

SILURIAN TIMES

THE NEWSLETTER OF THE
INTERNATIONAL SUBCOMMISSION ON SILURIAN STRATIGRAPHY (ISSS)

SILURIAN TIMES No. 18bis

May 2011 for the year 2010
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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, email: mmelchin@stfx.ca.

Vice Chairman (sept. 2008-2012): Peep Männik, Senior researcher, Institute of Geology at Tallinn University of Technology, Buildings 4C and 4A (3rd floor), Ehitajate tee 5, EE-19086 Tallinn, Estonia, email: mannik@gi.ee.

Secretary: Jacques Verniers, Research Unit Palaeontology, Department of Geology and Soil Science, Ghent University, Krijgslaan 281 building S8 WE13, BE-9000, Gent, Belgium, email: Jacques.Verniers@ugent.be.

List of Task Groups and their officers

Base of Silurian: Mike Melchin, Canada: mmelchin@stfx.ca (final report accepted in 2009)

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EDITOR'S NOTES

I wish to thank again all of those who contributed to this issue and apologize 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. Many thanks go to Dr. Brad Cramer for making a new and attractive cover of Silurian Times 18.

I would like to apologize for a mistake in previous newsletters: Kathleen Histon and Patrick McLaughlin were nominated and elected as corresponding members for ISSS in 2008 at the business meeting held at the IGC in Oslo, but their names were not added to the list of corresponding members. This is rectified now. Jacques Verniers, Secretary (Saturday, 14 May 2011)

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)

List of all corresponding members (situation end of 2010; n= 64)

(with year of election and without date: corresponding member from before 1995)

Aldridge (UK)
Antoskhina (Russia)
Baarli (USA) 2002
Barnes (Canada)
Bassett (UK)
Berry (USA)
Bing Huang (P.R.China) 2009
Bjerreskov (Denmark)
Blieck (France)
Bogolepova (UK) 2002
Boucot (USA)
Calner (Sweden) 2005
Caputo (Brazil)
Chen (China)
Cocks (UK)
Corradini (Italy) 2007
Cramer Brad; (U.S.A.) 2009
Einasto (Estonia) 1996
Eriksson (Sweden) 2005
Fan Junxuan (China) 2005
Ferretti (Italy)
Fu (China) 1996
Geng (China)
Gutierrez-Marco (Spain) 1995
Hansch (Germany)
Hints (Estonia) 2007
Histon (Italy) 2008
Holland (Ireland)
Jell (Australia)
Jeppsson (Sweden) 1995
Kaljo (Estonia)
Kozłowska (Poland)
Larsson (Sweden)
Lenz (Canada)
Legrand (France)
Maletz (USA) 2002
Märss (Estonia) 1999
McLaughlin (USA) 2008
Modzalevskaya (Russia) 1999
Musteikis (Lithuania)
Nestor H. (Estonia)
Norford (Canada) 1995
Paris (France)
Piçarra (Portugal)
Radziadicius (Lithuania) 2007
David Ray (U.K.) 2009
Robardet (France)
Rong, Jiayu (China)
Schonlaub (Austria)
Sennikov (Russia) 1999
Serpagli (Italy)
Lawrence Sherwin (Australia) 2009
Simpson (Australia) 2002
Storch (Czech Rep.)
Strusz (Australia)
Su Wembo(China)
Suyarkova (Russia) 2007
Tang Peng (China) 2005
Teller (Poland)
Tesakov (Russia)
† Walliser (Germany)
Wang Nian Zhong (China) 1999
Wang Yi (China) 2005
Zhan Renbin (China) 2005
Zhang Yuan Dong (China) 1999
Zhao Wenjin(China) 2009
Zigaite (Lithuania) 2007

2. Chairman's Corner

Dear Silurian Colleagues,

This year we mourn the passing of two great Silurian scientists and fine colleagues, Otto Walliser and Tatiana Koren'. Their contributions to our community will be greatly missed but their legacy remains with us.

At the same time we look forward to our upcoming meeting in Ludlow where we will present our latest research results, discuss issues of mutual interest and form and renew collaborations and friendships. Our last four years have seen remarkable steps forward in our understanding of events that took place in Silurian time. Much of this progress has resulted in collaborative research between paleontologists, isotope geochemists, stratigraphers and sedimentologists. I hope that the 2011 meeting will push this work even further forward.

I particularly wish to thank the organizers of the Ludlow meeting, especially David Loydell, Brad Cramer, Jan Zalasiewicz and David Ray, for stepping up to organize this meeting on relatively short notice. I also thank the field trip organizers for putting together what promises to be a great opportunity for a new generation of Silurian researchers to see and discuss most of the GSSPs that form the foundation of the Silurian time scale. I look forward to seeing you there.

With best regards,

Mike Melchin

3. Annual Report of the Sub-Commission on Silurian Stratigraphy on 2010



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

ANNUAL REPORT 2010

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 important sites (such as GSSPs, global and regional stratotype sections, etc.).

Goals

- Rationalization of global chronostratigraphical classification.
- Intercalibration of fossil biostratigraphies, integrated zonations, and recognition of global datums.
- Establishment of magneto- and chemo-stratigraphic scales.
- 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 twelve 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*, distributed by 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.

4. INTERFACES WITH OTHER INTERNATIONAL PROJECTS

Collaboration on an IGCP Project N° 503 entitled “*Ordovician Palaeogeography and Palaeoclimate*”. This project ended in 2009 and two special volumes of the journal *Palaeogeography, Palaeoclimatology, Palaeoecology* were published in 2010 containing the contributions of ISSS and ISOS members to this project. Members of the ISSS have spearheaded a collaboration with ISOS and ISDS members in the proposal of a follow-up project proposal for IGCP, IGCP Project 591, “The Early to Middle Paleozoic Revolution”.

5. CHIEF ACCOMPLISHMENTS AND PRODUCTS IN 2010

Silurian Times No 17 was edited by the secretary in June 2010, posted on the web site for the ISSS, and circulated as an email attachment to all titular, corresponding and interested members of the Subcommittee. It contained the reports on previous meetings, announcement of upcoming meetings and publications, and the latest news and recent publications on Silurian research.

A special issue of *Bollettino della Società Paleontologica Italiana* was published containing some of the papers presented at the last Silurian Field Meeting, which took place in Sardinia, Italy, June 4-11, 2009. As reflected in the diversity of papers in this volume, the meeting was particularly successful in advancing one the stated goals of the ISSS, integration of data from different biostratigraphic, chemostratigraphic and lithostratigraphic perspectives, all focused toward a better resolution of Silurian time and understanding of the processes and events that operated in this interval.

Plans are well under way for the next International Symposium on the Silurian System. The meeting location will be in Ludlow, England, July 9-15, 2011. In addition to two days of oral and poster presentations, the meeting will have two field trips (pre- and post-conference) that will visit all the Silurian GSSPs that are in Wales and Welsh border areas.

The SSS Chair continued his interaction with scientists at the British Geological Survey in the development of 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 will form the basis of future refinement of the definition and correlation of the GSSPs, 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. New research by the BGS has resulted in considerable refinement of the stratigraphic and structural framework for this region and this will form an important basis for future deliberations regarding the merits of these GSSPs and their possible need for reconsideration.

As noted elsewhere in this report, the current GSSP for the base of the Wenlock Series has been shown not to correlate with the biostratigraphic level that was stated in its original definition. This has led many ISSS members to suggest that a new GSSP is required for this level. As part of the ongoing efforts to resolve this problem the ISSS Chair (M. Melchin) visited a previously known Llandovery-Wenlock boundary section in the Prague area in June 2010, under the guidance of ISSS Titular Member, Dr. P. Storch. In July, Dr. Melchin met with several Chinese colleagues in Nanjing and studied graptolites from possible GSSP section in Ziyang, China. The results of these investigations will be reported at the ISSS business meeting in Ludlow.

Five of the ISSS Titular Members, including the Chair and Vice-Chair, were co-authors on a paper published in *Lethaia*, outlining a proposed, informal subdivision of the Silurian time scale into stage slices. This proposal will be a subject of discussion at the ISSS business meeting in Ludlow. The paper

also presented a generalized carbon isotope curve for the Silurian as well as a updated proposed correlation of the North American regional stages with the global standard scale.

The ISSS Chair, with several colleagues, is currently preparing the chapter on the Silurian System for the 2012 edition of The Geologic Time Scale. This chapter is near completion.

All three of the ISSS executive participated in the ICS Workshop “The GSSP Concept”, in Prague, May 30-June 3, 2010. The ISSS chair made a brief presentation on the current state of understanding and some of the revisions and remaining problems associated with several of the Silurian GSSPs.

6. CHIEF PROBLEMS ENCOUNTERED IN 2010

The most significant problem encountered in 2010 related to the venue for the 2011 Silurian Field Meeting. The plan agreed upon in 2008 and presented to the members in 2009 was to hold the conference in St. Petersburg, Russia, with a field trip to the Subpolar Urals. However, early in 2010 it became clear to the organizers that the significant financial support that would be necessary to run the meeting, particularly the field trip, would not be available. As result, the plans for this meeting had to be cancelled. Fortunately, David Loydell, Brad Cramer, David Ray, and Jan Zalasiewicz put together an excellent plan to run the ISSS meeting in the summer of 2011 centred in the Ludlow area of UK. The field trips will focus on the British Silurian GSSPs and their stratigraphic context.

No other 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 2010

Income

Carried forward from 2009	nil
ICS Allocation	US\$1000
Total	US\$1000

Expenditure

ICS GSSP workshop expenses Secretary	US\$1000
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<u>Balance</u>	<u>US\$0</u>
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8. WORK PLAN, CRITICAL MILESTONES, ANTICIPATED RESULTS AND COMMUNICATIONS TO BE ACHIEVED NEXT YEAR (2011):

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.

Publication of Silurian Times Newsletter 18

International Symposium on the Silurian System in Ludlow, England, July, 2011. The meeting location will be in Ludlow, England, July 9-15, 2011. In addition to two days of oral and poster presentations, the meeting will have two field trips (pre- and post-conference) that will visit all the Silurian GSSPs that are in Wales and Welsh border areas. These will provide an opportunity for a new generation of Silurian scientists to see the GSSP and for those working in this region to synthesize the results of recent research on these sections.

Publication of Bulletin of Geosciences on current research on the Silurian System/Period. Although this volume will follow shortly after the Ludlow meeting, contributions to the volume will not be restricted to papers presented at that meeting.

Publication of a special volume of Proceedings of the Yorkshire Geological Society honouring the lifetime contributions of Dr. Barrie Rickards, a well known and respected Ordovician-Silurian graptolite paleontologist and stratigrapher. Invited papers will focus on current research in graptolites, including contributions from Silurian graptolite researchers.

Publication of a special volume of papers entitled “Siluro-Devonian Studies”, to be published as a Memoir of the Association of Australasian Palaeontologists.

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. In particular, collaborative studies of the chemostratigraphy and palynology of the Llandovery sections are under way and planned for 2011.

Initiation of the activities of IGCP 591, The planned milestones for 2011 are: A research focus on improving global biostratigraphic and chronostratigraphic correlation; project participation in the 2011 Silurian Field Meeting in Ludlow; participation in the 2011 International Symposium on the Ordovician System in Madrid, Spain, May 9-13, 2011; participation in other regional conferences.

Focus of ISSS members on continued collaboration on the process of full integration of the various regional and global biostratigraphic, lithostratigraphic, sequence stratigraphic, and chemostratigraphic scales. This integration is essential for refinement of the Silurian time scale and high-resolution correlation of Silurian events. In addition, some ISSS members are focusing on generation of new, high-resolution radiometric dates that are well constrained within the Silurian time scale. This is essential to achieve better calibration of this scale, which has been a serious weakness for the Silurian System.

9. BUDGET AND ICS COMPONENT FOR 2011

Contribution toward transportation, accommodation & registration of the Chair, Vice-Chair and Secretary to participate in the in the ISSS Field Meeting in Ludlow –

\$4000.00

Financial support for field trips to Silurian GSSPs to enable other ISSS members to participate –

\$6000.00

The ISSS has done pioneering work in the area of restudy of previously ratified GSSPs (see below). Recent work has shown that many of the Silurian GSSPs, all of which were ratified in the mid-1980s, have serious deficiencies in terms of their potential use as benchmarks for high-resolution global correlation. It is essential, if the ISSS is to make informed decisions regarding possible revision or replacement of some of the GSSPs, that members of the ISSS executive and as many corresponding members as possible attend these trips, see the sections, and review our current state understanding of them.

Total requested from ICS:

\$10,000.00

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.

10. CHIEF ACCOMPLISHMENTS OVER PAST FIVE YEARS (2006-2010)

Over the period of 2006-2010 the Subcommittee on Silurian Stratigraphy was active in several respects. The most recent of these activities are summarized above under the heading of "CHIEF ACCOMPLISHMENTS AND PRODUCTS IN 2010". In addition to those, the following are the most significant accomplishments of the past five years.

1) 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 a final report has been published in the September, 2008 issue of Episodes.

2) 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 to coincide with a conodont event -- the Ireviken conodont datum 2. The correlation between this level and the graptolite biozonation is a matter of some controversy. It is either approximately correlative with the base of the lower *murchisoni* graptolite Biozone (instead of the current *centrifugus* graptolite zone), or else a level high within the *murchisoni* graptolite Biozone. Alternatively, another GSSP locality with a precise base of the *Cyrtograptus centrifugus* Biozone could be chosen (e.g., potential sections in Great Britain or 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 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 shortcomings, until new studies can propose a better alternative. This time consuming study could however not be completed before the deadline of the ISC, ending at the International Geological Congress in Oslo summer 2008.

At the 2009 Silurian Field Meeting in Sardinia many of the ISSS members expressed their desire to continue to search for a new GSSP for the Base of Wenlock to replace the current one. Those members felt that it would be in the best interest of stability to find a new GSSP whose level coincides with the base of the *Cyrtograptus centrifugus* Biozone. Other members expressed the view that, with additional study, it may be that the current GSSP can be shown to provide a high level of biostratigraphic resolution based on its conodont faunas and that it would be in the best interest of stability to keep the current location and level. This is a matter of ongoing research and discussion for the Subcommittee.

3) 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.

4) ISSS members participated in 19 conferences in which IGCP 503 held sessions or symposia and undertook collaboration on planning of a followup IGCP project proposal, IGCP 591.

5) The Silurian Field Meeting, called “*Time and life in the Silurian: a multidisciplinary approach*” was held between 4-11 June 2009 in Sardinia, Italy. The meeting (organized by Petr Storch, Enrico Serpagli and Annalisa Ferretti) consisted of three days of scientific communications followed by a four days field trip in southern Sardinia. More than fifty scientists from fifteen countries attended the meeting. The scientific sessions were filled with talks dealing on any aspect of Silurian stratigraphy and palaeontology; the poster session included 18 posters.

In connection with the meeting, three special volumes were published in the series of the *Rendiconti della Società Paleontologica Italiana*: A. The Silurian of Sardinia - Corradini C., Ferretti A. & Storch P. (Eds.), 170 pp. The volume is dedicated to Prof. Enrico Serpagli, to celebrate his more than 40 years of activity in the Lower Palaeozoic of Sardinia. The volume comprises contributions that include an historical overview of the studies already carried out on the Silurian faunas of Sardinia, a global overview of the palaeoenvironment and palaeogeography, and seven research papers that illustrate current knowledge of major fossil groups encountered in the Silurian limestones and shales of southern Sardinia. B. Time and Life in the Silurian: a multidisciplinary approach - Field Trip Guidebook - Corradini C., Ferretti A. & Storch P. (Eds.), 96 pp. A brief geological and stratigraphical overview of the Silurian of Sardinia introduces to the excursion itinerary with locality descriptions. C. Time and Life in the Silurian: a multidisciplinary approach - Abstracts - Corriga M.G. & Piras S. The volume includes the forty-seven abstract of the talk or posters presented at the meeting. The pdf of the volume is available in the meeting web page (www.unica.it/silurian2009).

As noted above proceedings volume was published in a special issue of *Bollettino of the Società Paleontologica Italiana* in 2010.

OBJECTIVES AND WORK PLAN FOR NEXT 4 YEARS (2011-2014)

In addition to the points listed above as “WORK PLAN, CRITICAL MILESTONES, ANTICIPATED RESULTS AND COMMUNICATIONS TO BE ACHIEVED NEXT YEAR”, many of which will extend into future years, the priorities (not in order of merit) proposed for the Silurian Subcommittee for the next four years include:

Silurian Field Meeting in 2013, location to be announced.

The research objectives for the proposed IGCP Project 591 are to investigate the biological, chemical and physical evolution of the ocean-atmosphere-biosphere system during this dynamic interval of Earth history by addressing in detail the relationships between climate, sea level, tectonics, biology, oceanography, volcanism, and the stratigraphic record of Early to Middle Paleozoic global planetary change. This project will be conducted in collaboration with the International Subcommissions on Ordovician, Silurian, and Devonian Stratigraphy (SOS, SSS, SDS), and will be accomplished in successive steps over the five-year duration of the project (2011-2015).

2011 – Improving global biostratigraphic and chronostratigraphic correlation

2012 – Reconstructing global sea levels, sequence stratigraphy and paleogeography

2013 – Identifying biological, chemical and physical indicators of global planetary change

2014 – Addressing evolutionary paleoecology, paleobiodiversity and paleobiogeography

2015 – Oceanographic and climate modeling of Early to Middle Paleozoic events

International and regional conferences are planned for the five-year duration of the proposed projects, as well as special publications each year.

As also noted above, ISSS members are collaborating 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 studies 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.

We will investigate the establishment of data-bases which would bring together and make available information from all sources associated with the Silurian researchers. One such database has been created at the Nanjing Institute of Geology and Palaeontology by Dr. Fan Junxuan, who is also Webmaster for ISSS. This database, called Geobiodiversity Database (GBDB) is currently in the advanced development stage. Associated with this 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.

Other related activities include participation in the production of a new volume synthesizing our current understanding of Palaeozoic Palaeobiogeography. 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*]

SUBCOMMISSION ON SILURIAN STRATIGRAPHY

Subcommission officers

Chairman: Michael J. Melchin, Department of Earth Sciences, St. Francis Xavier University, Antigonish, NS, Canada, B2G 2W5; mmelchin@stfx.ca.

Vice Chairman: Peep Mannik, Institute of Geology at Tallinn University of Technology Ehitajate tee 5, 19086 Tallinn, Estonia; mannik@gi.ee.

Secretary: Jacques Verniers, Research Unit Palaeontology, Department of Geology and Soil Science, Ghent University, Krijgslaan 281 building S8, B-9000, Gent, Belgium,; Jacques.Verniers@ugent.be.

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J. Verniers, Ghent, Belgium, Jacques.Verniers@ugent.be

Zhan Renbin, Nanjing, China, rbzhan@nigpas.ac.cn

4. Obituary for TATYANA KOREN' 1935 – 2010

Tatyana Nikolaevna Koren', past Vice-Chair (2000-2008) and a titular member of the Silurian Subcommittee and a leading graptolite expert, passed away last October 15th after a short but serious illness (liver cancer). She was an active member of the international geological community since 1968, when she participated in the organisation of the 3rd International Symposium on the Silurian–Devonian boundary and the stratigraphy of the Lower and Middle Devonian in Leningrad with excursions in Middle Asia and Podolia.

Tatyana was born March 3rd, 1935, in Leningrad (now St. Petersburg), studied geology at Leningrad State University (cum laude diploma 1956) and thereupon began her lifelong career in the All-Union (now All-Russian) Geological Research Institute (widely known under acronym VSEGEI). This was and still is a huge institute of a couple of thousand people under Ministry of Geology, USSR (whose name has recently been changed) with a main task of conducting geological mapping and corresponding stratigraphical service over the whole country. Her diploma paper, supervised by A. M. Obut, was devoted to Silurian graptolites and so she became a worker at the Urals Division of the VSEGEI. These studies resulted in 1964 with the successful defence of her candidate dissertation (= PhD) in geology and mineralogy, "Silurian graptolites of the Urals and their significance in stratigraphy". In 1963 she became a researcher at the Stratigraphy and Palaeontology Division of the VSEGEI. She worked together with O.I. Nikiforova et al. in the Silurian of Podolia, but soon her research concerning graptolite palaeontology and biostratigraphy spread over a wide area from the Baltic states and west of Russia to Kazakhstan, the former USSR Middle Asia, and the Far East (e.g. Koren' et al. 1983). In 1986 she summarized her knowledge in a doctoral dissertation of soviet style entitled "Zonal stratigraphy and boundaries of the Silurian System based on graptolites" that gave her a DSc degree in geology.

The decade beginning in the early 1970s saw the emergence of a wealth of different activities in Silurian research and Subcommittee work. In 1973 the IGCP ecostratigraphy project began and in Tallinn a Soviet graptolite conference was held with a relatively large western participation. At that meeting a suggestion was formulated to organize a graptolite working group under the IPA. That group was formed and the first international graptolite conference was held in Warsaw in 1977. In the same year there was a consultative meeting of leading stratigraphers from western countries and USSR, in Alma-Ata and Moscow, under the aegis of the IUGS ICS and Soviet Academy of Sciences, with the idea to improve mutual understanding of stratigraphical procedures and terminology. In 1978 the field meeting of the Devonian Subcommittee was held in Samarkand and neighbourhood, and in 1979 the Pacific Science Congress took place in Khabarovsk and a geological excursion for study of the Ordovician-Silurian boundary sections in the Mirnyj Creek area in the Omulev Mountains in NE Russia. Then, in 1984 the 27th session of the International Geological Congress was held in Moscow. In all these events Tatyana Koren' was among the organizers and/or active participants. Her role as secretary of the stratigraphy section of the Moscow IGC was especially labour-intensive and time-consuming.

In 2001 Tatyana became chief of the Stratigraphy and Palaeontology Division of the VSEGEI, which multiplied her administrative load and need to be at head of many very different studies performed at this institute and elsewhere in the country and internationally. For example, besides her own projects like "Stratigraphical scale [classification] of the Silurian System: biostratigraphical markers and correlative value [potential for correlation] of subdivision boundaries" (2006), she participated in compilation of different atlases, e.g. "Atlas of geological maps of Central Asia and neighbouring territories" (2002-2007), "Atlas of geological maps of the Circumpolar Arctic on the scale 1: 5000000" (with participation from Russia, USA, Canada, Sweden, Norway, Finland and Germany) as well as others.

Despite heavy administrative responsibilities she was able to continue her personal graptolite studies, often taking advantage of possibilities now available to work for extended periods of time at museums and university institutes in Poland, Sweden, Denmark, Canada, and elsewhere. In her graptolite studies she made fundamental contributions to graptolite systematics and the development and refinement of global graptolite biozonations, especially for the Upper Ordovician, Silurian and Lower Devonian. Her work also provided many deep insights into the biodiversity history of graptolites, especially the record of extinction events. She was an excellent graptolite systematist and as the scope of her research expanded to global compilations and syntheses, she never lost sight of the essential nature of careful data collection and detailed taxonomic studies.

As often as possible she participated and lectured at different international meetings, symposia etc. We are particularly pleased that last May-June Tatyana was able to participate in an ICS Workshop on the GSSP Concept in Prague and also the 3rd International Palaeontological Congress in London. We (the authors) had no idea at the time that these conferences might be the last time we would have the pleasure of meeting with her.

Tatyana N. Koren's personal bibliography is waiting to be compiled, but she has been a productive author despite of heavy administrative load. According to a rough evaluation she has published, mostly in Russian and English, more than 200 papers in the fields of Lower Palaeozoic stratigraphy, graptolite palaeontology and methodology of stratigraphical research. She contributed also to the Russian geological lexicon.

She is survived by son Aleksei (engineer) and his family, including a grandson and two great-grandchildren. Tatyana was worried about her son's activities as alpinist, but very fond of children and tried to spend time with them as much as possible. She also had a great love for architecture and art, especially ballet, painting and music.

Respectfully submitted by Dimitri Kaljo, Mike Melchin and Tania Modzalevskaya



Tatyana Koren' speaking at the International Commission on Stratigraphy business meeting in Prague in May 2010



Tatyana Koren' pointing at the GSSP of the base of the Pridoli in Řeporyje-Požáry (ICS Business Meeting Prague May 2010)

5. Obituary for Otto H. WALLISER 03.03.1928 – 30.12.2010



Otto Heinrich WALLISER unexpectedly passed away in Göttingen on 30 December 2010. This was only two weeks after he had accepted an invitation to the annual meeting of the German SDS in 2011, at which TM Cristina PERRI on behalf of the Pander Society was to have presented the Pander Society Medal to Otto in honour of his outstanding lifetime conodont research. This ceremony will now take place post-mortem in Marburg in May 2011.

Otto was born in Krettenbach near Crailsheim in southern Germany on 3 March 1928. He was only able to finish his schooling in Tübingen in 1948 after having been drafted into the army in the last months of World War II and after having been a prisoner of war.

He studied geology and palaeontology at Tübingen University under Prof. Otto H. SCHINDEWOLF. The main interest at this time was the stratigraphy and palaeontology of Jurassic ammonoids from southern Germany.

In June 1954 he graduated from Tübingen University, but had already moved to the University of Marburg in April 1954 as an Assistant Professor under Prof. Carl Walter KOCKEL. In this small institute he met Günter BISCHOFF and Willi ZIEGLER studying Devonian and Lower Carboniferous conodonts of the Rheinisches Schiefergebirge. The interests of Otto, therefore, changed from Jurassic ammonoids to Devonian goniatites, in order to better understand Devonian stratigraphy. He also began to study Silurian and Devonian conodonts of Germany and adjacent areas. His famous publication ‘Conodonten des Silurs’ (Abhandlungen des Hessischen Landesamtes für Bodenforschung, **41**, 1964) focussed not only on their systematics, correlation purpose and detailed biostratigraphy – for the first time he reconstructed the conodont apparatuses theoretically by means of statistical methods. As Mike MURPHY recently stated: “This work was the model for how conodont research should be done and still is the model”.

In 1965 Otto WALLISER became Professor of Historical Geology and Palaeontology at Göttingen University. He was happy to meet there the internationally well-known, although then retired, Prof. Hermann SCHMIDT, a specialist on goniatites and Devonian stratigraphy with detailed knowledge of the Rheinisches Schiefergebirge.

Together with his colleagues Prof. Henno MARTIN and Prof. Helmut WINKLER he organized the ‘Sonderforschungsbereich’ (SFB) 48: ‘Entwicklung, Bestand und Eigenschaften der Erdkruste, insbesondere der Geosynklinalräume’ of the Deutsche Forschungsgemeinschaft (DFG) creating many jobs for students and young scientists between 1970 and 1980. The studies concentrated on the Damara Orogen in Namibia and the Palaeozoic of the German Rheinisches Schiefergebirge and Harz Mountains.

Between 1969 and 1974 Otto spent much of his time planning a new building for the Geological-Palaeontological Institute, in discussions with architects and controlling their work. The result was an internationally admired large institute including remarkable space for collections (with big compactus filling system) and a museum with ‘Geopark’.

As Secretary General of the International Palaeontological Association (IPA) he visited China in 1979 and stimulated a Chinese/German cooperation programme on the Devonian of southern China and the comparison with German sections lasting until 1985.

Otto was very interested in biostratigraphy and bio-events. Therefore he initiated and coordinated the ICGP 216 'Global Biological Events in Earth History', which was a very successful international programme. The results were published in two volumes (edited by KAUFFMAN & WALLISER, 1990 and WALLISER, 1996).

Otto was one of the first members of the International Subcommittee on Silurian Stratigraphy and the International as well as the German Subcommittee on Devonian Stratigraphy. For many years he stimulated discussions on stratigraphic boundaries and international correlations of Silurian and Devonian sequences. He submitted many handouts and documents to the SDS (e.g. 1983: Statement for the boundaries of the Devonian System, its series and stages, 1987 and 1988: Proposal of potential boundary stratotypes for the Frasnian/Famennian and the Eifelian/Givetian boundaries). He was especially happy to do fieldwork in Devonian sequences of Morocco for many years often in cooperation with colleagues. His heart problems and the unexpected death abruptly finished the detailed studies on conodonts at the Eifelian/Givetian boundary.

From 1974 to 1976 Otto was the President (at that time called Chairman) of the 'Paläontologische Gesellschaft', from which he received Honorary Membership in 2009. Otto was a highly admired and honoured scientist. Since 1982 he was a member of the 'Akademie der Wissenschaften zu Göttingen', in 1989 he became a Corresponding Member of the 'Russian Academy of Sciences', and later of the 'Polish Academy of Sciences' in Warsaw and in Krakov. Award of the Pander Society Medal has been mentioned above.

Otto WALLISER stimulated more than 50 diploma theses and initiated 25 doctoral theses.

He published more than 125 papers on a wide range of subjects. Although not always placed in the "big" journals, they had an immense impact on scientific discussions and decisions. One example of his innovative ideas is surely the modern and detailed reconsideration and reinvestigation of global events in Earth history (see above, ICGP 216). Another one is Otto's often overlooked approach of introducing the idea of "Time-specific facies" into scientific discussions. It was just a few months ago that an entire session at the 3rd International Palaeontological Congress (IPC) in London was dedicated to this topic. It was a pity that he could not attend the meeting, but was delighted to see the issue "back on stage".

Many colleagues will miss the fruitful discussions with Otto, his extensive and broad knowledge, his modesty, his unselfish help with information, especially during fieldwork and in the laboratories, and his critical but balanced advice of a friend.

Helga GROOS-UFFENORDE (Göttingen University) & Eberhard SCHINDLER (Senckenberg Forschungsinstitut und Naturmuseum Frankfurt)



Tatyana Koren and Otto Walliser at SSS field meeting and excursion in Spain 1998.

(Photo D. Kaljo)

6. Future meeting: NEXT ISSS MEETING:

Siluria Revisited: International Subcommittee on the Silurian System Conference and Field Meeting 2011, SECOND CIRCULAR



2ND CIRCULAR (revised)

This second circular provides further details of the 2011 Silurian meeting, including deadlines and registration form.

I had not expected to need to send out a revised version of the 2nd Circular but the fact that the Ludlow Conference Centre cancelled the accommodation booking without warning has necessitated some minor re-organization. I have decided not to use the Ludlow Conference Centre at all: firstly I was unhappy at being let down and secondly I was concerned that if refurbishment was taking place there might be disruptive noise, paint odours, etc. which might interfere with proceedings. The lectures will now take place in the Ludlow Assembly Rooms, a larger venue in the centre of Ludlow, close to the Museum and Castle. This is more expensive to hire, but there will be no change to the registration fee.

Deadlines

Registration payment	14th February 2011
Abstract submission	31st March 2011

Aims

The Silurian System is the focus of a considerable amount of research interest at present encompassing climate change, extinction and radiation events, isotope excursions, hydrocarbon source rock generation and much more, all of which need to be underpinned by detailed stratigraphical, sedimentological, geochemical and palaeontological studies and accurate radiometric dating. The aim of the conference is to enable researchers to present their recent research on the Silurian System; the field trips are intended to enable a new generation of workers on the Silurian System to visit the GSSPs for those series and stage boundaries that occur in Wales and the Welsh Borders and to visit other sites that have been the subject of recent published and unpublished study.

Pre-conference field trip

This will be led by Drs Jerry Davies (British Geological Survey (BGS), Cardiff), Dick Waters (National Museum of Wales (NMW), Cardiff), Mark Williams and Jan Zalasiewicz (Leicester University), Thijs Vandenbrouke (University of Lille) and Stewart Molyneux (British Geological Survey, Keyworth). The significant re-interpretation of the geology of this classic area is a result of recent BGS remapping and a subsequent research project involving BGS, NMW, Leicester and Lille universities.

As Llandovery is served by a very limited train service, this would make it difficult for those arriving from overseas to get to Llandovery on Saturday 9th July. Therefore, the pre-conference trip will depart from Ludlow. The cost of the field trip includes: all travel from Ludlow to Llandovery, in the field and the return to Ludlow; one night's (Sunday 10th July) hotel accommodation in single or twin-bedded rooms at the Glen Usk Hotel, Llandrindod Wells, including evening meal and breakfast; lunches on both days. Transport will be in minibuses, as larger vehicles would not be able to drive along the forestry tracks in the Llandovery area.

Itinerary

Saturday 9th July – arrive Ludlow: arrange own accommodation.

Sunday 10th July – depart from Ludlow (departure location will be provided in final circular) and drive to Llandovery area, Wales. Aims: to investigate our current understanding and suitability of the basal Aeronian GSSP; investigate links between latest Ordovician sea level change and tectonics within the succession in the Crychan Forest (Northern Llandovery area).

Scrach Track Section (lower part): Rawtheyan Tridwr Formation, unconformably overlain by the transgressive late Hirnantian Cwm Clyd Sandstone Formation and succeeding Garth House Formation.

Scrach Track Section (middle part): Contact between the Garth House Formation and the late Hirnantian to Rhuddanian Bronydd Formation.

Trefawr Track section: GSSP for the base Aeronian within the Trefawr Formation.

Coed Cochion viewpoint: the late Hirnantian overstep.

Cwm-coed-oeron track section: Trefawr Formation passing up into late Aeronian Cefngarreg Sandstone Formation: bioturbated storm-generated shelf sands or resedimented deposits on a tectonically active fan delta?

Drive to Llandrindod Wells for overnight stay at Glen Usk Hotel.

Monday 11th July – depart Glen Usk Hotel, view various type Llandovery sections and return to Ludlow. Aims: to investigate our current understanding and suitability of the basal Telychian GSSP; investigate the relationships between sea level change, synsedimentary slides and melange on the margins of the Welsh Basin.

Coed Glyn-moch track section: late Aeronian Wormwood Formation with basal Ydw Member overlain by major synsedimentary slide and melange which is in turn capped by the Telychian Cerig Formation.

Upper part of Cefn–Cerig (or Fron) Road section, quarry and Farm Track (Myddfai - Llangadog area): GSSP for the base Telychian in Wormwood Formation, overlain by synsedimentary slide complex of interleaved late Llandovery and Wenlock sedimentary rocks including Builth Mudstones and Cerig Formation.

Return to Ludlow

Numbers for the pre-conference trip will be limited to 30, so please book (and pay!) early if you want to come on this trip.

Conference

This will take place in the Ludlow Assembly Rooms. Address is 1 Mill Street, Ludlow, Shropshire SY8 1AZ (<http://www.ludlowassemblyrooms.co.uk/>)

Monday 11th July from 6.00 p.m. until 10.00 p.m. registration in the Charlton Arms (<http://www.thecharltonarms.co.uk/thecharltonarms.html>), a pub located on the River Teme, and only a few metres from the Ludford Corner ‘exposure’ of the Ludlow Bone Bed

at 6.30 p.m., for those fancying a stroll along the river and an introduction to the geology of the Ludlow area, Mike Rosenbaum will lead a walk starting and finishing at the Charlton Arms (estimated duration 90 minutes)

Tuesday 12th July conference presentations
p.m. business meeting of ISSS
evening: conference dinner at Ludlow Castle (this will be preceded by a tour of the castle)

Wednesday 13th July conference presentations

At 7.30 p.m. Mike Rosenbaum will present a public lecture entitled ‘Siluria – the lost ocean of the Marches’ at St Laurences, Ludlow, which conference delegates are very welcome to attend.

There will also be the opportunity during the conference to visit Ludlow Museum and/or the Ludlow Museum Resource Centre, both of which have holdings of fossils mostly from the Welsh Borders.

Abstracts

Please prepare abstracts in MS Word and send as an attachment to david.loydell@port.ac.uk

Abstracts should be written in 12 pt Arial font, not to exceed one A4 page.

Please remember to include:

The title of the oral presentation

Authors' names and full postal and e-mail addresses.

References (if any are cited)

Please note that titles and abstracts will be included in the programme only if the registration fee has been paid.

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

Conference dinner

This will take place at Ludlow Castle (<http://www.ludlowcastle.com/>) in the evening of Tuesday 12th July. It will be preceded by a short tour of the castle.

Please indicate any dietary requirements on the registration form.

Numbers for the conference dinner will be limited to 60.

Post-conference field trip

Transport will depart from Ludlow each day to examine GSSPs and other important localities in the Welsh Borders and English Midlands. The cost of the field trip will include all transport and packed lunches on both days together with the Dudley canal trip and visit to the Black Country Museum on Friday.

Itinerary

Thursday 14th July – GSSPs situated around Ludlow and Much Wenlock. Aims: to investigate our current understanding and suitability of the Wenlock and Ludlow GSSPs.

Sunnyhill Quarry: GSSP for the base of the Ludfordian Stage.

Pitch Coppice: GSSP for the base of the Ludlow Series.

Hughley Brook: GSSP for the base of the Wenlock Series.

Whitwell Coppice: GSSP for the base of the Homeric Stage.

Friday 15th July – Classic Silurian sections of the Midland Platform. Aims: to investigate links between sea level change, carbon isotope excursions and preservation potential within the late Wenlock to early Ludlow of the Midland Platform.

Much Wenlock Limestone and Lower Elton formations (Homerian to Gorstian) along Wenlock Edge.

Wren's Nest Hill, Dudley; Britain's first National Reserve for geology (Homerian to Gorstian carbonates and clastics).

Dudley canal tunnels and limestone mines (the Much Wenlock Limestone Formation, Murchison and the industrial revolution).

Numbers are likely to be limited to 48, so please book (and pay!) early if you want to come on this trip.

Accommodation

For the day before the pre-conference excursion, the conference and post-conference excursion, Ludlow offers a wide variety of accommodation.

Delegates are responsible for booking their own accommodation. Ludlow is not a large town and much of the accommodation available is within easy walking distance of the Ludlow Assembly Rooms. The website <http://www.ludlow.org.uk/> has a comprehensive list of accommodation. For those fancying a very short journey to/from the conference dinner, there is self-catering accommodation at the Castle House Lodgings (<http://www.castle-accommodation.com/>), although note that bookings are for either a week or four nights (midweek booking = Monday to Thursday).

Travel to Ludlow by train

Travel to Ludlow by train should take approximately 3½ to 4½ hours from London, and less than 2 hours from Birmingham and Manchester.

For details of rail journeys, <http://www.nationalrail.co.uk/> is a useful website.

Publications

All of those registered for the meeting will receive the Field guide/abstracts volume(s).

A special issue of the *Bulletin of Geosciences* (<http://www.geology.cz/bulletin>) will be published following the International Subcommittee on the Silurian System Conference and Field Meeting in Ludlow in July, 2011.

Guest editors will be David Loydell (david.loydell@port.ac.uk) and Brad Cramer (cramerbd@gmail.com).

We welcome submission of papers on any aspect of the Silurian System/Period, with a preference for substantive works rather than very short papers. Authors do not need to be presenting at the Ludlow conference.

This special issue of the journal will comprise not more than 200 pages.

Instructions for authors are at <http://www.geology.cz/bulletin/instructions>. Please follow these carefully.

Two pages of colour figures will be published at no charge to authors.

Fifty free reprints will be provided of each paper published.

The *Bulletin of Geosciences* is listed on the ISI database (Web of Science). The 2009 Impact Factor was 0.98.

Please submit papers following the procedure indicated in the Editorial procedure section of the Instructions for authors, clearly indicating in your submission letter that the paper is intended for publication in the special issue of the journal on the Silurian System.

If authors have specific questions about preparation of their papers for the journal they should contact the Executive Editor, Šárka Doležalová (sarka.dolezalova@geology.cz).

The deadline for submission is 31 July 2011. No submissions will be accepted after this date.

Sponsorship

We are very grateful to the Palaeontological Association, to the Ludlow Research Group, to the Black Country Geological Society and to Neflex Petroleum Consultants, who are sponsoring the meeting and to Natural England for their help with site clearance.

New IGCP project

Many of you will have received an e-mail recently from Brad Cramer (cramerbd@gmail.com) regarding a proposed new IGCP project entitled 'The Early to Middle Paleozoic Revolution: Bridging the Gap between the Great Ordovician Biodiversification Event and the Devonian Terrestrial Revolution'. Should this proposal be approved (this will be known in February), then the 'Siluria Revisited' meeting will be the first conference tied to this IGCP project.

Siluria Revisited: Registration form and payment instructions

Please complete the form below and either post to the address below or send to david.loydell@port.ac.uk

Payment is to be in **pounds sterling** by cheque (for those with a British bank account) or by international bank transfer. Any transfer costs must be covered by participants.

Cheques should be made payable to The International Subcommittee on Silurian Stratigraphy and sent to:

Dr David K. Loydell
School of Earth and Environmental Sciences
University of Portsmouth
Burnaby Road
Portsmouth
PO1 3QL
U.K.

7 Announcement of new IGCP project 591 The Early to Middle Paleozoic Revolution



The Early to Middle Paleozoic Revolution ***Bridging the Gap between the Great Ordovician Biodiversification Event and the Devonian Terrestrial Revolution***

International Geoscience Programme (IGCP) Project 591

The Early Ordovician to Early Devonian interval contains several of the most significant paleoclimate and paleobiological events in Earth history. This interval of Earth history also contains the acme and amelioration of the Early Paleozoic Ice Age, which provides an important historical analogue for researchers of modern global change. Additionally, this interval contains the roots of the invasion of life onto land. The Earth did not go quietly into the Middle Paleozoic and the primary research objective of IGCP 591 – ‘*The Early to Middle Paleozoic Revolution*’ is to investigate this dynamic and important interval in the history and evolution of life and our planet.

IGCP 591 is designed to allow the Early to Middle Paleozoic global community an opportunity to build on the momentum gained by the highly successful IGCP projects 410 and 503 by providing a regular venue in which to continue their research and dialogue so effectively begun during those projects. We are pleased to announce the commencement of this project with the 2011 Meetings and Field Excursions of the International Subcommissions on Ordovician and Silurian Stratigraphy in Madrid, Spain, and Ludlow, England, respectively.

A host of IGCP 591 related field trips and symposia have already been scheduled, but we would love to hear of anyone interested in hosting further activities. Below we have included the tentative work plan for the project over the next five years. As with all IGCP projects, a small amount of funds are made available each year to help researchers from developing countries, students, and early career researchers attend project activities. Annual meetings are the primary objective of financial support and the majority of funds available will be directed toward attendance at the annual meeting each year. We look forward to IGCP 591 getting underway, and thank everyone in the community who emailed their support for the project.

PROJECT YEAR 1 – 2011 – IMPROVING BIO- & CHRONOSTRATIGRAPHIC CORRELATION

Joint meetings held with the Ordovician and Silurian Subcommissions

2011 – *Madrid*: SOS meeting and field excursion (Portugal, Ciudad Real, Iberian Range)

2011 – *Ludlow*: SSS meeting and field excursion (Wales, Welsh Borderlands, West Midlands)

[Special Volumes – *Spanish Geological Survey (Ord.)/Bulletin of Geosciences (Sil.)*]

Associated Symposia and/or Field Trips

2011 – *Riga, Latvia (Aug. 28-Sept. 1)*: 8th Baltic Stratigraphic Conference & IGCP 591 regional field meeting (*Luksevics*)

2011 – *Minneapolis*: GSA National Meeting, Ordovician Post-Meeting Field Trip and IGCP 591

Oct. 9-12 (*meeting*) regional field excursion (Sandbian- Katian of the US Midcontinent (MN,

Oct. 12-15 (*trip*) WI, IA, IL) – (*McLaughlin, Witzke, Emsbo, Sell, Emerson*)

PROJECT YEAR 2 – 2012 – GLOBAL SEA LEVEL & SEQUENCE STRATIGRAPHY

Annual Meeting - USA

2012 – *Cincinnati*: **Pre** – Katian-Wenlock - Southern Appalachian Basin (KY, OH, IN)

(*Cramer & Brett*) **Post** – Wenlock-Lochkovian - Illinois Basin/Michigan Basin (IL, IN, MI)

[Special Volume – *Stratigraphy*]

Associated Symposia and/or Field Trips

- 2012 – Vienna, Austria (Apr. 7-12): EGU general assembly (*Žigaitė*)
2012 – Dayton, Ohio, USA (Apr. 22-24): GSA North Central meeting, IGCP 591/596/Pander
Society Symposium (*Kleffner, Bauer*)
2012 – Brisbane, Australia (Aug. 6-10): IGC general assembly, Symposium 3.5 in technical
program, Theme 3 (*Histon, Tewari, & Melchin*)

PROJECT YEAR 3 – 2013 – BIOLOGICAL & CHEMICAL INDICATORS OF CLIMATE EVENTS

Annual Meeting - Sweden

- 2013 – Lund: Pre – Katian-Wenlock – Mainland Sweden & Norway
(*Calner*) Post – Llandovery-Ludlow – Gotland
(*Eriksson*) [Special Volume – *GFF*]

Associated Symposia and/or Field Trips

- 2013 – Mendoza, Argentina: ICoS meeting and IGCP 591 regional field meeting (*Albanesi*)

PROJECT YEAR 4 – 2014 – EVOLUTIONARY PALEOECOLOGY AND PALEOBIOGEOGRAPHY

Annual Meeting - Lithuania

- 2014 – Vilnius: Pre – Katian-Lochkovian – Lithuanian Core Library
(*Žigaitė*) Post – Katian-Lochkovian – Holy Cross Mountains (Poland)
(*Radzevičius*) [Special Volume]

Associated Symposia and/or Field Trips

- 2014 – Nanjing, China: IGCP 591 regional field meeting (*Zhan*)

PROJECT YEAR 5 – 2015 – OCEANOGRAPHIC AND CLIMATE MODELING

Annual Meeting - France

- 2015 – Lille: Pre – Llandovery-Wenlock – Welsh Basin? (Wales)
(*Vandenbroucke*) Post – Ordovician-Silurian - Bornholm (Denmark)
(*Verniers*) [Special Volume]

Associated Symposia and/or Field Trips

- 2015 – Anticosti Island, Canada: IGCP 591 regional field meeting (*Jin & Desrochers*)

The project website (igcp591.org) is now available online. Please check it regularly for updates about upcoming meetings, travel assistance, and any other details regarding IGCP 591 as more information becomes available. We hope to see many of you at these events over the next five years.

IGCP 591 – *The Early to Middle Paleozoic Revolution*

- | | |
|---|--|
| Bradley D. Cramer (Kansas, USA) | Živilė Žigaitė (Vilnius, Lithuania) |
| Thijs R.A. Vandenbroucke (Lille, France) | Kathleen Histon (Modena, Italy) |
| Renbin Zhan (Nanjing, China) | Guillermo L. Albanesi (Córdoba, Argentina) |
| Michael J. Melchin (St. Francis Xavier, Canada) | Mikael Calner (Lund, Sweden) |

8. News from the members

Aldridge, Richard J. (U.K.): The monograph on Silurian conodonts from South China, authored with Wang Cheng-yuan, finally appeared in 2010.

William I. Ausich (USA): I am working on a number of Silurian research projects, including the Ordovician to Silurian taxonomic macroevolutionary transition of crinoids (with Brad Deline), disparity among Ordovician to early Silurian crinoids (with Brad Deline and Carl Brett), the Lilliput Effect during the Ordovician to Silurian macroevolutionary transition of crinoids (with Matthew Borths), crinoid faunas from the Silurian of Estonia (with Mark Wilson and Olev Vinn), crinoidal encrinites from the Telychian of Anticosti Island, Quebec, Canada (with Andre Desrochers and S. Kershaw), and Waldron Shale crinoids (with Mark Peter).

Bancroft Alyssa (USA): I am currently a PhD student at The Ohio State University (under the tutelage of William Ausich) and I am continuing to study conodont faunas of the Lower Paleozoic (the Middle and Upper Ordovician and, most importantly, the Silurian). For part of my dissertation research I am working on the conodont biostratigraphy of the Guelph Formation in southern Ontario, Canada with Frank Brunton (Ontario Geological Survey, Sudbury, Ontario) and Candace Brintnell (University of Western Ontario). The use of conodont biostratigraphy, carbonate carbon isotope stratigraphy, and lithostratigraphy will provide time constraints to aid in the stratigraphic revision of the Guelph, as well as other stratigraphic units in southern Ontario (namely the Eramosa). This summer I had the good fortune of being welcomed into the home of Lennart Jeppsson (and his wife, Ann-Sofi) for two months to study his amazing conodont collections. If anyone is interested in hosting a conodonter who is eager to study and learn from all Silurian conodont collections, please call!

Denis Bates (U.K.): I'm actively working on a number of retiolitid genera, including Spinograptus, Holoretolites, and Paraplectograptus, and also on the dendroid Dendrograptus. Work continues on graptolite morphology, particularly for inclusion in the forthcoming graptolite Treatise.

Stig M. Bergstrom (U.S.A.): Although mainly working in the Ordovician, I am currently involved in a couple of Silurian projects. One of these involves the Osmundsberget Quarry succession in the Province of Dalarna, central Sweden, where we try to clarify the relations between graptolite zones, conodont zones, and ^{13}C chemostratigraphy in the lower Telychian. Co-workers include M. Eriksson, B. Schmitz, and S. Young. Two other projects are centered on the Ordovician/Silurian boundary interval in the Upper Mississippi Valley and Southern Ontario, where the ^{13}C chemostratigraphy (especially the presence of the HICE) shows that several well-known units previously classified as Early Silurian are of latest Ordovician (Hirnantian) age. One manuscript is in review and another is ready to be sent in for publication. These conodont- ^{13}C projects are joint studies with M. Kleffner, B. Schmitz, and in the case of Ontario, B. Cramer. I have also been heavily involved (with M. Calner, O. Lehnert, and others) in the study of a stratigraphically important drill-core from eastern Sweden that extends from the upper Sandbian into the Lower Silurian. Although formally retired I enjoy going to the office every day and I get more done research-wise these days than when most of my time was occupied by teaching, committee meetings, and running a museum.

Alain Blicq (France): I am still working on Silurian vertebrates, mostly in collaboration with Dr Z. Zigaite who has obtained a postdoctoral position in the University of Uppsala, Sweden. Micro- and macro-vertebrate remains are considered in relation to Silurian palaeoenvironments and palaeoclimates. Note the following paper: Turner et al. (2010, *Geodiversitas*) on conodont-vertebrate phylogenetic relationships, where we re-analyze the place of conodont-bearing animals. These have recently been considered as "stem-gnathostomes" by a group of British palaeontologists since

Donoghue et al.'s paper (2000). However, our results show that conodonts are neither gnathostomes, nor vertebrates, nor craniates. They are even perhaps not chordates, but our analysis does not allow to go that far. Another shorter paper has been submitted to *Episodes* in order to present these results to geoscientists.

Margaret Bradshaw (New Zealand): Work progresses on Early Devonian sediments at Baton River in New Zealand. Fieldwork has produced new faunas, as well as a better understanding of the difficult stratigraphy of North West Nelson. The arenaceous rocks immediately underlying the Baton Formation are likely to be late Silurian (Hailes/Ellis Quartzite) and the contact between them appears to be conformable.

Three seasons in Antarctica (working with consecutive MSc students) focussed on the early basin development of the Beacon sedimentary sequence (Taylor Group), and in particular, on a flooding event (probably Early Devonian) that produced the Heimdall Erosion Surface. There is a marked change in ichnofaunas across the surface (with the sudden appearance of *Skolithos*). Sedimentary structures suggest that parts of the early Taylor Group record possible marine flooding of the pre-Beacon landscape, followed by a regression that preceded a renewed and more extensive marine flooding event marked by the Heimdall Erosion Surface and overlying sediments. Unfortunately, these lower Taylor Group sediments have been only tentatively dated as Emsian and lie well below the Middle Devonian fish-bearing Aztec Siltstone.

I am currently working on a collection of Lower Devonian bivalves from the arenaceous Mt Ida Formation, Victoria, Australia, which was deposited on the western flank of the Melbourne trough. The collection has been made available courtesy of John Neil and David Holloway of the Melbourne Museum. The fauna is particularly rich in small rhynchonellids and bivalves include at least three taxodont genera, various pteriomorphs, modiomorphids and goniophorids.

Carlton E. Brett (USA): In early July, 2010, Pat McLaughlin and I joined David Ray (former PhD student, presently working for Neftex Petroleum Consulting company, Oxford) along with Brad Cramer (post-doc at Kansas) and Kathleen Histon. Dave organized an excellent and comprehensive overview of the strata of Wenlock Edge, Ludlow, Dudley and May Hill Inlier. We also visited classic quarry sections in Dave's hometown of Dudley. In part, we checked out several field trip stops that will be featured when the Silurian Subcommittee meets in Shropshire next summer (2011). We intend to pursue more detailed comparative sequence stratigraphic studies between these sections and North American Silurian successions in conjunction with Dave Ray.

I also recruited two new graduate students who will work on Silurian of the Tristates (Ohio, Indiana, Kentucky) area. Doctoral student James Thomka, who obtained an MS from University of Alabama, Auburn, is working on the detailed cyclostratigraphy, sedimentology and comparative taphonomy and paleoecology of the upper Telychian-early Sheinwoodian Osgood and Massie Shales and the Homeric Waldron Shale from Tennessee to central Indiana. A focus will be on faunal changes associated with the early Sheinwoodian (Ireviken) and Homeric (Mulde?) bioevents. Masters student Nick Sullivan, who trained with Jeff Over (SUNY Geneseo) as an undergraduate, is working on sequence stratigraphy, biostratigraphy, carbon isotopes, and magnetic susceptibility of the upper Llandovery Series in Ohio, Kentucky and in a comparative sense in the type Clinton area of New York State. We hope to better constrain the events and faunal changes associated with the Valgu and early Ireviken bioevents in eastern North America.

During the past year Pat McLaughlin and I have obtained much new data and have generated several new carbon isotopic profiles that will provide significant insight in to Silurian correlations in eastern

North America. We also continue to work with Brad Cramer on issues of geochronology and calibration of Silurian time scales.

Olga K. Bogolepova (U.K.): I am actively working on the Early Palaeozoic sedimentary rocks of East Siberia and the Russian Arctic. My future research project will focus on the Silurian organic-rich sediments worldwide returning me entirely back into the Silurian world.

Bradley D. Cramer (USA): I will finish the first year of my NSF post-doctoral project at the Kansas Geological Survey and University of Kansas, Department of Geology this February (2011), and we have begun to recover zircons from the samples taken last summer from several of the UK GSSPs. Hopefully, this will lead to new high-precision radiometric age dates for at least a few of these GSSPs later this year. Several very collaborative (elaborative, laborious, etc.) manuscripts were finally published in 2010, and I would like thank all of our co-authors for making these manuscripts possible. The revised C-isotope curve for the Silurian has been accepted by *Lethaia*, and should be published early in 2011. The revised Sr-isotope curve for the Silurian was submitted in November 2010, and currently still in review. In response to the overwhelming desire to continue yearly international meetings to follow the extremely successful IGCP 503, myself, together with Živilė Žigaitė, Thijs R. A. Vandebroucke, Kathleen Histon, Renbin Zhan, Guillermo L. Albanesi, Michael J. Melchin, and Mikael Calner submitted a project proposal to the IGCP. Should it be funded, it will carry the number IGCP 591, and the forthcoming Silurian Subcommittee meeting this summer in Ludlow, England, 9-16 July, 2011, will serve as the opening meeting.

Robin Cocks (U.K.): has had another busy year. Review papers with Trond Torsvik on the palaeogeography of the whole Palaeozoic have been accepted on Laurentia by *Earth-Science Reviews*, and on central Gondwana (all of Africa and Arabia and parts of India, Antarctica and South America) by *Special Publications of the Geological Society, London*. A new project with Trond on Asia (apart from Siberia and India) has started. Successive global reconstructions at 10 my intervals from 540 to 400 Ma have been compiled with Trond for the “Green Book” successor edited by David Harper. Systematic work on Katian and Hirnantian brachiopods from the Chingiz Terrane, Kazakhstan, is continuing with Leonid Popov. A new systematic project has started on the Late Ordovician brachiopods of the Shoeshook Limestone, Slade and Redhill Beds and the Lower Haverford Mudstone formations, Pembrokeshire, southwest Wales.

Paul Copper (Canada/France): I continue my monographic work on Gotland and preparing: Copper, Paul. Taxonomy of the Order Atrypida (Brachiopoda) from Anticosti across the O/S boundary (21 genera, ca. 60 spp.); Copper, P. and Jin Jisuo. The Ordovician-Silurian Athyridida from Anticosti Island (7 genera, ca. 15 spp.); Copper, P. and Jin Jisuo. Revision of the brachiopod genera *Hindella* (Hirnantian) and *Cryptothyrella* (Aeronian); Copper, P. and Nestor H. The Aulaceratidae of Anticosti (Katian-Hirnantian Stromatoporida); Copper, P. The Early Silurian Spiriferida of Anticosti Island (*Eospirifer*, *Striispirifer* and *Cyrtia*).

Maria Giovanna Corrigan (Italy): I just finished my PhD project at the University of Cagliari (Italy) under the supervision by Prof. Carlo Corradini. My researches deal on conodont taxonomy and biostratigraphy across the Silurian/Devonian boundary in Sardinia, the Carnic Alps and other North Gondwana regions. In the Carnic Alps I am studying several sections in various sectors of the chain: Passo Volaiia, Monte Zermula, Monte Cocco. In Sardinia researches focus on the Mason Porcus section and on the Pridolian part of the Ockerkalk limestone, particularly the Genna Ciuerciu and the Silius sections. Two upper Silurian-Lower Devonian sections in the Spanish Pyrenees were sampled together with J.I. Valenzuela Rios and J.-C. Liao.

Carlo Corradini (Italy): I'm working on Silurian and Devonian of North Gondwana, mainly in Sardinia and in the Carnic Alps. 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. Corrigan). The taxonomic and biostratigraphic study of the conodont fauna from several 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. In Sardinia I'm studying a couple of new outcrops in the SW part of the island and revising the conodont stratigraphy of the classical Mason Porcus section (with M.G. Corrigan). A couple of uppermost Silurian-Lower Devonian sections in the Spanish Pyrenees have been sampled (together with J.I. Valenzuela Rios, J.-C. Liao and M.G. Corrigan).

Aurélien Delabroye (France): I defended my PhD thesis at Lille on March 2010 (France) on acritarch dynamics across the Ordovician-Silurian boundary. Several papers extracted from his manuscript are currently under press or have been submitted. Now, I'm working at the "Laboratoire des Mécanismes et Transferts en Géologie" (Toulouse) since September as teaching assistant in Palaeontology. I started to focus on the problematical "Late Palaeozoic Phytoplankton Blackout" with my colleague Dr. Markus Aretz.

Desrochers André (Canada): I am actively working on Upper Ordovician to Lower Silurian strata exposed on Anticosti Island that were completely remapped with my graduate student Éric Gauthier. Our recent studies indicate that thick shallow water sections of Hirnantian age are present in the Ellis Bay Formation at the west end of Anticosti Island. New high-resolution $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ (S. Wickson, a MSc student at UOttawa) and palynological data (Drs. A. Achab and A. Delabroye) across the entire Ellis Bay outcrop belt on Anticosti have been integrated into our sequence stratigraphic framework.

Mercedes di Pasquo (Argentina): Since 2010 I am working at the [CICYTTP - CONICET](http://www.cicyttp.org.ar), Diamante, Entre Ríos, Argentina. See more information about this place at the website: <http://www.cicyttp.org.ar>. I keep on working mainly on Silurian to Permian Palynofloras (and megafloras) from Bolivia, Argentina and related areas. If you want to know more about her work please go to the websites: <http://www.cicyttp.org.ar/mdipasquo.htm> and <http://palino.com.ar> (to download her pdf's you will need to use: username= palino, password= palino2005). Bachelor student Sol Noetinger is close to defend her PhD on "Studies of palynoassemblages and megaflora from the Devonian of southern Tarija basin, Northern Argentina and southern Bolivia: age, correlation and palaeoenvironment of deposition", under the direction of Dr. Mercedes di Pasquo. Currently I am working on Silurian deposits from Zenta range, Jujuy Province, Argentina and preliminary results are presented in the following events:???

Annalisa Ferretti (Italy): My Silurian research continues to be concentrated on the biosedimentology and palaeoecology of the Austrian Carnic Alps. The work is being carried out together with Kathleen Histon, Hans Peter Schönlaub and Carlton Brett.

I was recently involved (with Kathleen Histon, Patrick McLaughlin and Carlton Brett) in leading the Symposium "Time-Specific Facies: The Colour and Texture of Biotic Events" at the Third International Palaeontological Congress (IPC3) of London 2010. A Special Issue of Palaeogeography, Palaeoclimatology, Palaeoecology on the same topic will follow the Symposium. A multi-team study on the significance and nature of peculiar "colours" in some Silurian sequences from N Gondwana has revealed a distinct signal of microbial activity. Results have been presented at the same IPC3 Symposium.

I have co-edited (with Carlo Corradini and Petr Storch) the Proceedings Volume of the ISSS Field Meeting of Sardinia 2009 (Time and Life in the Silurian. A multidisciplinary approach. *Bollettino della Società Paleontologica Italiana*, 2010, 88 pp.). All contents are still available at http://www.prg.unimore.it/?page_id=149.

Kathleen Histon (Italy): I continue to work on various aspects of the nautiloid cephalopod fauna from the Silurian successions in the Carnic Alps (Austria) in order to document faunal recovery and exchange during the Silurian and response to eustatic changes on a local scale.

David Holloway (Australia): I work with Phil Lane (Keele University, UK) on diverse assemblages of scutellid trilobites from Wenlock to Ludlow limestones in central western New South Wales was completed late in 2010 and has been submitted for publication. We are now continuing with the study of scutellid and illaenimorph trilobites from a late Llandovery allochthonous limestone unit from north-eastern Queensland. Together with John Laurie (Geoscience Australia, Canberra), I edited a volume entitled 'Siluro-Devonian Studies 1' which contains 18 papers and was published in October 2010 as Memoir 39 of the Association of Australasian Palaeontologists. We are planning a second such volume to be published in 2012, and contributions are now invited (see separate note).

Helen Hughes (U.K.): Description of trilobite faunas from the Llandovery reefs of North Greenland has reached completion. The identification of trilobite associations and their taphonomic attributes, combined with lithofacies analysis, has provided a palaeoenvironmental context for the reefs. This work is currently online and in press with *Palaeogeography, Palaeoclimatology, Palaeoecology*. I now leave Birmingham to continue as a researcher at the University of Plymouth, where I intend to integrate geochemical analysis to further investigate Silurian environments.

Markes E. Johnson (USA): I am currently working in co-operation with Rong Jia-yu (Nanjing Inst. Geology and Palaeontology) to update information on the fossil fauna associated with rocky shores around Bater Island from the Upper Silurian of Inner Mongolia, China. During my sabbatical in 2009-2010, we also initiated a project on paleoshores from the Upper Silurian near Qujing in Yunnan Province. Similar research is in progress on Devonian rocky shores from the Oscar Range in Western Australia and from the Miocene of Porto Santos in the Madeira Archipelago of the North Atlantic Ocean.

Dimitri Kaljo (Estonia): I am still working on the Ordovician and Silurian bio- and chemostratigraphy of Baltica and elsewhere for comparison. A project (team work) about the Pridoli of Podolia was discussed at Sardinia meeting 2009, last year several sections at Dniester River were additionally sampled by V. Grytsenko and T. Martma. New analyses confirmed our earlier findings and we plan to publish a paper in 2011 in www.eap.ee/earthsciences.

Kershaw Steve (U.K.): has started a project with a research student to examine the stromatoporoids of the UK Wenlock, to develop knowledge of taxonomy and palaeoecology of the stromatoporoid assemblages. No modern work has been undertaken on these deposits, and this work should lead to a revision of taxonomy, and a reappraisal of the palaeoecology of these important and historically interesting rocks.

Erika Kido (Austria): I am working on the Silurian rugose corals from eastern Asia. Since I finished my postdoc project on the Silurian rugose corals from Japan and China at the Nanjing Institute, China (2008-2009), I continue at University of Graz (Austria), as guest scientist. Recent focus of my study is related to the Middle Paleozoic rugose corals from Europe. Together with T. Suttner, I reviewed global

events and biodiversity during the Ordovician and Silurian. The manuscript is in press and will be published in 2011.

Tarmo Kiipli (Estonia): I am actively working on the Estonian Science Foundation project 7605: Evolution of volcanism at the margins of Baltica plate and Ordovician and Silurian chemostratigraphy based on altered volcanic ash layers (duration: 2008 – 2011). The working group consists of Tarmo Kiipli (leader), Enli Kiipli, Toivo Kallaste, Rutt Hints, Kristjan Urtson, Margus Voolma & Sven Siir.

Volcanism marks important geological events and sites occurring together with lithosphere subduction, cutting up continents along deep faults and hot spots with magma rising from hundreds of kilometers depth. One of the greatest mountain formation processes in the Earth history were Caledonian tectonic deformations occurring between colliding Baltica, Avalonia and Laurentia palaeocontinents. Sedimentary sections from East Baltic contain accurate record of volcanic eruptions (ash layers) from neighbouring tectonically active areas offering unique possibility for restoring magmatic history with great detail. Volcanic ash falling in different environments offers unique possibility for extremely precise correlation. Composition of ancient rocks carries information about environmental variations like sea level and current changes. Restoring history of Caledonian volcanism and ancient sedimentary environments is the aim of the project.

The results of the period 2008-2010 can be described as follows: Geochemical signatures of Telychian volcanism enabled to recognize seven geochemical types representing possibly seven source volcanoes. Volcanic ash clouds reached East Baltic in Telychian and upper Wenlock from west and north-west. Using bentonites as time markers it was demonstrated, that Llandovery/Wenlock boundary determined by conodonts and by graptolites are at different levels. Comparing geochemistry of Telychian and Sheinwoodian volcanism in Silurian reveals that in contrast to Telychian in Sheinwoodian sodium dominated magmas were less evolved (dacitic).

In the field of chemical sedimentology it was demonstrated, that through Ordovician and lower Silurian in the Baltic Basin sea currents changed flow directions. At the level of Estonian oil shales (Ordovician) a new previously unknown anomaly of phosphorus was discovered. Element ratios in the Priekule section indicates, that carbon isotope positive anomalies in the Silurian correlate well with sea level low stands.

Mark Kleffner (USA): I am presently actively involved in six projects: (1) a revised conodont-, graptolite-, chitinozoa-, and event-based Gorstian-Lochkovian (Silurian-earliest Devonian) 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, $\delta^{13}\text{C}$ chemostratigraphy, and updated Homeric, Gorstian, and Ludfordian (Silurian) conodont biostratigraphy of the North American Midcontinent Basins and Arches region 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 mostly on retiolitids evolution based on isolated material from Poland, Arctic Canada and Lithuania together with Alf Lenz, Denis Bates, Mike Melchin and Sigitas Radzevicius. I started study the *Saetograptus* evolution, the monograptid's from Poland with Adam Urbanek. I have also a contribution in a project of the retiolitid part of the new Graptolite Treatise, together with Denis Bates and Alf Lenz.

Jiri Kriz (Czech Republic): I completed the systematic study of the family Spanilidae from the Perigondwanan region (Kříž 2010a, b, 2011a). I cooperated on the grant from the Grant Agency of the Czech Republic with L. Slavik, P. Storch and S. Manda (2009-2013): “Integrated stratigraphy of the late Silurian (Ludlow and Pridoli) in the Prague Basin” (Slavík, Kříž & Carls 2010). I completed the manuscript for the new Treatise volume on Bivalvia (Superorder Nepiomorphia). I started with the systematic study of the new Silurian Bivalvia of Alaska discovered at the Chichagof Island in July 2010 by R. Blodgett and D.M. Rohr.

I am retired and I work for the Czech Geological Survey just for 30%. I completed the transfer of my Lower Paleozoic Bivalvia collection from Bohemia and Europe to the Czech Geological Survey collections. In 2010 more than 18.000 specimens together with detailed database were transferred.

Alfred Lenz (Canada): I am actively working on several projects. The first, a very large monographic project on mid Wenlock graptolites from Arctic Canada, and in collaboration with Anna Kozłowska, Mike Melchin and Sherrill Senior, involves the study of a large collection of both flattened and isolated graptolites, along with a considerable refinement of the biostratigraphy. The project is very near to completion. The second project, involving Anna Kozłowska and Mike Melchin, is a study of isolated and beautifully preserved retiolitid graptolites from the Aeronian and lower Telychian (mid Llandovery) of Arctic Canada. The beautiful three-dimensional preservation permits a vastly greater understanding of the morphology of the earliest retiolitids. The third major project, in collaboration with Denis Bates and Anna Kozłowska, is a considerable expansion and update of the entire Retiolitidae section for the proposed revision of the graptolite section of the Treatise on Invertebrate Paleontology. Two other projects in which I played a minor parts were on 1. excessive thickening of the cortical layer in graptolites (with Denis Bates, Anna Kozłowska, and Dagmara Chmielarz), and 2. debris-flow brachiopod assemblages embedded in the Silurian black shales, Arctic Canada (Pengfei Chen and Jisuo Jin).

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 Filippo Barattolo (Italy), Heroen Verbruggen (Belgium), Denis Tetreault (Canada), and Ernie Behringer (USA).

David Loydell (U.K.): Work continues (with Petr Štorch and Juan Carlos Gutiérrez-Marco) on the graptolites from Aeronian-Telychian sections around the El Pintado reservoir, Spain. Many thousands of graptolites were examined during 2010; descriptions will commence soon. In July, at last, after two incredibly wet summers, it proved possible to commence work on the Trannon river section, a graptolitic section of Telychian to early Sheinwoodian age in mid Wales, last studied more than 100 years ago by Ethel Wood. The section has been measured and a large number of samples collected. Alex Ayling has commenced his Ph.D. (here at Portsmouth) working on the material collected and will visit (Welsh weather permitting!) and collect further samples, make additional measurements, etc. during 2011 and 2012. Other continuing projects are on the Measley Ridge section, Ohio (with Mark, Kleffner, Tony Butcher and others) and on various Graptolite Treatise chapters. I look forward to seeing many of you in Ludlow in July.

Patrick I. McLaughlin (CM)(USA): Over the past year I have worked closely with Carl Brett, Don Mikulic, and Frank Brunton on integrated sequence stratigraphy and isotope geochemistry of Silurian sections across eastern North America. Our combined carbon and oxygen isotope data set is rapidly approaching 10,000 new (and of writing this) mostly unpublished analyses. We are currently working on several manuscripts that will provide full details of our findings, including a revised chronostratigraphic framework for North America.

I have been working with Bryan Sell at the University of Geneva on radioisotopic dating of a number of Silurian K-bentonites from North America and Gotland. We now have one new date for Gotland and two new dates for North America, with more on the way.

Poul Emsbo and I have been working on redox geochemistry of the early Paleozoic, the findings of which we will publish in two manuscripts in a special issue of P3 that I am guest editing with Carl Brett, Annalisa Ferretti, and Kathleen Histon on "Time-Specific Facies".

In the coming year I will be co-leading a field trip for the Geological Society of America national meeting to be held in Minneapolis (October, 2011). This trip will focus on the (Ordovician) Sandbian-Katian interval in the upper Mississippi River Valley (southwestern Wisconsin-eastern Iowa-southeastern Minnesota), but we will make at least one stop at an Ordovician-Silurian boundary along the way. The primary focus of the trip will be the far-field sequence stratigraphic and geochemical signatures of oceanic anoxia recorded in this well-preserved shallow marine succession. The trip may be of general interest to Silurian workers focused on isotopic excursions and their physical manifestation in the rock record.

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 December 2010 a project "Upper Ordovician–Lower Silurian conodont biostratigraphy in stratigraphic sequences" ended. Final papers of the project are in preparation. My studies will continue under a new 4-year project "Changes in the Telychian–lower Sheinwoodian conodont faunas as a proxy for basin evolution in northern Baltic". I am also participating in projects "Ordovician–Silurian boundary in the Baltic area" and "Ordovician and Silurian biodiversity in Baltica: evolution and impact of the changing environment". Additionally, a small project dealing with conodont faunas from base Aeronian and Telychian GSSPs is in progress. Hopefully I will have some results before the SSS meeting in Ludlow. 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 faunas and sedimentary basins on different palaeocontinents are going on. In summer 2010, during an expedition organized by the Institute of Geology in Syktyvkar (Russia) to the Chernov Uplift (northern part of the Timan-Pechora region) several excellent Silurian sections were studied and sampled. In cooperation with C. G. Miller (U.K.) and V. Hairapetian (Iran) a paper about Silurian faunas from central Iran is in progress.

Alexander (Sandy) D. McCracken (Canada): I continue to work on Middle to Upper Ordovician, Silurian and Devonian and conodonts from various locations in Canada.

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. 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 Fan Junxuan and Chen Xu on the study of Rhuddanian–Aeronian graptolites from South China. I have also begun a new project with Dan Goldman, Chuck Mitchell, Fan Junxuan and others on quantitative graptolite biogeography. We are also working together with Chris Holmden, MSc student Peter Bullock, and others on the stratigraphy and isotope chemostratigraphy of the same successions. 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 and the systematics of the Late Ordovician graptolites. I have been working with Chuck Mitchell and others on phylogenetic analysis of Silurian graptolites and with Alf Lenz and Ania Kozłowska on some isolated Llandovery and Early Wenlock graptolites.

Tõnu Meidla (Estonia): I am working on the Silurian ostracods from the Baltic area and Canada.

C. Giles Miller (U.K.): I have finally published this year on Wenlock Palaeocene ostracods from the Canadian Arctic in a paper joint with David Siveter and Mark Williams. Work is currently under way on describing the non-palaeocoepes from the same samples/sections. Also submitted this year has been a joint paper with Mark Williams, Mohib Mohibullah, Jawad Afzal, Laura Tilley (University of Leicester), Vachik Hairapetian, S. H. Hajazi and Mansoureh Ghobadi Pour (Iran) on Early Silurian ostracods from Iran. Peep Mannik (Tallinn Technical University, Estonia) and myself also have a manuscript in prep on Silurian conodonts (Llandovery–Ludlow) from the same section in Iran and more material has recently been recovered by Vachik Hairapetian from another section in central Iran that will hopefully soon be deposited at the Natural History Museum.

Modzalevskaya Tatiana L. (St. Petersburg, Russia): I'm actively continuing work on project: "Ordovician and Silurian Paleogeography East-European Platform on the biogeography base of the studying separate faunas". Biogeography and migration way through the East-European Silurian Basin. In collaboration with Prof. Fernando Alvarez (Spain) we shall prepare a manuscript about Palaeozoic diversification of Kuzbassian plicathridines.

Munkh-Od Purevtseren (Mongolian University of Science and Technology) produced a geologic map that shows east-to-west facies transitions in the Lower Silurian Scharchuluut Formation. **Uyanga Bold** (Mongolian University of Science and Technology) measured a 160 m thick section of the Lower Silurian Scharchuluut Formation and is continuing research on the abundant stromatoporoids and coral that formed a massive reef. **Badral Khurelbaatar** (Mongolian University of Science and Technology) collected Lower Silurian brachiopods from the Scharchuluut Formation for future study. **Bilguun Dalaibaatar** (Mongolian University of Science and Technology) completed a geologic map of the Lower Silurian Scharchuluut Formation where a biohermal reef comprising massive stromatoporoids and coral is exposed at "Wenlock Hill." **Nadine Reitman** (Vassar College) and **Zoe Vulgaropulos** (Oberlin College) investigated the Upper Silurian(?)–Lower Devonian Tsagaanbulag and Amansair formations. Their analysis of richly fossiliferous wackestone and packstone interbedded with siliciclastic deposits reveals that complex ecosystems flourished on a shallow-marine shelf, which was affected by fluctuations in sea level and episodic storms before regression occurred in the Gobi-Altai terrane in the Early Devonian (Lockhovian).

The students' research produced the first correlation tools based on sequence stratigraphy, carbon isotope chemostratigraphy, magnetic susceptibility profiles, and detrital zircon geochronology for rocks exposed in the Gobi-Altai terrane. The work accomplished across a broad area provides new insights into several Silurian formations, revealing that diverse shallow-water communities, including reefs, evolved in the Gobi-Altai terrane during ongoing volcanism and tectonic pulses in the Silurian. In particular, the research results support the general model proposed by Lamb and Badarch (2001) that Ordovician, Silurian, and Lower Devonian sedimentary deposits in the Gobi-Altai terrane accumulated in a shallow-marine setting adjacent to cratonic or arc-related sources of siliciclastic detritus before carbonate deposition ceased as a result of tectonic uplift, erosion, and terrigenous sedimentation in the Early Devonian. Contrary to Lamb and Badarch (2001), our research shows that episodic volcanism occurred in the Ordovician and Silurian before becoming more prominent in the Early Devonian. Similarity in the stratigraphy of the Mandalovoo and Gobi-Altai terranes (Badarch et al., 2002), including the presence of Lower Devonian conglomerate in both regions, suggests that these crustal slivers may have experienced the same mid-Paleozoic tectonic event as part of a single, large volcanic arc—back arc basin complex.

Michael Murphy (USA): Although I have had a long interest in Silurian stratigraphy and paleontology, I have not been an active member of the ISSS. So I would like to take this opportunity to post with you something about my current activities and joint projects with colleagues. I am currently working on the last stages of a manuscript that concerns the conodont succession across the S/D boundary at Klonk, the GSSP for the boundary. The paper will supplement Jeppsson's '88 and '89 papers and will also treat the Devonian part of the section. My coauthors are Peter Carls, Nacho Valenzuela, and Karsten Weddige. We would like to encourage any ISSS members who have material from this section to contribute to this effort by loaning us any scraps that you may have collected there. The section is difficult to collect and the yields are generally low, so it is especially important to be able to report all available taxa that occur around the boundary. All the material will eventually be deposited with the National Museum in Prague. We believe two other sections in the Barrandian are extremely important for the characterization of the S/D boundary, U topolu and Cervaty Schody. We have very large collections from U topolu that we will also report upon along with the Klonk section. We have not studied the Cervaty Schody section, but we would like to hear from anyone who can verify Hermann Jaeger's 1977 report that *Monograptus angustidens* occurs in sequence with *M. uniformis* in that section.

My second Silurian project is the collation of conodont fauna stratigraphy from the Birch, Willow, and Pete Hanson Creeks sections (Roberts Mountains, Nevada) of Late Ludlow and Pridoli ages with those of the brachiopods, graptolites, both updates of previous work, and the acanthodian, thelodont, and ostracode faunas that occur in some abundance with them. I encourage anyone who is interested in working with material from any of these groups to contact me. Thanks for the opportunity to post these comments.

Viiu Nestor (Estonia): I am working on Pridolian chitinozoans from the East Baltic drill cores.

Keith Nicholls (U.K.): I have recently started a Doctoral Research programme looking at Geoconservation Aspects of the Trace Fossil Record associated with the Hirnantian Glaciation in the Welsh Basin. This will include assessing the post glacial recovery interval, and the basal Silurian strata. It is still very early days but I have given an informal paper at the recent BSHS Post Graduate Student Conference: Nicholls KH, What's in a name? "Hirnantian". British Society for the History of Science

Godfrey Nowlan (Canada): I continue to provide reports on conodonts to those who submit samples to our lab. I am not actively working on any Silurian projects at the moment, other than those samples that happen to contain Silurian conodonts submitted to our lab by other projects. Nevertheless, I would appreciate remaining on the listing for Silurian Times.

Florentin Paris (France): I retired on November 1st, 2010 and thus I am no longer at Rennes University (see my new e-mail address: <florentin.paris@orange.fr>). However, I continue my investigations on chitinozoans from northern Gondwana. I am completing several papers dealing with Upper Ordovician–Lower Silurian material from Mauritania, Morocco, western France and Saudi Arabia. Moreover, an updated English version of my "CHITINOVOSP" database is now available (see information on this database recording the most important features of the 1240 chitinozoan species so far described on the corresponding flyer).

Vincent Perrier (France): I am actively working on Palaeozoic ostracods. I am still working on the Silurian Myodocopid ostracods in collaboration with David J. Siveter and Jean Vannier. And since one year I am post-doc in Tartu University (Estonia) working on the impact of environmental changes (bentonites, O/S extinction...) on ostracod biodiversity with Tõnu Meidla, Oive Tinn, Leho Ainsar and

Karin Truver. I am also treasurer of the Group of French Palaeozoists, see website below (in French): <http://sites.google.com/site/groupefrancaispaleozoique/home>

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 studying Silurian graptolite collections of the Armorican Massif.

Anne Põldvere (Estonia): I have been actively engaged in compiling and editing the tenth issue of the journal *Estonian Geological Sections* (published by the Geological Survey of Estonia) that appeared at the end of 2010. It contains data on the Viki drill core from Saaremaa Island, western Estonia, penetrating Ordovician and Silurian (Llandovery and Wenlock) sedimentary rocks. Generally, the investigated section contains sediments of the NW part of the East European Platform. A large set of data, collected in the 1970s and in 2005–2010, was analysed by researchers of the Institute of Geology at Tallinn University of Technology, Institute of Ecology and Earth Sciences at the University of Tartu, University of Leoben (Austria) and Geological Survey of Estonia.

Contributions were received from 15 authors. The description of the Viki core compiled by Heldur Nestor and Anne Põldvere was improved using the results of laboratory studies. Additionally, photos of 71 selected Ordovician and Silurian intervals were presented. Provisional data of 45 thin sections were used. The stratigraphic subdivision of the Ordovician and Silurian section is based on the distribution of chitinozoans and conodonts. Jaak Nõlvak examined Ordovician and Viiu Nestor Silurian chitinozoans in 362 samples. Ordovician and Silurian conodonts (504 samples) were identified by Peep Männik. Tõnu Meidla and Oive Tinn studied Silurian ostracods from 17 samples of the Adavere Stage. The composition of 26 Ordovician and Silurian volcanic ash beds was investigated by Tarmo Kiipli, Toivo Kallaste and Margus Voolma on the basis of XRF and XRD analyses. The data of 876 magnetic susceptibility measurements of the Ordovician part of the core were provided by Jüri Plado and Anna-Liisa Kalberg. Alla Shogenova, Kazbulat Shogenov, Norbert Schleifer and Toivo Kallaste provided the results of 154 chemical analyses and 106 measurements of physical properties of the Ordovician and Silurian sediments.

David Ray (U.K.): My research activities over the past year have focused upon three areas: sequence stratigraphy and bentonite correlation within the Wenlock Series of the Midland Platform (England), commercial investigations into Silurian eustasy, and preparation for fieldwork associated with the 2011 ISSS Symposium.

As part of my research association with the University of Portsmouth and Neflex Petroleum Consultants I have been working towards establishing a sequence stratigraphic and bentonite framework for the Midland Platform. Bentonite geochemical fingerprinting work carried out with Adrian Collings (Arup Geotechnics), Graham Worton (Dudley Museum & Art Gallery) and Gavin Jones has confirmed the recently published sequence stratigraphic correlation of the Much Wenlock Limestone between the West Midlands and type-Wenlock (Ray *et al.* 2010), and has been accepted for publication in the Geological Magazine. In addition collaboration with the Tom Richards (Herefordshire & Worcestershire Earth Heritage Trust) has made available bentonite geochemistry data and radiometric dates for the upper Wenlock at Whitman's Hill Quarry, Malverns. Based upon a synthesis with other nearby sections, correlation with the northern Midland Platform on both sequence stratigraphic and bentonite geochemistry grounds has been established. Furthermore a chemically distinct mid-Homerian episode of volcanism is identified and represents a potentially important marker interval between the Midland Platform and other similarly-aged bentonites reported from the Island of Gotland, Sweden.

Within Neflex Petroleum Consultants I have lead a review of the Silurian portion of the Neflex Sequence Stratigraphic Model. Based upon a global re-evaluation of key published sections, 10 sequence stratigraphic cycles and their associated systems tracts and surfaces have been identified. The biostratigraphic precision and magnitude of these cycles has been established by reference to over 150 sections and points, encompassing all major palaeocontinents. Furthermore fieldwork in the Carnic Alps, lead by Kathleen Histon and Hans Peter Schönlaub, has allowed our understanding of Silurian eustasy to be thoroughly tested. Based upon this review and correlations with isotopic and glacio-sedimentary records it is clear that glacio-eustasy is the principal driving force behind significant Silurian sea level change.

Much of the remainder of my time has been associated with leading field trips around the Welsh Borders (e.g. Ludlow Research Group), site visits, sample collecting and general preparation ahead of the 2011 ISSS Symposium. I hope to see many of you there!

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

Constance M. Soja (USA): In July–August 2009, eight students and three faculty from the U.S. were funded by the Keck Geology Consortium to undertake joint field research with a faculty member and four students from Mongolian University of Science and Technology. Our work entailed mapping and collecting Ordovician, Silurian, and Devonian rocks exposed near Shine Jinst in southern Mongolia's Gobi-Altai terrane for paleontological, sedimentological, and geochemical analysis. Students' results document the bathymetric distribution of organisms along environmental gradients, providing the basis for understanding the influence of tectonism, sea-level change, and environmental factors on marine benthic paleoecology and community evolution. Students' projects on Silurian deposits are summarized below:

Desmond Strusz (Australia): I have now finished my taxonomic studies of the Wenlock to Pridoli brachiopod faunas of the Yass Syncline in NSW, the spiriferides being published at the end of the year. A poster summarizing the biostratigraphic results of my studies on the Silurian brachiopods of the Yass-Canberra region was presented at the International Brachiopod Congress in Melbourne, February 2010, and was subsequently revamped and published in the same AAP Memoir as the spiriferide paper. Description of the small brachiopod fauna from the heritage site at Woolshed Creek in Canberra, where Silurian fossils were first recognized in Australia, is well under way. The fauna is dominated by *Atrypa duntroonensis*. Work will start in 2011 on a joint project with Ian Percival of the NSW Geological Survey, describing the brachiopod fauna of the Silurian Quidong Basin, near Delegate in the far south of the state.

Thomas J. Suttner (Austria): I am actively working on the establishment of a proper lithostratigraphy of the Siluro-Devonian sequence in southern Burgenland (Austria). Additional conodont samples shall provide more detailed information on the allocation of the S/D boundary and on how much of the sequence was deposited within the Silurian. The interest on this area (especially on the "serpulid"-beds evident there) has grown since the preparation of a manuscript together with Erika Kido on Ordovician and Silurian events related to the distribution of reefs (still in press).

Jacques Verniers (Belgium): I try to finish the manuscript on the chitinozoans around the Silurian-Ordovician boundary in two boreholes (Rostanga and Lönstorp) in Scania (Sweden), provided by Arne Nielsen, in which Tania Koren made a detailed graptolite biozonation around the Ordovician-Silurian transition. With Thijs Vandenbroucke we are finishing the study with chitinozoans of the Types sections of the Llandovery. These results will be presented during our next meeting of the Silurian stratigraphical Subcommission in Ludlow UK in July 2011.

Together with Florentin Paris we will submit shortly the manuscript on chitinozoans from the Upper Ordovician from the Qusaiba borehole on the Arabian Peninsula. A diverse and well preserved fauna is present with several new species. In 2010 I was pleased to have Wang Wenhui in our lab who studied a well dated section with graptolites in South China and discovered a rich and diverse chitinozoan fauna. Together with Dr. Sinha (India) we finished an article on Upper Ordovician Chitinozoans from northern India. I was also happy to be in the jury of Nuno Vaz who defended with success his PhD on Ordovician and Silurian chitinozoans of Central Portugal.

Jan Mortier (Belgium) continues his PhD study on the lithostratigraphy, biostratigraphy with chitinozoans and palaeoenvironmental reconstruction with isotope studies on organic carbon of the Silurian of the Condroz Inlier (Belgium).

Two master's students are dating with chitinozoans the units they mapped and described in several logged sections. Steven Esselens is looking in the volcanoclastic beds and some macrofossil units near Hennuyères (Upper–Ordovician and lowermost Silurian, Brabant Massif, Belgium). Jef Deckers studies two sections near Huy-sous-Huy (Wenlock and Lower Ludlow, Condroz Inlier, Belgium).

Viive Viira (Estonia): I am presently working on Lower-Middle Ordovician conodonts from SE Estonia. A paper is in press.

Olev Vinn (Estonia): I am actively working on the palaeontology of problematic calcareous tubeworms from the Palaeozoic (e.g. cornulitids, tentaculitids, microconchids etc.) and evolution of tubeworm biomineralization. I am currently also working on the evolution of bioerosion and biofouling of hard substrates in the Silurian of Baltica.

Wen-jin, Zhao (China): I am actively working on the Siluro-Devonian fossil fishes, biostratigraphy, paleogeography, and the Silurian/Devonian boundary in China. I'm also planning to attend the 12th International Symposium on Early and Lower Vertebrates (Dallas, Texas, June 2011) and the II International Obruchev Symposium Palaeozoic Early Vertebrates (the town of Luga, Leningrad Region, Russia, from August 1 to August 5).

Živilė Žigaitė (Lithuania/Sweden): I am currently a postdoctoral research fellow at Uppsala University (Sweden), actively working on Silurian microvertebrate biogeochemistry and palaeoclimatic interpretations, as well as Silurian vertebrate palaeobiostratigraphy. Together with other colleagues I have proposed as co-leader a new IGCP project: "The Early to Middle Paleozoic Revolution". Other news: I have been funded by the Marie Curie Fellowship, for a project "Oxygen isotopes in vertebrate hard tissues", to work at the University of Birmingham, UK, 2012-2014.

9. Publications on the Silurian in 2010 or from earlier not mentioned in previous newsletters.

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10. 1 Call for papers: Siluro-Devonian Studies 2 - invitation to contribute

Siluro-Devonian volumes of the Association of Australasian Palaeontologists – invitation to contribute

The Memoirs series of the Association of Australasian Palaeontologists (AAP) is a monographic series which publishes, amongst other volumes, thematic sets of papers. A volume entitled ‘Siluro-Devonian Studies 1’, published in October 2010 as Memoir 39, contains the 18 papers listed below. The volume can be ordered online at <http://www.gsa.org.au/bookshop.html>.

We now invite contributions to ‘Siluro-Devonian Studies 2’, to be published in the second half of 2012. Papers dealing with any aspect of Silurian or Devonian invertebrate palaeontology or related fields from anywhere in the world will be considered for publication, subject to the usual peer review process.

If you wish to submit a paper to the volume, please let either David (dhollow@museum.vic.gov.au) or John Laurie (John.Laurie@ga.gov.au) know as soon as possible and we will supply detailed instructions regarding format, which will be at a larger page size than previous volumes. When contacting us, please indicate 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 provisional submission deadline is 1 October 2011. Attached are the instructions for authors; please note that the Memoirs are changing to a larger page size and that manuscripts should be prepared for the new format

Contents of ‘Siluro-Devonian Studies 1’ (AAP Memoir 39)

Evolution and environmental adaptation of the Late Ordovician–Early Devonian orthide brachiopod *Dicoelosia* Pengfei Chen & Jisuo Jin

Post-hoc sampling analysis of crinoid collections from Anticosti Island, Quebec, Canada.
William I. Ausich

Late Silurian echinoderms from the Yass Basin, New South Wales – the earliest holothurian body fossil and two diploporitan cystoids (Sphaeronitidae and Holocystitidae). Peter A. Jell

First record of the Devonian phacopid trilobite *Plagiolaria* from Uzbekistan
Catherine Crônier & Helena S. Tsmeyrek

Conodont biostratigraphy and stable isotope chemostratigraphy of the lower Henryhouse Formation (Gorstian–early Ludfordian, Ludlow, Silurian), southern Oklahoma, USA
James E. Barrick, Gilbert Klapper, Mark A. Kleffner & Haraldur R. Karlsson

The trilobite *Chacomurus* (Dalmanitidae, Synphoriinae) from the Lower Devonian of Bolivia
David J. Holloway & Maria da Gloria Pires de Carvalho

Silurian spiriferide brachiopods from Yass and Molong, New South Wales, and Canberra, Australian Capital Territory. Desmond L. Strusz

New data on occurrences of the Devonian rugose coral *Calceola* in Belgium
A. J. Wright, M. Coen-Aubert, P. Bultynck & A. P. van Viersen

Stenoloron (Stenoloron) boucoti, a new gastropod species from the Lower Devonian of the Royal Creek area, Yukon Territory, Canada. *Robert B. Blodgett, David M. Rohr, Jiří Frýda & Alfred C. Lenz*

Devonian scolecodonts from the Tyrnaueralm, Graz Palaeozoic, Austria. *Thomas J. Suttner & Olle Hints*

Silurian brachiopod distribution in strata of the Canberra-Yass region, southeastern Australia
Desmond L. Strusz

Septal architecture and palaeoecology of *Calceola* (Cnidaria, Calceolidae), with comments on the phylogeny of Devonian operculate tetracorals. *Anthony J. Wright*

Stratigraphic distribution and suggested evolution of dendroid graptolites from the Silurian of eastern Australia *Barrie Rickards† & Anthony Wright*

Telychian-early Sheinwoodian (early Silurian) conodont-, graptolite-, chitinozoan- and event-based chronostratigraphy developed using the graphic correlation method. *Mark. A. Kleffner & James E. Barrick*

Lower and Middle Devonian trilobites from southern Uzbekistan. *Robert M. Owens, Olga Ivanova, Irina Kim, Leonid E. Popov & Raimund Feist*

Statistically differentiating *Katastrophomena* from *Strophomena* (Ordovician-Silurian strophomenid brachiopods). *Huang Bing & Rong Jiayu*

Latest Devonian (Strunian) Ostracoda from the Buttons Formation, Bonaparte Basin, northwestern Australia: biostratigraphy, palaeoecology and palaeozoogeography. *Peter J. Jones*

The Alexander terrane of Alaska – a displaced fragment of Northeast Russia? Evidence from Silurian-Middle Devonian megafossils and stratigraphy. *Robert B. Blodgett, Arthur J. Boucot, David M. Rohr & Alan E. H. Pedder*

INSTRUCTIONS TO AUTHORS

Submission

Manuscripts are to be sent to the Editor as e-mail attachments, on CD or DVD as a word-processing file (preferably Microsoft Word). Double space all text and number all pages. In covering e-mail give the names and addresses of two persons outside the authors' institutions who are expert in the topic covered by the submitted paper and can act as referees. Illustrations should be similarly submitted, preferably in Adobe Illustrator, Adobe Photoshop, PDF, high-resolution JPEG or TIFF format. Tables should not be included in the text, but submitted as separate graphics or EXCEL files.

Format

Papers are to be written in clear, concise English and should be illustrated. Manuscripts are to be organised as follows: 1, a brief title with only proper names capitalised. 2, name(s) of author(s). 3, full reference to the paper, leaving space for the publisher's additions. 4, a short abstract describing the results of the work. 5, name(s) of author(s) with e-mail address(es), full postal address(es) including postcode and country. 6, the main text; capitalise the first word of the first paragraph; do not use the heading 'Introduction'; begin other sections with not more than three grades of heading as follows:

GRADE ONE HEADING

Grade two heading

Grade three heading. This is followed by running text; refer to references in the text as Smith (1978), (Smith 1978) or Smith (1978, p. 25) and to illustrations as 'Figure' or 'Figures'; all measurements are to be in S.I. units; footnotes are not allowed; group all acknowledgements at the end and keep them brief. 7, references should conform to the examples below; give the full title of the publication; do not use abbreviations for the journal title; transliterate Russian titles using the system adopted by the *Treatise on Invertebrate Paleontology*. 8, figure captions should be compiled at the end of the text, after the references and any appendices.

Illustrations

Illustrations should be grouped into Figures of one or two column width (88 mm or 180 mm), with a maximum height of 240 mm. Attempt to restrict each figure to one theme and make sure photographs are of similar tone. Line drawings may be combined with photographs if required. The items of composite figures should be designated A, B, C etc. (not a, b, c).

The *Memoirs* will not print foldouts and extending figures or tables over more than one page is discouraged. Tables should either be drafted at one or two column width (88 mm or 180 mm) or presented as EXCEL files.

REFERENCES

- Campbell, K.S.W. & McKellar, R.G., 1969. Eastern Australian Carboniferous invertebrates. 77-119 in Campbell, K.S.W. (ed.), *Stratigraphy and palaeontology. Essays in honour of Dorothy Hill*. Australian National University Press, Canberra
- Roberts, J., Hunt, J.W. & Thompson, D.M., 1976. Late Carboniferous marine invertebrate zones of eastern Australia. *Alcheringa* 1, 197-225.
- Stepanov, D.L., 1937. Permskie brachiopody Shpitsbergena. *Trudy Arkticheskii Instituta* 76, 105-192.
- Laseron, C.F., 1954. *Ancient Australia*. Angus & Robertson, Sydney, 210 p.

10.2 Call for Papers for the “Bollettino della Società Paleontologica Italiana”

We would like to kindly invite you to submit a manuscript for the Bollettino della Società Paleontologica Italiana. The BSPI is an international quarterly, peer reviewed journal devoted to rapid publication of high quality research results in all subfields of Paleontology, open to both original research articles as well as review articles. The journal was included within the ISI in 2008.

The BSPI will celebrate this year its 50th birthday. On this occasion, all full contents will be on open access on the journal web site, which means that all published articles are made freely available online without a subscription. The submission deadline for this Focus Anniversary Volume is June 30th, 2011.

Please read over the journal's Author Guidelines at http://www.spi.unimo.it/note_aut_en.htm for more information on the journal's policies and the submission process. Do not hesitate to contact us if you need any additional information about the journal.

Annalisa Ferretti and Carlo Corradini
(co-editors of the Bollettino della Società Paleontologica Italiana)

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11. Annoucement for a Chitinozoa Taxonomy Database CHITINOVOSP, a database recording the chitinozoans species (by F. Paris)

A new version of CHITINOVOSP database exists now in English. This database recording all the chitinozoan species described since the first taxonomic paper on the group by Eisenack (1931) is available as a CD (see photo). It may be of some help for chitinozoans workers. It should be also useful for Palaeozoic palynologists not very familiar with the chitinozoan group, but wanting to have a broad idea on chitinozoans they encounter in their palynological preparations.

CHITINOVOSP runs on FileMaker Pro™ software. It includes an illustration of the holotype of most of the 1240 species and subspecies recorded so far in the group. It contains taxonomic information (species, sub-species, genus, updated generic assignment) and bibliographic data (author(s), year of description of the taxon and the related full reference, including the figure numbers of the type material).

Other helpful data concerning the chronostratigraphy (range of the species by System, Series and Stages, as well as its FAD and LAD when accurately known) and the palaeogeographical location (locality/country and palaeoplate) of the recorded species are also provided. This database gives therefore an easy and immediate access to the main information concerning the chitinozoans. Terms and condition of sale for academic researchers (500 €), or for industrial utilization (1500 €), can be obtained from “Creation Graphic” by E-mail: oliv-chang.paris@orange.fr See also the web page: <http://www.geosciences.univ-rennes1.fr/spip.php?article1093>

12. ISSS Membership corner

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12.5 Following email addresses bounced or were missing in Dec. 2010 and corrected in July 2011.

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Can anyone provide new email addresses for the following Silurian researchers?

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