our work on the integrated biostratigraphy of East Baltic cores to the top of the Wenlock. Another horrible summer in Britain prevented fieldwork on the Tarannon river section for the second year running. I'm hoping that 2009 will be much better weather-wise. Collaboration with Mark Kleffner and Brad Cramer on a conodont/isotope/graptolite/chitinozoan project has commenced on an intriguing section in the American Midwest. I'm collaborating with Tarmo Kiipli and David Ray on various projects involving bentonites and biostratigraphy and hope to resume work on the graptolites and palynology of the upper Wenlock of Illinois. Following the graptolite *Treatise* meeting in the Czech Republic in the summer of 2008, I have started work on the biostratigraphy and biogeography chapters. This should keep me busy through 2009 also. Anthony Butcher (chitinozoans and acritarchs), who has worked with me as a postdoctoral researcher over the last three years on various North African and Middle Eastern projects, has accepted a permanent research post at Portsmouth which is very good news. Several papers are in press and will appear in 2009.

Peep Männik (Estonia): I am actively working on evolution, taxonomy and palaeoecology of conodonts, conodont-based high-resolution stratigraphy, bioevents and palaeogeography. I am also interested in sequence stratigraphy and evolution of sedimentary basins. In Estonia, I am busy with three projects: "Upper Ordovician–Lower Silurian conodont biostratigraphy in stratigraphic sequences" (a four-year project, started in 2007), "Ordovician–Silurian boundary in the Baltic area" (a four-year project, started in 2008) and "Ordovician and Silurian biodiversity in Baltica: evolution and impact of the changing environment" (a six-year project, started in 2008). Also, joint studies together with colleagues from Estonia, Germany, Russia, Sweden, U.K. and USA on evolution and high-resolution stratigraphy of the Early Palaeozoic sedimentary basins on Baltica and Siberia palaeocontinents are going on. In summer 2008 I participated in field works (organized by the Trofimuk Institute of Petroleum Geology and Geophysics, Novosibirsk) in Siberia. We studied Upper Ordovician and lowermost Silurian sections on Podkamennaya Tunguska River.

Alexander (Sandy) D. McCracken (Canada): I have been Acting Head of Stratigraphy, Paleontology & Sedimentology Subdivision, and Leader of GSC PaleoLab project since April 2007, which limits the time I have to work on Middle to Upper Ordovician, Silurian and Devonian and conodonts from various locations in Canada.

Patrick I. McLaughlin (USA): For the last three years I have been working with Carl Brett and Warren Huff on an NSF funded project to look at the Silurian sequence and event stratigraphy of southern Laurentia. This work has focused on the Cincinnati Arch and northern Appalachian Basin area. We highlighted part of this work on a field trip and accompanying guidebook article with Brad Cramer and Mark Kleffner during the North-Central Geological Society of America meeting this past June. The field trip had good attendance including many Silurian and Ordovician workers from across North America. We are currently in the process of writing

up these case studies as contributions to a special volume on the Silurian of Laurentia to be published by the New York State Museum. This project also included a comparative analysis of the Llandovery and lower Wenlock strata of Gotland, Sweden. I am indebted to Axel Munnecke, Christian Samtleben, Lennart Jeppsson, and Mikael Calner for much advice and logistical assistance in this endeavor. Many of the results of this analysis will be submitted to a special volume of P3 edited by Munnecke and others.

I continue to work closely with Frank Brunton of the Ontario Geological Survey on correlations from the Appalachian basin margin to the Michigan Basin margin through southern Ontario and with Don Mikulic and Joanne Kluessendorf on correlations from the Cincinnati Arch into the Midcontinent Platform. I will showcase some of this work with Don and Joanne during a post-meeting field trip through the Silurian of southern Ohio and Indiana following the North American Paleontological Convention (see attached announcement).

I am also continuing to work closely with Brad Cramer on stable carbon isotope geochemistry of the early to mid Silurian of the Cincinnati Arch region.

Our geochemical analyses of K-bentonites from eastern North America and Gotland are ongoing. We are working with Scott Samson's lab at the University of Syracuse to prep the samples for analysis MIT and anticipate a series of up to five U/Pb dates in the coming year.

A recent outing to the Nashville Dome of central Tennessee and Mississippi Embayment of western Tennessee reinforced to us the importance of these sections in resolving Upper Silurian chronostratigraphy for Laurentia. They represent largely unaltered, shallow to deep subtidal facies, whereas their counterparts throughout much of eastern North America are dominated by dolomitized peritidal and evaporite facies.

Michael J. Melchin (Canada): I am currently working on several projects related to graptolite biostratigraphy and biodiversity through the Late Ordovician and Early Silurian, particularly in North America, Europe, and China. My graduate student, Jason Loxton, is very near completion of a study of biodiversity dynamics through the late Katian to earliest Rhuddanian in Northern Yukon. I am collaborating with Charles Mitchell, David Sheets, Petr Storch and Stan Finney, on the study of Late Ordovician – Early Silurian faunas in Nevada and Bohemia, Scotland, and with Fan Junxuan and Chen Xu (Nanjing) on the study of Rhuddanian-Aeronian graptolites from South China. We are also working together with Chris Holmden and others on the stratigraphy and carbon isotope chemostratigraphy of the same successions. This year I will also be continuing chemostratigraphic studies of Llandovery successions in Arctic Canada and (hopefully) Britain. I have also been working with Chuck Mitchell, Jörg Maletz and others on phylogenetic analysis of graptolites and related pterobranchs and with Alf Lenz and Anna Kozłowska on some isolated Llandovery and Early Wenlock graptolites.

Giles Miller (UK): I have been working on Wenlock ostracods from Arctic Canada and have completed a publication that is near to submission joint with Mark Williams and David Siveter. I have also been started working up the conodonts that are associated with the paper listed (Hairapetian et al. 2008).

Tatiana Modzalevskaya (Russia): I'm actively working on national projects which include Silurian charts correlation of East-European Platform and West-Siberian plate; the Regional Stratotype of Silurian stages in Russia; Silurian chart of lithofacies distribution in western and central parts of East-European Platform.

Axel Munnecke (Germany): I am currently working on Ordovician and Silurian palaeoclimatology and chemostratigraphy based on stable carbon and oxygen isotopes from brachiopods, whole rocks, and organic material, mostly from Gotland and from China (the latter in collaboration with Zhang Yuandong from the NIGPAS, Nanjing). Furthermore, together with many colleagues I am working on a project which tries to establish the first piece of an orbitally tuned timescale for the early Wenlock.

Heldur Nestor (Estonia): I have retired and not actively working any more, except for occasional visits to the Institute. Together with Paul Copper and Carl Stock we submitted a monograph on the Upper Ordovician and Llandovery stromatoporoids of the Anticosti Island, Eastern Canada to the NRC Research Press, Canada.

Viiu Nestor (Estonia): I am currently working on the upper Silurian chitinozoans. Recently I finished a study concerning Ludlow chitinozoan biostratigraphy of four East Baltic drill cores. My work continues on Pridolian chitinozoans.

Florentin, Paris (France): This year I was more involved on Silurian material (mainly chitinozoans). During Blaise VIDET post-doc (TOTAL oil company /CNRS contract), a new Armorican section was studied in detail, including the Silurian-Devonian boundary beds. Chitinozoans demonstrated a large development of Pridoli deposits in this area. With Blaise, we got new data and “revisited” previous data on late Silurian chitinozoan assemblages from the Algerian Sahara, especially from the Illizi Basin.

In cooperation with Merrell MILLER and Sa'id AL HAJRI (Saudi ARAMCO), I am preparing a paper on early Silurian chitinozoans from the Qusaiba and Ba'qa shallow cores (NW Saudi Arabia). This paper, with extensive SEM illustrations, is expected to be published in *GeoArabia* as a contribution to the CIMP/ARAMCO project.

Silvio H. Peralta (Argentina): Currently, I'm devoted to the study of Silurian sedimentary rocks outcropping in the Precordillera of La Rioja, San Juan and Mendoza Provinces, Western Argentina, and in the Eastern Cordillera, North Western Argentina. Tectosedimentary control, facies change, basin geometry and location of depocenters, have been the main focus on my work. An advance on these subjects has been done in the 17th Argentina Geological Congress, held in San Salvador de Jujuy city, the head-city of Jujuy Province, in the North West of Argentina.

On the other side, the study of trace fossil assemblage of the La Chilca Formation (Late Hirnantian to early Wenlock) is being carried out together with my colleague, Dr. Gilberto Aceñolaza, from the National University of Tucumán. In concern to this matter. The La Chilca Formation outcrops in the Central Precordillera of the San Juan Province. It is composed by a storm-dominated siliciclastic muddy to mud-sandy sequence, in which an interesting “ichnoguild” dominated by *Zoophycos-Chondrites-Planolites* feeding structures has been characterized through the whole sequence.

On the other side, a PhD thesis entitled “Estratigrafía y Estructura del Ordovícico y Silurico de la Sierra de la Deheza, Entre Las Quebradas de Los Algarrobos y de La Deheza, Precordillera Central, San Juan, Argentina”, is carried out by María Estela Pereyra, Fac. Cienc. Ex. Fcas. y Naturales, U.N. San Juan.

The field work on the stratigraphy and structure of the Silurian and Devonian sedimentary rocks of the Chinguillo Group, has been carried out by Sebastian Juarez, and a degree student of Geology, in the National University of San Juan.

Other news Participation as Main Researcher in the International Project “Chemostratigraphy, Palaeoenvironment and Palaeogeography of the Silurian and Devonian basins of the Argentina, Chile, Uruguay and Brasil”, sponsored by CNPq, Brasil, and CONICET, Argentina. Chair PhD Alcides Sial, Universidad Federal Pernambuco, Brasil.

Vincent Perrier (France) : I am actively working on Palaeozoic ostracods and particularly on the colonization of the pelagic water realm by myodocopid ostracods during the Silurian. My research project focuses on when (temporally), how (in terms of carapace design), and why (determining the driving forces) ostracods colonized the water column, a major event in the ecological radiation of the group and a potential model for the study of other benthic to pelagic ecological shifts that occurred in the last 500 million years of aquatic life.

My second research project focuses on how Baltic ostracods (mainly from Estonia) reacted to rapid environmental changes such as climate changes (Hirnantian glaciation), sedimentological changes (Telychian ash falls) and water chemistry changes (Ireviken excursion).

José Manuel Piçarra (Portugal): I'm actively working on the Lower Paleozoic stratigraphy of South Portugal (Ossa Morena Zone) and also on the Silurian graptolites from Portugal. I am also working in the Silurian graptolites of the Armorican Massif (a Portuguese-French project; FCT – CNRS/Brest and Rennes).

Teresa Podhalańska (Poland): I am actively working on Silurian biostratigraphy based on graptolites, the Ordovician/Silurian boundary in Poland, and on palaeontological, geochemical and isotopic records of Hirnantian event.

Claudia Rubenstein (Argentina). I am actively working on Paleozoic (Cambrian to Devonian) palynology from western Argentina that mainly involves the Central Andean Basin, Famatina and the Precordillera Basin under the project “Marine and terrestrial palynomorphs and studies on fauna in the Lower Palaeozoic from western Argentina: high resolution biostratigraphy, palaeobiogeography and paleoclimates”

During 2008 research of the Silurian System was focused on the study of palynomorphs from the Ordovician-Silurian boundary of northwestern Argentina. Concerning the O/S boundary from the Cordillera Oriental, the first palynological results (acritarchs and chitinozoans) coming from the transition between the Hirnantian glacial deposits and the early Silurian have been presented in the IPC-XII in Bonn, in collaboration with G. Susana de la Puente (Mendoza, Argentina) and Aurélien Delabroye (Lille, France) in the frame of a Scientific Cooperation Programme between Argentina and France (SECYT-ECOS).

Other studies involve the palynology (spores and acritarchs) from the Silurian/Devonian boundary of the Amazonas Basin, Brazil, together with P. Steemans (Liège, Belgium)) and J.H.G. Melo (Rio de Janeiro, Brazil

Rong Jiayu (China) I have recently mainly been working on the Late Ordovician and Silurian biostratigraphy, brachiopods, palaeogeography and palaeobiogeography, in particular the brachiopod succession through the Ordovician and Silurian transition. Recently, I am working on a new brachiopod fauna of mainly the earliest Silurian from East China which includes more than 25 species belonging to about 25 genera.

Valeri Sachanski (Bulgaria): I am actively working on Ordovician-Devonian stratigraphy of Bulgaria and Turkey and especially to Silurian-Lower Devonian graptolite biostratigraphy.

Nikolay Sennikov (Russia): Currently I am actively working on graptolite zonation, taxonomy and phylogeny, paleogeography and event stratigraphy.

Thomas Servais (France): I continue research on organic-walled microphytoplankton from Cambrian to Silurian (but mostly Ordovician) sediments. I'm chairing the International Geoscience Programme (IGCP) nr 503 'Ordovician Palaeogeography and Palaeoclimate' that runs from 2004 to 2008 (and hopefully on an extended term in 2009), which also includes many Silurian contributions. Work in the Silurian is focused on the analyses of calcareous walled microorganisms, possibly of a planktonic life mode (together with Axel Munnecke, Erlangen).

Constance M. Soja (USA): I will be involved in a Keck Geology Consortium research project in Mongolia in summer 2009 to explore Ordovician-Silurian biotas in the Gobi-Altai terrane with Minjin Chuluun (Mongolian Technical University), Paul Myrow (Colorado College), and Jeff Over (SUNY-Geneseo).

Andrew J Storey (U.K.): I am currently a PhD student now in my second year. Work continues on a late Wenlock to early Ludlow trilobite dominated assemblage from the Coldwell Formation (formally Bipartite Limestone) of the Lake District Basin. Substantial collections have been made over the last 30 years from the Howgill Fells area in northwest England, and work is in progress on these. The assemblage is thought to have inhabited deep water settings and bears a strong resemblance to fauna described from the Swedish Colonius shale. The exact depth in which the fauna lived is uncertain but it is anticipated that the associated brachiopods will provide a benthic assemblage constraint. Future work will also include the study and documentation of other trilobite associations in the British Ludlow.

Desmond Strusz (Australia): I am almost finished my revision of the Yass Silurian faunas, operating as a Visiting Fellow at the Research School of Earth Sciences, Australian National University, and a Research Associate of the Australian Museum. A paper on the previously undescribed rhynchonellides (there aren't many!) has been accepted for publication in the Proceedings of the Linnean Society of NSW, due out in February 2009. Work is well advanced on the spiriferides - that will be the final taxonomic paper. I then intend turning my attention to Silurian faunas from around Canberra, starting with a revision of the fauna at the historic site of Woolshed Creek near Duntroon (where the existence of Silurian rocks in Australia was first recognised by W.B. Clarke in the mid 1840s). Recent bridge construction close to the original outcrop (which remains undisturbed) has provided much excellent material, including 'pavements' of the dominant brachiopod *Atrypa duntroonensis*. I have also contributed to a 'popular' book on the geology of the ACT and nearby areas, compiled by Finlayson and published in September 2008 by the ACT Division (Geological Society of Australia)

Alan Thomas (U.K.) Alan Thomas is collaborating with Dave Ray on extending their sequence stratigraphic interpretation of the Much Wenlock Limestone Formation at Dudley to cover the Homeric of the Midland Platform: the manuscript has just been accepted by *Geological Magazine*.

Thijs Vandenbroucke (Belgium). Whilst my main interest remains focussed on the study of distribution patterns of zooplankton during the Upper Ordovician, I am currently involved in several projects dealing with the Silurian System. (i) Jeremy Davies (BGS), Richard Waters (National Museum of Wales), Stewart Molyneux (BGS), Mark Williams (University of Leicester), Jan Zalasiewicz (University of Leicester), Jacques Verniers (Ghent University), Tom Challands (Durham University) and myself are attempting a critical but constructive revision of the stratigraphy and facies architecture of the Llandovery type area in South Wales, as part of a 2 year (2007-2009) British Geological Survey sponsored project. (ii) Together with Olle Hints (Technical University of Tallinn) and Axel Munnecke (Erlangen University), I am trying to evaluate the differences in carbon isotope values between several groups of palynomorphs, using the Ireviken Event on the Isle of Gotland as a test case. (iii) Furthermore, I hope finish writing up a summary of our chitinozoan work in the Silurian of the Scottish Pentland Hills together with Maarten Decléene (Ghent University), Jacques Verniers (Ghent University) and Euan Clarkson (Edinburgh University).

Jacques Verniers (Belgium) – I have finished with six co-authors a review of the Silurian of "Central Europe" for an exhaustive book of the Geological Society of London on the geology of the larger part of Europe. I'm again working on the chitinozoans around the Silurian-Ordovician boundary in the Rostanga borehole (Scania, Sweden). Tania Koren made the detailed graptolite biozonation. Jan Mortier continues his PhD study on the lithostratigraphy, biostratigraphy with chitinozoans and palaeoenvironmental reconstruction with isotope studies (organic carbon) of the Silurian of the Condroz Inlier (Belgium).

Viive Viira (Estonia): I am currently working on Ordovician conodonts from Estonia.

Zhang Yuandong (Nanjing, China): I am at moment partially working on the Telychian graptolite fauna discovered in the Mojiang County, Yunnan, which belongs to the Indo-China Block in the Silurian. In association with the graptolites there are some spores of distinct morphologies, on which my colleague Wang Yi is now working. This discovery, in addition to the previous reports of the Wenlock-Ludlow and Early Devonian graptolites in the region, will improve our knowledge of the Silurian graptolite fauna and biostratigraphy of the Indo-China Block.

Zhan Renbin (China): In 2008, I am mainly working on the Great Ordovician Biodiversification in South China. But, collaborating with Prof. Rong Jiayu and Dr. Huang Bing, I am also doing some work on the latest Ordovician and the earliest Silurian brachiopods and stratigraphy. One of our latest achievements is the discovery and study of the latest Hirnantian deep-water brachiopod fauna near Hangzhou, Zhejiang Province, East China. Such a fauna, the only known representative between the *Hirnantia* Fauna and the earliest Silurian shelly fauna, bridges the gap between these two major faunas and has important macro-evolutionary significance. More detailed systematic work on this fauna is in progress.

9. Publications on the Silurian in 2008 or from earlier not mentioned in previous newsletters.

Abushik, A.F., Modzalevskaya, T.L., Moisseeva T.I., Pushkin V.I. 2007. Silurian and Early Devonian brachiopods and ostracods of Belarus'. VSEGEI- Press, St. Petersburg: 1-125. (In Russian).

Ainsaar, L., Kaljo, D., Martma, T., Meidla, T., Männik, P., Nölvak, J. and Tinn, O. 2008. Middle and Upper Ordovician carbon isotope stratigraphy in Baltoscandia: towards a regional chemostratigraphic standard. In: Kröger, B. and Servais, T. (eds.). Palaeozoic climates. Abstracts: International Congress; Lille, France; August 22-31, 2008. Lille: 12.

Al-Hajri, S., Verniers, J., Paris, F., Al-Ruwaili, M., Steemans, P. and Le Hérisse, A. 2008. A distinctive marginal marine palynological assemblage from the Pridoli of Northwestern Saudi Arabia. IPC-XII/ Bonn, Germany, Terra Nostra 2008/2, Abstract, p. 12.

Antoshkina A.I. 2008. Late Ordovician-Early Silurian facies development and environmental changes in the Subpolar Urals. *Lethaia*, 41: 163–171.

Antoshkina A.I. 2008. Event boundaries in Silurian of the Timan-northern Ural region. bio-lithological boundaries of the Earth. Issues of Intern. Conf. Tyumen. TyumGNGU: 188-195 [in Russian].

Antoshkina A.I. 2008. Evolution of Paleozoic reef formation and biogenic frameworks in the northeast European platform. *Bulletin Inst. Geol. Komi SC RAS*, 5: 10-13 [in Russian].

Antoshkina A.I. & Königshof P. 2008. Lower Devonian reef structures in Russia – an example from the Urals. *Facies*. 54: 233-251.

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Tang Yugang	?
Xiang Liwen	?
Zhang Tonggang	?



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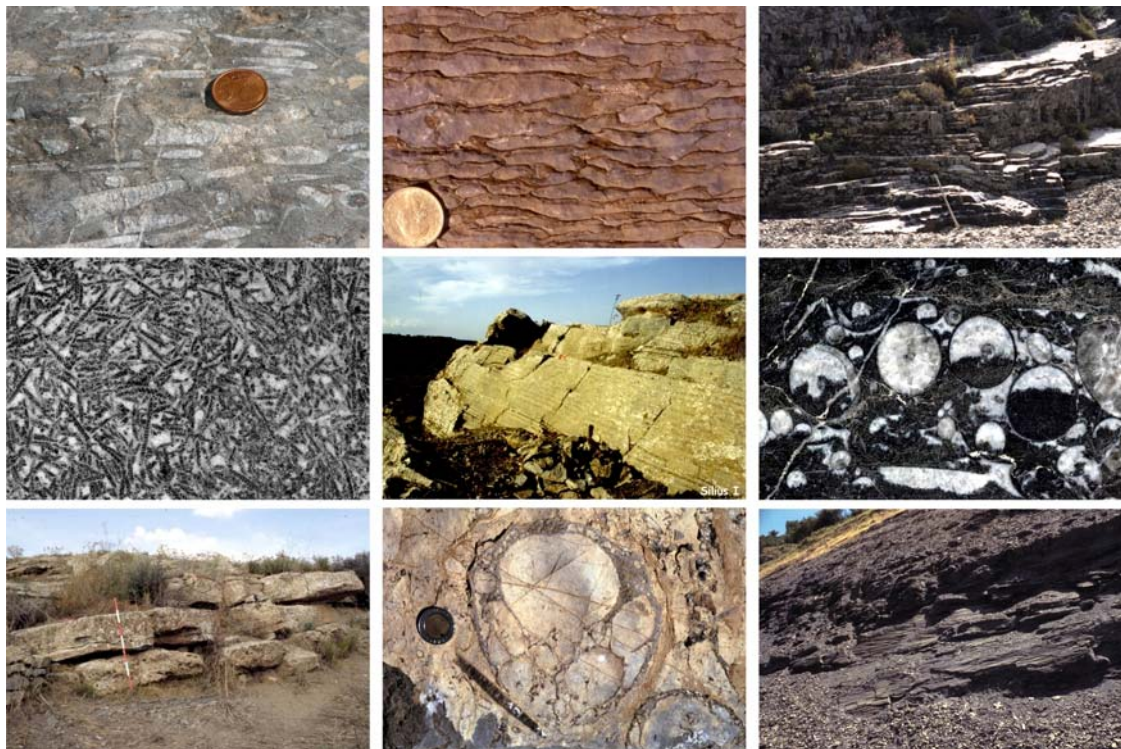
Time and life in the Silurian: a multidisciplinary approach

Time and Life in the Silurian: a multidisciplinary approach

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Time and Life in the Silurian: a multidisciplinary approach

S4: Subcommission on Silurian Stratigraphy in Sardinia

Sardinia, Italy, June 4 –11, 2009

Invitation

The Organizing Committee warmly invites you to attend the Subcommission on Silurian Stratigraphy Field Meeting 2009 "***Time and Life in the Silurian: a multidisciplinary approach***" in Sardinia, Italy, on June 4-11, 2009. The scientific sessions and the ISSS business meeting will be held in the coastal resort of Villasimius, located 50 km south-east of Cagliari. Sardinia has many excellent outcrops of Silurian rocks. A selection of exposures will be shown during the post-conference field trip (June 8–11, 2009).

The field trip will be followed by a workshop of graptolite Treatise working group focused on writing and/or polishing chapters, making revisions etc. Graptolite Treatise meeting will take place in Cagliari seaside hotel Cala Mosca on June 12-16. Invited participants will receive detailed information.

Hosts

The conference is jointly organized by the University of Cagliari and the University of Modena and Reggio Emilia on behalf of the International Subcommission on Silurian Stratigraphy.

Organizers

Carlo Corradini, *Università di Cagliari*
Annalisa Ferretti, *Università di Modena e Reggio Emilia*
Petr Storch, *Czech Academy of Sciences, Prague*
Sebastiano Barca, *Università di Cagliari*
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Hans Peter Schönlaub, *Austrian Academy of Sciences, Vienna, Austria*
Enrico Serpagli, *Università di Modena and Reggio Emilia, Modena, Italy*
Jacques Verniers, *Gent University, Gent, Belgium*

Dates and Deadlines

Early registration payment for conference and post-conference field trip	Sunday, February 15, 2009
Abstract submission	Sunday, March 15, 2009
Technical sessions	Friday to Sunday, June 5-7, 2009 in Villasimius, Cagliari. Departure from Cagliari on Monday, June 8 (late morning). Booking of early morning flights is not recommended.
Post-conference field trip	Monday to Thursday, June 8-11, 2009. Departure from Cagliari on Friday, June 12.

Venue

The technical sessions of the congress will be officially opened at 9:00 am on Friday, June 5, 2009. The Icebreaker party, opening ceremony, scientific lectures, International Subcommission on Silurian Stratigraphy business meeting and congress reception will be at the Simius Playa Hotel in Villasimius, 50 kilometers from Cagliari. Bus transport from Cagliari airport on arrival/ departure dates is included in the conference fee (see below for details).

Accommodation

Lodging during the meeting will be in the Simius Playa Hotel in double-rooms. If there is a specific participant that you would like to share a room with, please indicate this on the questionnaire.

A limited number of single rooms is available at an extra charge.

Accommodation costs are included in the conference fee and reservation will be made by the organizers.

Important notes

Transport from Cagliari airport to the Simius Playa Hotel, Villasimius is guaranteed only for arrivals on June 4 earlier than 6:00 pm. Participants arriving later should arrange their own transport to the congress site.

Transport on June 8 from the Simius Playa Hotel to Cagliari airport for participants not attending the post-congress field trip will begin at after breakfast (journey time about 1.30 h).

Programme

The scientific programme of the conference includes 3 days of scientific sessions and the International Subcommission on Silurian Stratigraphy business meeting.

2009	Thursday, June 4	Friday, June 5	Saturday, June 6	Sunday, June 7
Morning		Registration. Opening ceremony. Oral presentations.	Oral presentations.	Oral presentations.
Afternoon	Arrival and registration	Oral and poster presentations.	Oral and poster presentations. ISSS business meeting.	Oral and poster presentations. Awards and closure.
Evening	Icebreaker party			Congress dinner.

Abstracts

In order to be included in the abstract volume, authors of oral and poster presentations must submit an abstract by **March 15, 2009**. Due to technical reasons, we would, however, appreciate earlier submission. State whether the abstract is for an oral or poster presentation. In the case of multi-authored talks indicate the speaker. Abstracts should be written in correct English. The Organizing Committee reserves the right to accept or refuse any submission. Please note that abstracts will only be accepted for inclusion in the programme if the registration fee has been paid. Abstracts should be submitted to the conference e-mail address:

silurian2009@unica.it

in digital version attached to an E-mail according to the guidelines below. Abstracts should be prepared preferably in MS Word and saved in MS Word format or as rtf-files. They should not exceed one page in length, including references, and figures. Plates will not be accepted. The abstract must be formatted as an A4 (210 x 297 mm) single-spaced page with a 25 mm space on the top, 20 mm on the left, right and bottom margins. All figures must be sent as separate files, saved as grey scale not compressed JPG files at 400 dpi. Figure captions should be given at the end of the abstract text.

Abstract example:

Conodonts from the upper Silurian-Lower Devonian “Monte Cocco II” section (Carnic Alps, Italy) [Times new Roman 14 bold]

MARIA G. CORRIGA and CARLO CORRADINI [TIMES NEW ROMAN 12, SMALL CAPITALS]

Maria G. Corriga, C. Corradini - Dipartimento di Scienze della Terra, Università di Cagliari, via Trentino 51, I-09127 Cagliari, Italy; corrigamaria@hotmail.it, corradin@unica.it [Times new Roman 8, italic]

In the Carnic Alps, located at the Italian-Austrian border, one of the most complete Paleozoic sedimentary successions is exposed. It is made up by... [Times new Roman 11]

REFERENCES [Times new Roman 9, according with the examples below]

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Oral and Poster Presentations

Oral presentations will be scheduled for a maximum of 20 minutes (15 minutes presentation and 5 minutes discussion).

The format of posters will be A0 (84 cm wide and 119 cm high). Please indicate your preference for presentation (oral or poster) on the registration form. The final decision, however, will be made by the Organizing Committee.

The official language of the congress is English. Regrettably, simultaneous translation cannot be provided. Presentations should run on Power Point version 2007 or earlier. Please note that it is not possible to use your own computer for presentation.

Publication

A proceedings volume will be published as a thematic issue of *Bollettino della Società Paleontologica Italiana*. Only papers presented at the meeting will be accepted for publication. The "*Bollettino*" is an international peer reviewed journal publishing papers on all aspects of palaeontology and stratigraphy. In the case of thematic issues, also manuscripts with a wider geologic topic are accepted.

Deadline for submitting manuscripts is June 10, 2009: authors can either bring a CD with all the files to the meeting (together with a printed copy) or send it earlier according to the notes given in the conference web page (<http://www.unica.it/silurian2009/publication.htm>).

On your registration form you are asked to indicate if you would like to submit a paper for publication. Further information will also be provided on the conference website <http://www.unica.it/silurian2009>.

Conference Events

Icebreaker party

The organizers invite all participants and registered accompanying persons to an informal party.

Date: Thursday, June 4, 2009.

Venue: Simius Playa Hotel, Villasimius.

Costs included in registration.

Conference Dinner

All participants and registered accompanying persons are invited to the Conference Dinner with a typical Sardinic menu.

Date: Sunday, June 7, 2009.

Costs included in registration.

Travel to Sardinia

Cagliari International airport has daily connections with all major Italian airports, while a few European cities (Paris, London, Bruxelles, ...) are connected a few times a week. Low-cost air-carriers operate regularly from Cagliari to Barcelona, Madrid, Munich, Stuttgart, Köln, London, Brussels, etc. However, "new" flights are added constantly, mainly in spring/summer, and low cost connections may change from year to year.

Other international airports in Sardinia are located in the northern part of the island: Alghero (210 km to Cagliari) and Olbia (280 km to Cagliari). However, it should be noted that bus/train connections within Sardinia are quite poor.

Sardinia can be reached also by boat. Cagliari harbour has daily connections with Civitavecchia (50 Km from Rome), while ferries to Livorno, Naples and Palermo are scheduled one or two times a week. Harbours of northern Sardinia (Porto Torres, Olbia, Golfo Aranci) have better network connections with several localities in Italy (Civitavecchia, Piombino, Livorno, Genova) and France (Marseille, Toulon). However, consider that bus/train connections within Sardinia are quite poor.

Visa

Traveling to Italy may require a visa, application for which can be made at the Italian Diplomatic and Consular Offices in your country of residence. Please see the Italian Ministry for Foreign Affairs website (http://www.esteri.it/visti/index_eng.asp) for the list of countries that require a visa. In this case, please contact the organizers (silurian2009@unica.it) for a letter in sufficient time for the proper documents to be prepared.

Official invitation

If you need an invitation letter, please do not hesitate to contact the organizing committee.

Post-conference Field Trip

A four-day field trip is scheduled for after the congress. The field trip will start from Villasimius on June 8 at 8:30 am and finish in Cagliari on June 11, late afternoon.

Sardinia offers the most complete Lower Palaeozoic sequence of Italy with sediments ranging from the Early Cambrian to the Early Carboniferous exposed in the southern part of the island. However, the strong Variscan tectonic deformation prevented the possibility to have undisturbed sections. The Silurian is represented either by calcareous or shaly sediments with two distinct and peculiar facies suites exposed in the southwestern and southeastern part of the island that mainly resemble the coeval sequences of Bohemia and Thuringia respectively. Their mutual relation is still unclear, but they were likely deposited in different areas of the northern Gondwana setting, several dozens of km apart, and joined together by the subsequent Variscan Orogeny. In SW Sardinia, the Silurian-Early Devonian is mainly represented by black shales and relatively shallow-water limestones rich in cephalopods. In SE Sardinia, coeval sediments are represented by the classical Thuringian Triad: Lower Graptolitic Shales, Ockerkalk, Upper Graptolitic Shales. A detailed biostratigraphy for both sequences has been provided owing to their rich conodont and graptolite faunas.

Silurian limestone and black shale sediments will be examined at a number of sections and outcrops. Hirnantian and Lochkovian sediments will also be shown. Historical sites and an old mine will be visited during the excursion.

The field trip is limited to 30 participants. Places will be filled on a first come first serve basis.

Field trip REGISTRATION FEE: 350 Euro

The fees cover all meals, accommodation in double room, and transportation during the excursion.

Preliminary Field Trip schedule (for more details check the conference web page)

June 8 - SE Sardinia

During the morning the Silurian sequence (mainly black shale facies) of the Sarrabus tectonic Unit will be visited in the Rio Ollastu area. In the afternoon we will move to the Gerrei tectonic Unit to visit a section where the Lower Graptolitic Shales-Ockerkalk transition is exposed. Lowermost Devonian Upper Graptolitic Shales will also be shown.

Accommodation: Hotel Corallo, Muravera

June 9 - SE Sardinia

Day devoted to the classical outcrops of the Gerrei tectonic Unit: the famous black shale Goni section will be visited, as well as the type sections of the Ockerkalk limestones at Silius and Genna Ciuerciu.

Accommodation: Hotel Funtana Noa, Villanovaforru

June 10 - SW Sardinia

Transfer to southwestern Sardinia. Day devoted to Hirnantian-lower Silurian outcrops. Pre-glacial and glacial Ordovician localities and lowermost Silurian black shales will be visited.

Accommodation: Hotel Antiche Mura, Domusnovas

June 11 - SW Sardinia

During the day the historical localities of *Orthoceras* limestones in the Fluminimaggiore area will be visited. Lower Devonian limestones will also be shown.

Arrival in Cagliari scheduled for the late afternoon.

Important note

Overnight accommodation for June 11 is not included in the field trip fee.

Participants of the field trip flying out of Cagliari should schedule their return flight starting from the morning of June 12.

Registration

Conference fee

The conference fee is **all inclusive**. It includes registration fee, Icebreaker party, coffee and tea-breaks, congress dinner, full pension accommodation at the Simius Playa Hotel, abstract volume, field trip volume, conference bag, transfer from/to Cagliari airport for people attending the conference.

Regular	700 Euro
Students	550 Euro
Accompanying persons	550 Euro
Single room supplement	150 Euro

Payment

Payments must arrive before February 15, 2009 by **international bank transfer** on the following bank account. Cheques are not accepted. Credit card payment is not possible. **Transfer costs must be covered by participants.**

Payment **in Euro** is requested by electronic transfer to:

Account	Carlo Corradini - Myriam Del Rio
Name of bank	Intesa San Paolo, Filiale 610, piazza Deffenu 4, Cagliari
Account number	14463
IBAN	IT05 H030 6904 8001 0000 0014 463
BIC	BCITITMM
Posting text:	your name (important!)

You should send a copy of your payment receipt together with your registration form or fax a copy of your receipt to: silurian2009@unica.it or fax: +39 070 282236 (attn. Prof. Carlo Corradini). We will confirm the arrival of your payment by e-mail.

Cancellation and refunds

Cancellations must be in written form and addressed to the Organizing Committee. Cancellations received by April 30, 2009 will be accepted and fees refunded less administration expenses of 150 Euro. After May 1, 2009 refunds will not be possible.

Late fees

Participants are encouraged to pay the fees as soon as possible and prior to February 15, 2009. Payment after this date will include an additional late fee (for details, please, contact the organizers).

Web page of the congress

The following web-page will be continuously updated: <http://www.unica.it/silurian2009>

