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# Pander Society Newsletter

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## INTRODUCTORY REMARKS

**W**ELCOME. We are pleased to welcome all readers to the 2000 edition of the Pander Society Newsletter. Last year we produced the first Newsletter to be distributed electronically and, with just a few small glitches, the operation appears to have been a success. We will continue to send hard copies to conodont workers who do not have access to the network or who request a printed version, but we hope that issue 32 will continue a smooth transition to exclusively electronic distribution.

As can be seen in the reports listed in this Newsletter, 1999 was another busy year for conodont specialists, crowned by the Pander Society Meeting in Calgary. Many thanks to the organizers, Charles Henderson, Mei Shilong and Godfrey Nowlan for their efforts in making the meeting such a success. This year, we hope that many of us will get together in Arkansas and/or Australia. But remember, it is traditional to regard any get-together of a group of conodont workers (however small or large) to talk about conodonts as a meeting of the Pander Society. We would be pleased to receive reports of any such gatherings, wherever they take place, and will be happy to record them in next year's Newsletter.

Dick Aldridge  
Chief Panderer

Mark Purnell  
Pander Society Webmaster

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### PEOPLE

#### CONGRATULATIONS TO:

**Stig M. Bergström**, for being awarded The Society of Sedimentary Geology (SEPM) *Raymond C. Moore Medal* for Excellence in Paleontology and Stratigraphy; and for being awarded *The Golden Medal* for "Outstanding Contributions to Ordovician Stratigraphy" by the Faculty of Science, Charles University, Prague, Czech Republic.

**Phil Donoghue, Sarah Gabbott, Mark Purnell and Ivan Sansom**, who all gained permanent lectureships at UK universities; **Giles Miller**, who was appointed to look after conodonts and ostracods at the Natural History Museum, London.

**Oliver Lehnert**, who was awarded the German Science Foundation Albert-Maucher Young Geoscientist Prize.

**Carl Rexroad**, who received the Professional Geologists of Indiana Lifetime Achievement Award.

**Willi Ziegler**, for being awarded the Cretzschmar-Medal by the Senckenbergische Naturforschende Gesellschaft in Frankfurt, Germany, for outstanding scientific achievement.

#### TRIBUTES

In the past year, we have, sadly, lost a number of colleagues, including two Pander Society medallists. We have received tributes to these conodont workers from other members of the Society and these are reproduced below.

#### **Heinz Beckmann**

Willi Ziegler writes: In 1999 Prof. Dr. Heinz Beckmann passed away at an age of nearly 80. He was a German conodontologist who started work on conodonts in 1948, about 16 years after Hermann Schmidt had published his study on Westfalian assemblages. Beckmann completed a dissertation at Marburg on Middle-Upper Devonian massive limestones in Westfalia, where he discovered conodonts in marly interlayers. He initially studied thin sections of *Icriodus* and *Polygnathus*, and while he was scientific assistant at the University of Cologne he became interested in the stratigraphic value of conodonts. He published several papers in the early 50s, his major contribution to conodontology being to emphasize sampling at small intervals in order to recognize the vertical change of conodont morphology (insiders remember the Trenches at the Sessacker, the Sessackerschürfe). In 1980, at the ECOS Meeting in Vienna, he was awarded the Pander Society medal for this important contribution. He left the University of Cologne to join a German Oil Company in 1952 and took the position of the Chief Micropalaeontologist. During the early 50s he stimulated and supported greatly the conodont studies of Günther Bischoff and myself. Beckmann became a Professor of Oil Geology at the University and Mining Academy of Clausthal-Zellerfeld in the Marz Mountains in the 1960s.

#### **Günther Bischoff**

Willi Ziegler writes: my old friend Dr. Günther Bischoff died in a Sydney hospital in November 1999 after a short illness. Since I had corresponded several times with him in September, I was deeply surprised and shocked. Günther and I were the first conodont students at the University of Marburg in the early 1950s. Günther's first important finds of large Early Famennian faunas and of a huge *Palmatolepis punctata* or *P. transitans* on a bedding plane near the famous Tuff Beccia of Amönau had stimulated us both to go into conodontology. We were supported by Heinz Beckmann and our Professor, Dr. Carl Walter Kockel, accepted our proposed topics for dissertations in 1953. Our dissertations were completed by 1956 and we took our doctorates on the same day. Around this time we published several papers together and laid the foundation for the development of Devonian and Lower Carboniferous conodont zonation. Günther had by this time joined a Mining Company working on sedimentary Red Iron Ore (Roteisenstein) at the Middle/Upper Devonian boundary, where he successfully applied the as-yet-unpublished sensitive conodont zonation to the drill cores. Shortly afterwards he moved to the Elwerath Oil Company to work on ostracods. He was sent to the South Pacific and, when an American Company absorbed Elwerath, Günther accepted an offer by Macquarie University to join them as a Senior Reader. He continued to publish papers on conodonts, including a monograph on Silurian conodonts and a suggestion that conodonts are conulariids! Günther retired from Macquarie about 2 years ago, but told me that he planned to continue with research.

### ***Jos Bouckaert (1930-1999)***

Michiel Dusar and Roland Dreesen write: Jos Bouckaert passed away in Louvain (Belgium) on 6.12.1999 after a short but painful struggle with a fatal disease. He was honorary director of the Geological Survey of Belgium and Professor Emeritus of the University of Louvain but also one of the pioneers of conodont biostratigraphy, applied to the type region of many Devonian and Carboniferous stages in the scenic Ardennes region of southern Belgium. He published memoirs on Famennian conodonts with W. Ziegler and on Namurian conodonts with A. Higgins in 1965 and 1968 respectively. In 1974 he was an organiser of the International Symposium on Belgian Micropaleontological Limits. His role was particularly important as an organiser of international cooperation, especially in re-establishing scientific contacts with Germany and Russia at a time when they were still viewed as enemy countries. But without doubt, he will be most widely remembered as the witty, multilingual organiser of field trips - such as the 1988 pre-ECOS V field trip - knowing as no one else how to combine science and culture and to bring human warmth to serious meetings.

Eric Groessens adds: Jos Bouckaert was born in Aalst (Belgium) and started his career working for the Association for the study of the geology and stratigraphy of the Silesian. He graduated as Doctor in Sciences with a dissertation on Namurian goniatites. In 1959, he joined the Geological Survey of Belgium, for which he became the director in 1986, and he retired in 1993. During his career, Jos Bouckaert was active in many fields of the Earth Sciences as well as being one of the pioneers of conodont stratigraphy in Europe. In the golden 60s, a number of major civil engineering programmes were started in Belgium, and Bouckaert became an applied geologist for the construction of water dams, locks, speedroads etc. that were built in the Belgian Ardennes. At the same time, he produced the Ardenne sheet of the mineral deposits map of France (1964) and, with P. De Bethune, a geological map of Belgium and surrounding countries (1966). Together, with Streel and Conil, he created team of young geologists who reinvestigated the classical sections of the Palaeozoic. When he retired from the survey, Jos lived with his wife Nicole at Marche-en-Famenne, where he became an expert on local natural history and history. One of his interests

was the history of the Citadel of Namur, built on an hill where he started studying geology at the beginning of his career.

Jos Bouckaert's activity was not restricted to the Geological Survey. He was president of the National Committee of Geological Sciences and of the Geological Society of Belgium. He was a founding member and first president of the professional Belgo-Luxembourg Association of Geologists. He received many scientific awards, including the Leopold von Buch Award (1989) from the Deutsche Geologische Gesellschaft and the Prix Baron van Erborn from the Royal Belgian Academy.

### ***Samuel P. Ellison, Jr. (1914-1999)***

Ray Ethington writes: Sam Ellison, Professor Emeritus in the Department of Geological Sciences, University of Texas at Austin, passed away in Austin on 4 June 1999 at the age of 84. He was an early recipient of the Pander Society medal in 1977, and was one of the conodont pioneers with his study of Upper Carboniferous (Pennsylvanian) faunas, making a major contribution to form taxonomy. In 1952 he became Chairman of his Department and after that his career was focused on university administration and his conodont efforts were primarily directed towards consulting work with petroleum companies.

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### **CON-NEXUS**

In August 1998 the Pander Society sponsored the launch of an international e-mail discussion group dedicated to conodonts and all conodont-related matters. As well as providing a forum for discussion between conodont workers, con-nexus is used to circulate Pander Society information rapidly to conodont specialists. Anyone wishing to subscribe to con-nexus should simply send the message: subscribe con-nexus xxxx@xxxx.xx.xx (where xxxx@xxxx.xx.xx is your e-mail address) to listserv@le.ac.uk, or check the www at: <http://www.le.ac.uk/geology/map2/con-nexus/con-nexus.html>

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## **PANDER SOCIETY MEETINGS 1999**

### **PANDER SOCIETY MEETING 1999**

Charles Henderson (co-organizer) reports: The Pander Society met in association with the XIVth International Congress on the Carboniferous and Permian, held from August 19-21, 1999, at the University of Calgary, Alberta. This meeting was co-organized by Charles Henderson, Shilong Mei, and Godfrey Nowlan. On Thursday, August 19, Panderers gathered together for the Huddle huddle where numerous microscopes and one video monitor/microscope was set up. Individuals compared conodont slides and discussed conodont taxonomy and biostratigraphy during the day as well as the best

locations to get a Guinness or take in some jazz in Calgary. Judging from the animated discussion this was a particularly successful component of the meeting and one that should be considered for future meetings; thanks to Godfrey Nowlan for the idea and organization. The informal nature of the huddle was very welcome, but future huddles would do well to include a couple of intermixed somewhat more formal conodont presentations. Friday August 20 was the non-C/P session organized by Godfrey Nowlan. Thirteen presentations covering the Cambrian to Triassic were given, which was pretty good considering how difficult

it was to convince non-C/P Panderers to come to the meeting. The Pander Society lunch and Business Meeting was also held on Friday at the University Club and included hagfish disguised as salmon and a stirring 30 second speech by our Chief Panderer. That evening most individuals attended the "closing" western style banquet. Saturday August 21 was the Carboniferous-Permian session organized by Charles Henderson and Shilong Mei which included fifteen presentations. Some of the Panderers took in ICCP post-meeting fieldtrips including a hike to the pre-conodont Burgess Shale.

Frederick Rogers provides an independent view: Conodont workers from Argentina, Australia, Canada, China, England, Germany, Ireland, Russia, and the United States were in attendance at the 1999 Pander Society meeting in Calgary. The meeting consisted of an opening Huddle Workshop II (that is, the 2nd "Huddle") and luncheon, on Thursday, 19 August, followed by two days of oral presentations. Charles Henderson did double duty, and then some, as co-organizer for the Pander meeting and organizer of the larger Carboniferous-Permian Congress itself.

The opening Huddle Workshop II was a semi-formal gathering of conodont workers to review and to discuss a number of works in progress and to look at each other's conodont specimens. The results of some of these investigations were formally reported on in the oral presentations that followed on Friday and Saturday, and many more will be aired at meetings to be held in the near future. The morning and afternoon Huddle sessions were punctuated by a Pander Society luncheon held on-campus at the University Club, where, in order to officially open our meeting, Chief Panderer Richard Aldridge welcomed all in attendance. After this we sat down to a fine ice-breaking luncheon and social hour.

The oral presentations on Friday 20 August were devoted to reports of investigations into non-Carboniferous/Permian conodonts (although one Permian-related talk crept in). The talks focussed primarily on the Upper Cambrian through Devonian interval, and most addressed conodont biostratigraphy. However, a few had a broader conodont aspect such as palaeobiology as their main point, for example: Stephanie Barrett's talk on the apparatus architecture of prioniodontids; Christopher Barnes' talk on the evolutionary radiation of Early Silurian conodonts; and Bernd Wenzel's talk on the oxygen isotope composition of Lower Permian conodonts and what that isotope data has to tell us about the temperature of the oceans and the waxing and waning of the ice sheets during the Late Paleozoic glaciations of the Southern Hemisphere. The Friday sessions were "crowned" by Richard Aldridge's talk on the phylogeny of conodonts. The presentation by Aldridge, like the talk by Wenzel that had preceded it, generated a considerable amount of discussion among the members of the audience.

The oral presentations on Saturday were devoted to reports of investigations into Carboniferous through Triassic conodonts. The eight presentations made in the morning session focussed, stratigraphically, on the Lower Carboniferous (Mississippian) through Permian interval, and most were focussed on conodont biostratigraphy. However, again, a few of the presentations considered aspects of conodont paleobiology, for example, Peter Wagner's talk on the

apparatus architecture of *Vogelgnathus postcampbelli* and Robert Stamm's talk on the ecology and apparatus architecture of *Diplognathodus*. The six presentations made in the afternoon session focussed on the Upper Carboniferous (Pennsylvanian) through Triassic interval, with particular attention being paid to Permian-age cold water faunas. A few of the presentations included aspects of conodont paleobiology (typically, aspects of conodont paleobiology with important biostratigraphic implications), for example, Shilong Mei's talk on the evolution of the *Sweetognathus/Iranognathus* complex; and Bob Nicoll's talk on *Hindeodus-Isarcicella* evolution. Many of the presentations on Saturday stimulated a substantial amount of commentary from members of the audience, much of the discussion seemingly generated by the difficulties with correlation and paleoenvironmental interpretation of Permian-age rocks and faunas.

The Pander Society was also well represented at the poster sessions, also held on the Saturday, with Charles Henderson and coauthors presenting three different posters, covering the stratigraphic interval from Mississippian through Triassic and covering a geographical range from Arctic Canada to Western Canada.

Last, but most certainly not least, on Saturday evening, a memorable conclusion to the 1999 Pander Society Meeting took place at Godfrey Nowlan's house in Calgary, where Panderers and friends from the Geological Survey of Canada, Calgary, gathered for a "Burger Burn" - it was an excellent time and place at which to continue discussions about conodonts or to just catch up with old friends in a very relaxed and informal setting!

And a few final words from Godfrey Nowlan: The Pander Society Meeting in Calgary was a quiet success with an excellent Huddle Huddle. The Programme with Abstracts volume for the XIV International Congress on the Carboniferous - Permian contains abstracts of the talks presented and people may wish to contact Charles Henderson (University of Calgary) to see if there are extra copies available. The meeting ended with a barbecue at Godfrey Nowlan's house where chefs Bob Nicoll and Godfrey Nowlan rendered hamburgers to at least CAI 5.

#### **ECOS VII VOLUME PUBLISHED**

The volume from the ECOS VII meeting was published in November 1999. It includes 27 papers on topics related to conodonts, from lower Ordovician to Triassic; these papers are all included in the Bibliography in this Newsletter. The complete reference to the volume is: Serpagli, E. (ed.). 1999. Studies on conodonts - Proceedings of the Seventh European Conodont Symposium. *Bollettino della Società Paleontologica Italiana*, 37(2-3)(1998): 424 pp.

The volume has been distributed, free of charge, to all registered ECOS VII participants. Anyone interested in ordering extra-copies (price 50 Euro, including mail expenses) should contact the Treasurer of the Symposium, Dr Claudia Spalletta, Dipartimento di Scienze della Terra e Geologico Ambientali, Via Zamboni 67, I-40126 Bologna (Italy); e-mail: cspal@geomin.unibo.it

## FUTURE MEETINGS

### PANDER SOCIETY MEETING 2000

The Pander Society is meeting with the South-Central Section of the Geological Society of America in Fayetteville, Arkansas, April 3-4, 2000. There is no special theme this year. Our local representative is Jim Barrick, to whom thanks are due for his work in organizing the Pander session.

### AUSCOS-2

AUSCOS-2, the Second Australasian Conodont Symposium, will be held in conjunction with Palaeontology Down-Under interlinked meetings for the year 2000 (see Pander Newsletter 31). The conference sessions will be at Orange, 260 km west of Sydney, on 11-15 July 2000, with a pre-conference excursion (8-10 July) and post-conference excursions (16-20 and 21-25 July). Ruth Mawson and John Talent tell us that all the land excursions will be conodont-based, and will show some of their best and most interesting sections. The second circular and booking form are available on the web at: [www.es.mq.edu.au/MUCEP/](http://www.es.mq.edu.au/MUCEP/)

### ECOS VIII, 22-25 JUNE 2002, TOULOUSE-ALBI, FRANCE

ECOS VIII, the first conodont symposium to be held in France and Spain, will take place in association with the final meeting of IGCP project 421 - *North Gondwana mid-Palaeozoic Bioevent/Biogeography Patterns in Relation to Crustal Dynamics*. Pre- and post-symposium field excursions are planned in Spain (13-21 June) and South-West France (26-31 June). The scientific sessions will be held in Toulouse and Albi. The Organizing Committee cordially invites Pander Society and IGCP 421 members to participate. To ensure a successful meeting incorporating the widest range of new and exciting research, the scientific committee is inviting suggestions for potential organisers of symposia; please send your ideas and suggestions. During the scientific sessions, meetings of stratigraphy subcommissions may be organised; please contact M-F Perret-Mirouse if you would like to consider arranging such a meeting.

Toulouse, "la Ville Rose", is an important university city long known for its tradition and "art de vivre". Albi, 90 km north of Toulouse, is famous for its Cathedral and for the painter Toulouse-Lautrec. Toulouse is an important road and rail junction, and is served by the Blagnac international airport, which offers numerous national and international flights per day.

#### **Preliminary programme overview:**

June 13-21, 2002: Pre-symposium field trip starting from Oviedo and ending in Toulouse, organized by S. Garcia-Lopez, J. Sanz-Lopez and J.I. ("Nacho") Valenzuela-Rios. The field trip will demonstrate numerous Palaeozoic sections, ranging in age from Ordovician to Upper Carboniferous, in the Cantabrian Mountains, Iberian Cordillera and Pyrenees. The trip will also take in the beautiful Asturian, Leonian, Aragonian (Celtiberian) and Pyrenean (frontier area) landscapes and various historical sites. An ice breaker party will take place on Friday evening, June 21 2002, at Toulouse.

June 22-25, 2002: Symposium at Toulouse and Albi; transport by coach will be available for participants returning to Toulouse on June 25.

June 26-31, 2002: Post-symposium field trip, starting from Albi on the evening of Tuesday 25 June (or the morning of Wednesday 26) and ending in Toulouse, organized by R. Feist, C. Girard, C. Cygan and M-F. Perret. This field excursion will go to the Montagne Noire where we will visit Lower and Mid-Palaeozoic marine sequences including Upper Devonian GSSP sites. In the Pyrenees we will visit several well exposed outcrops from Middle Devonian to Middle Carboniferous in age. This field-trip also offers the opportunity to visit the Middle-Age fortifications of the Cité de Carcassonne historical site, Lourdes and, of course, wine caves.

The first circular will be sent in January 2001 and a website will be opened at the same time. Registration fees have not been set yet, but will be notified in the first circular. If an official document is needed to confirm participation or to help arrange funds for travel and attendance, please contact the organisers. All abstracts will be published in a special volume that will be issued to each participant. A similar procedure will be arranged for the excursion guidebooks. Manuscripts based on conference contributions will be refereed and published as a normal volume of *Revista Espanola de Micropaleontología* for conodont topics, and of *Geobios* for other topics. Social events will be announced in the first circular.

For information contact Marie-France Perret-Mirouse, Laboratoire de Dynamique des Bassins, 38 rue des Trente-six Ponts, 31400, Toulouse, France, tel: 00 33 (0)5 61 55 84 41, fax: 00 33 (0)5 61 55 82 50, e-mail: [mfperret@cict.fr](mailto:mfperret@cict.fr)

### OTHER MEETINGS

#### **15TH INTERNATIONAL SENCKENBERG CONFERENCE, MAY 2001**

This meeting will be on the theme of *Mid-Palaeozoic bio- and geodynamics: North Gondwana - Laurussia interaction*. It is a joint meeting of IGCP 421 and the Subcommission on Devonian Stratigraphy, hosted by the Senckenbergische Naturforschende Gesellschaft, Frankfurt am Main, at the Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt am Main, Germany. The technical sessions will be held on 15-17 May, 2001. Field trips prior to the meeting will visit the Belgian Ardennes (11-12 May) and the Rheinisches Schiefergebirge (13-14 May), and after the meeting via the Thüringisches Schiefergebirge (18-19 May) to the Barrandian area (20-21 May). The first circular is available on the web via the Senckenberg homepage: <http://www.senckenberg.uni-frankfurt.de>

**NORTH AMERICAN PALEONTOLOGICAL CONVENTION (NAPC), JUNE-JULY 2001**

The Museum of Paleontology at the University of California, Berkeley, will host the seventh North

American Paleontology Convention from June 26 to July 1, 2001. Preliminary information is available at <http://www.ucmp.berkeley.edu/napc/NAPC2001.html>

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## SUMMARY OF TOPICS MENTIONED IN RESEARCH REPORTS

**A. Cambrian.** Albanesi, Bagnoli, Bergström, Dong, Dubinina, Kozur, Lehnert, Miller, Nowlan, Repetski, Shaw, Smith, Stouge, Szaniawski

**B. Ordovician.** Albanesi, Aldridge, Armstrong, Bagnoli, Barnes, Bauer, Bergström, Bultynck, Dong, Dubinina, Dzik, Ethington, Ferretti, Fordham, Furey-Greig, Hall, Harris, Izokh, Johnston, Kozur, Leatham, Lehnert, Leslie, Löfgren, Männik, Mawson, McCracken, Melnikov, Miller, Nicoll, Nowlan, Pei, Percival, Poole, Purnell, Repetski, Sarmiento, Seo, Serpagli, Shaw, Simpson, Smith, Stouge, Sweet, Viira, Wang Zhi-hao, Xia, Zhang Jianhua, Zhang Shunxin

**C. Silurian.** Aldridge, Barnes, Barrick, Benfrika, Bergström, Bikbaev, Brazauskas, Bultynck, Corradini, Dubinina, Fordham, Furey-Greig, Garcia-Lopez, Harris, Ivanov, Izokh, Jeppsson, Kleffner, Kozur, Kuglitsch, Lehnert, Männik, Mawson, McCracken, Melnikov, Metzger, Nicoll, Norby, Nowlan, Poole, Sansom, Sanz-Lopez, Sarmiento, Serpagli, Simpson, Snigireva, Valenzuela-Rios, Viira, Wang Cheng-yuan, Wang Zhi-hao, Zhang Shunxin

**D. Devonian.** Barrick, Belka, Benfrika, Bikbaev, Boncheva, J. O. Brown, Bultynck, Capkinoglu, Carey, Corradini, Day, Drygant, Dzik, Fordham, Garcia-Lopez, Gholamalain, Groessens, Hairapetian, Harris, Irwin, Ivanov, Johnston, Kalvoda, Kharitonova, Kirchgasser, Klapper, Kozur, Leatham, Luppold, Marcus, Mawson, McCracken, Melnikova, Metcalfe, Metzger, Morrow, Narkiewicz, Over, Perri, Piecha, Poole, Rogers, Sandberg, Sanz-Lopez, Savage, Savoy, Serpagli, Sloan, Snigireva, Spalletta, Sparling, Stoppel, Uyeno, Valenzuela-Rios, Wang Cheng-yuan, Wang Zhi-hao, Weddige, Woroncowa-Marcinowska, Yazdi, Yolkin, Zagger, Zhuravlev, Ziegler

**E. Carboniferous.** Bardasheva, Barrick, Behnken, Belka, Boncheva, L. M. Brown, Corradini, Ding, Dong, Elder, Fordham, Garcia-Lopez, Groessens, Harris, Henderson, Hisaharu Igo, Hisayoshi Igo, Irwin, Izokh, Jones, Kalvoda, Kozur, Krumhardt, Lambert, Leatham, Luppold, Marcus, Marshall, Mawson, Mendez, Merrill, Metcalfe, Nemyrovska, Norby, Orchard, Park, Perret, Perri, Piecha, Poole, Purnell, Rexroad, Sandberg, Savoy, Somerville, Spalletta, Stamm, Stoppel, Swift, von Bitter, Wang Zhi-hao, Woroncowa-Marcinowska, Zagger, Zhuravlev, Ziegler

**F. Permian.** Bardasheva, Behnken, Ding, Elder, Henderson, Hisaharu Igo, Isozaki, Klets, Kozur, Lai, Lambert, Marcus, Mei, Metcalfe, Nakrem, Nicoll, Nicora, Orchard, Park, Perri, Ruppel, Stamm, Swift, Wang Cheng-yuan, Wang Zhi-hao, Yao

**G. Triassic.** Budurov, Clark, Henderson, Hirsch, Hisayoshi Igo, Ishida, Isozaki, Kilic, Klets, Koike, Kolar-Jurkovsek, Kovacs, Kozur, Lai, Leatham, Luppold, Mastandrea, Metcalfe, Nakrem, Narkiewicz, Nicoll, Nicora, Noyan, Orchard, Paull, Perri, Petrunova, Pevny, Plasencia-Camps, Ramovs, Sansom, Sudar, Swift, Valenzuela-Rios, Wang Zhi-hao, Yao, Zhang Shunxin

**H. Palaeobiology.** Aldridge, Armstrong, Buryi, Conway Morris, Donoghue, Dzik, Lai, Plasencia-Camps, Purnell, Smith, Stamm, Szaniawski, Weddige, Zhuravlev

**I. CAI.** Belka, Benfrika, Boncheva, Garcia-Lopez, Kovacs, Narkiewicz, Pondrelli, Repetski, Sanz-Lopez, Smith, Sudar, Zhuravlev

**J. Geochemistry.** Armstrong, Barnes, Belka, Clark, Day, Ruppel, Trotter

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## RESEARCH REPORTS

**Guillermo L. Albanesi.** I am currently progressing on my studies regarding conodont taxonomy, biostratigraphy, biofacies and paleobiological events from the Cambrian-Ordovician boundary interval in the Volcancito Formation, Famatina Range, Argentina. This project was partly carried out, during 1999, at CEOR, University of Victoria, Canada, completing a PDF under the supervision of Chris Barnes. Integrated studies on micro (palynomorphs) and macrofossils (graptolites,

trilobites, brachiopods), as well as sedimentology, are being undertaken by other colleagues. Other parallel studies on Ordovician conodont biostratigraphy and bioevents in the Precordillera and North-western Argentine basins are progressing, in co-operation with several colleagues from diverse Argentine universities.

**Richard J. Aldridge.** Despite the pressure of administrative commitments at Leicester, I am managing

to continue progress on some long-standing projects, including the Silurian conodonts of South China (with Wang Cheng-yuan). I spent a short field season in the Tremadoc rocks of the Hamburg Klippe, Pennsylvania, in the summer of 1999, looking at proto- para- and euconodonts with Bob Ganis and John Repetski; some of the protoconodont clusters are in intriguing close proximity to ovoid, cuticular (?) patches, suggesting that there may be other origins to these fossils than just the accepted chaetognaths. Projects completed during 1999 included a cladistic study of conodont relationships with other agnathans (with Phil Donoghue and Peter Forey); some of the results of this work were presented at the Pander Society meeting in Calgary and the full story will be published in *Biological Reviews* early in 2000. Another highlight was the completion of Kim Freedman's thesis, which included an experimental study of hagfish decomposition and a taphonomic investigation of the giant Ordovician conodont *Promissum pulchrum* from South Africa; Stephanie Barrett is also nearing completion of her thesis on the histology and function of some prioniodontid conodont apparatuses.

**Howard A. Armstrong.** This year has seen the completion of projects on REE in Palaeozoic cherts and on conodont faunas from limestone clasts in Devonian conglomerates in the Midland Valley. The latter represent the cover of an island arc terrane now hidden beneath the Southern Uplands. I am now actively working on other limestone-bearing conglomerates in the British Caledonides, with a view to provenance studies and to documenting the origin and evolution of island conodont faunas of the Iapetus Ocean. Work on deep sea conodonts has broadened into a detailed study of the ecological controls on enamel growth in conodonts.

**Gabriella Bagnoli.** I am working on Cambrian and Ordovician conodont biostratigraphy and biofacies from Baltic regions and Newfoundland.

**Igor A. Bardashev.** I am actively working on Palaeozoic conodonts and stratigraphy of Middle Asia.

**Nina P. Bardasheva.** I am actively working on Carboniferous and Permian conodonts and stratigraphy of Middle Asia.

**Chris Barnes.** I continue to expand field-based Lower Paleozoic conodont studies in the Canadian Cordillera. Detailed platform to basin transects have been sampled in the southern, central and northern Rocky Mountains (with Lee McKenzie McAnally and Leanne Pyle as Ph.D. students). The central Rockies transect involved remote alpine field work in 1998 and 1999. Jianqin Chen is nearing completion of his Ph.D. work in Ordovician conodonts from North and South China. Shunxin Zhang has started a new PDF project using my extensive conodont database to relate conodont biostratigraphy, biofacies and biogeography to the pattern of eustasy and tectonism that affected northern Laurentia in the early Paleozoic. We are completing some work on undescribed Early Llandovery conodonts from Anticosti Island, Quebec. Guillermo Albanesi completed a PDF in late 1999, primarily continuing work in Ordovician conodonts from Argentina, and returned to a new

research position in Argentina. Jianhua Zhang has started a PDF with initial work on describing the Ordovician conodonts from the Stokes Siltstone, Amadeus Basin, Australia. David Jowett (M.Sc. student) is studying the well preserved Llandovery to lower Ludlow conodont fauna of the Cape Phillips Formation (slope facies), Arctic Islands. Work completed, nearing completion or in progress includes: Ashgill conodonts (Whitland section, South Wales with Annalisa Ferretti), Nd isotope work (with Cindy Wright and Stein Jacobsen, one paper in press, one in preparation), modelling the Ashgill glaciation (recent paper in *Paleoceanography* with Pascale Poussart and Andrew Weaver), Ordovician conodonts of Tarim Basin, China (2 papers in preparation with Zhixin Zhao), evolutionary study of the *Paroistodus originalis* - *P. horridus* transition (with G. Albanesi, in press, *Jour. Paleontology*), Arenig conodonts from the Cow Head Group, Newfoundland (with David Johnston, 2 part issue in *Geologica et Paleontologica*, 1999 and 2000). Separate related projects deal with ichthyoliths: from Llandovery of the Arctic Islands (with Sue Turner) and Triassic of the Canadian Cordillera (with Marji Johns). I will have a year's sabbatical leave from July 2000.

**James E. Barrick.** I continue to work on Silurian and Devonian conodonts from the southern United States and Middle and Upper Pennsylvanian conodonts from North America.

**Jeff Bauer.** I am working on Ordovician conodonts from the Simpson Group in southern Oklahoma. I hope to have a manuscript on Joins/Oil Creek conodonts finished by early 2000.

**Fred H. Behnken.** I am working on Ellenburger to Permian conodonts, with palynology in various consulting projects. I have a client who is interested in the Pennsylvanian of the Permian Basin, USA, preparing a proposal for a combined fusulinid, conodont and palynomorph study.

**Zdzislaw Belka.** I am currently working on Late Devonian conodonts from the eastern Anti-Atlas, Morocco. This study focuses on high-resolution quantitative biostratigraphy and on the geochemistry of the ancient seawater. I am also involved in work (with B. Kaufmann, R. Mawson & J. Talent) on graphic correlation of the Middle Devonian sections of Australia. Other projects include studies of Devonian and Carboniferous conodonts from Iran and CAI studies in Devonian rocks of southern Algeria.

**El Mostafa Benfrika.** I am working on Silurian and Devonian conodonts from Moroccan Meseta (stratigraphy and CAI).

**Stig M. Bergström.** I am actively working on Cambrian through Lower Silurian conodonts from several parts of the world, especially North America, Scandinavia, and China.

**A. Z. Bikbaev.** I am working on the Silurian and Devonian of the Urals, undertaking research on the conodonts, lithology, facies and biostratigraphy.

**Iliana A. Boncheva.** I continue to work on Devonian and Carboniferous conodonts in connection with biostratigraphy, palaeoecology and correlations between the different tectonic units in Bulgaria, and have started to apply CAI method to my studies.

**Antanas Brazauskas.** I will return to active work on Silurian conodonts in the coming year.

**James O. Brown.** I am still working on my PhD concerning the Mahantango and Tully formations (Givetian) of Pennsylvania and New York. I have found an unusual pyritized microfauna ("shelly fauna") that includes the enigmatic *Jinonicella*.

**Lewis M. Brown.** I am continuing work on Pennsylvanian conodonts from Illinois Basin, Kansas, and Oklahoma, with Carl Rexroad; from New Mexico with Carl Rexroad and Glen Merrill; and from Spain with Carl Rexroad and Carlos Mendez Fernandez.

**Kiril J. Budurov.** I am continuing investigations on the evolution of Triassic conodonts. I also continue to work on reconstruction of apparatuses, as well as the ecological preferences of Triassic genera. Together with Lyudmila Petrunova I am working on Triassic conodont taxonomy and biostratigraphy in Bulgaria.

**Pierre Bultynck.** I am working on Lower and Middle Devonian and Frasnian conodonts from Belgium and Southern Morocco. In collaboration with Graciela N. Sarmiento I am involved in the study of an Ordovician-Silurian-Lower Devonian conodont fauna from the Safi area (Morocco) and on Ordovician conodonts from the Central Pontides (Turkey). S. Gouwy and P. Bultynck finished a manuscript on Frasnian conodont biostratigraphy of the Ardennes based on the graphic correlation method.

**Galina I. Buryi.** The systematic position of the euconodont animal is the most important aspect of my working activity.

**Senol Capkinoglu.** I am actively working on Late Devonian Conodonts from Northwestern Turkey.

**Stephen Carey.** Theresa Winchester-Seeto (Macquarie University) and I have a paper in press on an assemblage of chitinozoans and conodonts from the Lower Devonian of Point Hibbs, Tasmania. This is part of a memoir of the Western Australian Museum, edited by John Talent.

**David L. Clark.** I retired from the University of Wisconsin in June, sold my house in Madison, and have moved to Santa Rosa, CA. While the more equitable climate and proximity to the ocean will occupy much of my newly discovered free time, I hope to complete several conodont-related projects (Nd in Ordovician conodonts, California Triassic conodonts, etc.) with Ray Ethington and John Repetski, as well as winding up a couple of Arctic Ocean (non-conodont) studies.

**Simon Conway Morris.** I maintain my interest in the early evolution of chordates, including conodonts.

**Carlo Corradini.** Last year I spent a lot of time in the preparation of the ECOS VII volume; however, I'm still working on the Silurian, Devonian and Lowermost Carboniferous of the Mediterranean Area. Two papers have been published with E. Serpagli: one on a Silurian conodont zonation, mainly based on Sardinian material, but applicable everywhere; the second on the revision of the *Kockelella* group, from top Homerian to mid Ludfordian, and its evolution. A biostratigraphical study of the Devonian of Sardinia is in progress and a paper on Late Devonian-Early Carboniferous conodonts is in preparation. Other research topics are the Silurian-Lower Devonian of the Italian side of the Carnic Alps and the Famennian of Morocco.

**Jed Day.** During 1999-2000 I have continued work on a number of projects focused on the conodont-brachiopod biostratigraphy, sequence stratigraphy, magnetostratigraphy, and stable isotope chemostratigraphy of late Eifelian-early Famennian tropical and subtropical carbonate platform successions in central and western North America.

*Alberta-B.C.* Ongoing work in Alberta and British Columbia is focused on development of integrated brachiopod-conodont sequences, high-resolution sequence and cyclostratigraphy, and magnetic susceptibility records through the entire late Givetian (Slave Point Fm.) to early Famennian (Sassenach Fm.) succession developed in platform margin-to-basin transition and basinal sections in and around the Miette and Ancient Wall reef platforms and Cline Channel and Cripple Creek Platform margin of the Southesk Cairn Complex. Thus far we (myself, Mike Whalen) have approximately 450 brachiopod and conodont samples and 3000 magnetic susceptibility/lithologic sample points. We have good faunal records across the Frasnian-Famennian boundary and the brachiopod faunas record two stepped extinction events in the late (lower Kellwasser Event) and latest Frasnian (Upper Kellwasser Event), respectively. Gil Klapper is assisting us with our Frasnian conodont faunas from our sections with most of my attention focused on the brachiopod faunas. Our work in the outcropping Givetian-early Famennian in the Canadian Rockies is coordinated with ongoing subsurface work by Tom Uyeno and Jack Wendte on high-resolution cyclostratigraphy and conodont biostratigraphy of the Beaverhill Lake Group and younger Frasnian and Famennian Woodbend and Winterburn groups. Whalen and I are reporting the first documented occurrence of Slave Point Formation equivalents preserved beneath the Flume Formation with a moderately diverse late Givetian brachiopod fauna associated with a sparse conodont fauna including *Icriodus subterminus* at the 2000 AAPG meeting in New Orleans.

*Southern Northwest Territories.* I have been working on middle Frasnian-early Famennian platform faunas from the Hay River and upper Mackenzie River areas, based on new sampling in 1997 and the Amoco Collections. Earlier conodont data reported by Klapper and Lane (1985) Klapper (1995), and McLean and Klapper (1998) and new sampling in my sections are intended to fix ranges of associated brachiopod taxa to document shelly fossil faunal dynamics through the middle Frasnian to early Famennian. The late Frasnian near-equatorial faunas of the Trout River, Redknife,



Kaskisa, and Trout River formations in the region also record a major step-down in brachiopod biodiversity associated with the late Frasnian and Frasnian-Famennian extinctions (as above).

**Central United States (Iowa).** Recent work in the Iowa Basin has focused on development of high-resolution stable carbon and oxygen isotopic profiles through the entire late Givetian (Middle varcus Zone) to late Frasnian tied to the Devonian brachiopod and conodont sequences and sea level event framework for the Iowa Basin. Stable isotope work is focused on analysis of brachiopod calcites, micrites, conodont apatites, and associated fish apatites. Sampling was completed in 1999 with Michael Joachimski and Robert Van Geldern (Univ. Erlangen) in both core and quarry localities across eastern and central Iowa. Continuous core coverage through the entire Cedar Valley Group (late Givetian-early Frasnian) provides continuous conodont and brachiopod sample coverage. We hope to present initial results of our analysis of this very interesting data in 2000-2001 in a special volume of PPP. Additional detailed work will continue this year on the middle-inner shelf facies transition sections in eastern Iowa to document more faunal records of the Taghanic biogeographic bioevents associated with sea level fluctuations in the late Givetian interval of Devonian T-R cycle IIa of Johnson et al. (1985).

**Appalachian Basin.** Jeff Over and I are nearing completion on a paper on the conodont-brachiopod biostratigraphy across the Frasnian-Famennian boundary in the Hanover Shale of western New York. Jeff has done his usual superb job on the conodonts, and I am cranking away on the early Famennian brachiopod fauna just above the F-F boundary.

**Ding Hui.** I am continuing to work on Carboniferous-Permian conodonts of North China and studying Westphalian holothurian sclerites in Shanxi.

**Dong Xiping.** I am working on Cambrian and lowermost Ordovician conodonts from Hunan, South China, and on Cambrian, Lower Ordovician and Carboniferous conodonts from Liaohu Basin, Northeast China.

**Philip Donoghue.** 1999 was a crazy, crazy year: I left the University of Birmingham at the end of 1998 because of the expiry of my fellowship, and subsequently cluttered up space kindly provided by Dick Aldridge at the University of Leicester. I secured a research fellowship in February to undertake research at Leicester, but before I could take it up I was offered a lectureship back at the University of Birmingham! I finally moved back to Birmingham in August, with fellowship in tow, thereby allowing me to escape teaching until 2002! Ivan Sansom and Paul Smith are somewhat bemused. Anyway, I am currently embroiled in analysing the intrarelationships of conodonts using cladistics, after a long spell working on conodont interrelationships in collaboration with Peter Forey (NHM, London) and Dick Aldridge (Leicester); a paper on the latter has been accepted for publication in *Biological Reviews* and is due out in February. Other conodont-related research projects include a never-ending search for the basis of homology in conodonts (with Mark Purnell, Leicester), phylogenetic trends in conodont histology and morphogenesis, and the significance of conodonts to our

understanding of how the vertebrate skeletal system evolved. A manuscript on conodont histochemistry should be completed by the end of the year.

**Roland Dreesen.** I am no longer actively involved in conodont research but I hope to come back soon to biostratigraphy, paleoecology and sequence-stratigraphy of Late Devonian-Early Carboniferous strata in Belgium.

**Daniel Drygant.** I am studying Devonian conodonts from Western Ukraine and have a manuscript in preparation on Devonian conodonts of Volhyn-Podolian border of East-European Platform.

**Svetlana V. Dubinina.** I am actively working on Early Ordovician - Early Silurian conodonts from cherts of the South Urals and on Late Cambrian -Ordovician conodonts from different facies of the Russian Platform and Kazakhstan.

**Julie A. Dumoulin.** Although new to the list of the Pander Society, I have been an ardent and faithful collector and user of conodonts since 1982. I have published at least 15 papers on the Palaeozoic geology, stratigraphy and palaeontology (chiefly conodonts) of Alaska with Anita Harris and the work continues. I am particularly interested in using conodonts for Palaeozoic circum-Arctic reconstructions.

**Michiel Duser.** I am working on regional stratigraphy and subsurface mapping in northern Belgium. No current research on conodonts.

**Jerzy Dzik.** I am close to completing a paper on the evolution of conodont apparatuses at the Frasnian-Famennian boundary. Works on the Arenig conodonts from the Holy Cross Mountains, Poland, and from the Ashgill of Podolia, Ukraine, are less advanced.

**Randy Elder.** I have done some research on Pennsylvanian-Permian conodonts from the Minnelusa Formation of western South Dakota, in association with the Paleozoic sharks *Petrodus*, *Listracanthus*, *Cladodus*, and others. The predominant form is *Idiognathodus*, almost certainly heated by nearby Tertiary igneous intrusives.

**R. L. Ethington.** I am continuing my work on Lower and lower Middle Ordovician conodonts of central and western United States. I shall retire from active teaching at the University of Missouri-Columbia effective August 31 but will continue with research already under way (and some projects only just germinated).

**Annalisa Ferretti.** Work continues on Late Ordovician conodonts, mostly from southern Europe. A global report (with E. Serpagli) on conodont faunas from southern Sardinia and their biostratigraphic and palaeogeographic significance is published in the ECOS VII volume.

**Barry Fordham.** I continue to work on Ordovician - Lower Carboniferous conodonts of Queensland, Australia.

**Terry Furey-Greig.** I am presently finishing a PhD loosely titled "Time and rock correlations across the Peel Fault" (in eastern New South Wales) that has developed into a series of studies of Ordovician (and a Silurian) conodont faunas from several formations in the forearc basin (Tamworth Belt) and accretionary complex (Tablelands Complex) on the west and east of the Peel Fault respectively. To date, all faunas have come from limestones, though I am persisting with attempts to recover conodonts from siliceous rocks. I have recovered inarticulate brachiopods, ostracods and scolecodonts as by-products. A new Late Ordovician genus was discovered simultaneously with John Pickett (his material from the Lachlan Fold Belt in central New South Wales).

**Susana Garcia-Lopez.** I am working on conodonts from the Silurian to lower Carboniferous, mainly focusing on biostratigraphy and biofacies topics. I continue active projects dealing with CAI research in the Cantabrian Zone and Pyrenees (NW and NE of Spain), too. I expect to be busy preparing for ECOS VIII and learning the English language.

**Hossein Gholamalian.** I am working on Early Frasnian conodonts and microscopic fish remains of Esfahan, central Iran. I will write a joint paper on these materials for the IGCP421 Sydney 2000 meeting with Susan Turner and Mehdi Yazdi.

**Yakut Goncuoglu.** I am actively working on Lower Palaeozoic conodonts from little known successions of the Tauride-Anatolide Platform.

**Eric Groessens.** I am still interested in Upper-Devonian and Lower Carboniferous Conodonts of Belgium and China.

**Vachik Hairapetian** I have finished work on the Late Devonian (Late Frasnian to Uppermost Famennian) conodonts of Dalmeh section, northeastern Ardekan, Central Iran and have continued a study of the Famennian vertebrates from this section. A joint paper (with John A. Long) is in press on the Middle Frasnian fish-remains from Chahriseh area, Iran (*Records of Western Australian Museum, IGCP 421 Volume*). Additionally, I continue to work on the Devonian vertebrate biostratigraphy of Central Iran (with Mehdi Yazdi and John A. Long).

**Jack C. Hall.** I am still working (slowly) on Ordovician conodonts from the southern Appalachians. As director of the Environmental Studies Program at UNCW, research time is limited and work is slow. Currently, I have a small project on the biostratigraphy of Upper Ordovician strata in central Pennsylvania and continue to try to find the Ordovician/Silurian boundary in Virginia-Tennessee.

**Anita G. Harris.** I am working chiefly on most aspects of Ordovician through Early Pennsylvanian conodonts in Alaska, the western United States, and Mexico.

**Charles M. Henderson.** I continue my sequence biostratigraphic research on Upper Paleozoic to Triassic

strata of western and arctic Canada. As director of the Applied Stratigraphy Research Group at the University of Calgary I am focussing most of my current effort on the Pennsylvanian to Middle Triassic in the subsurface and surface section of western Alberta and northeastern British Columbia with the help of two research associates and six graduate students. A new area of research involves collaborative research with Shilong Mei (China University of Geosciences, Beijing) on the Pennsylvanian and Permian conodont succession of southern China. This research is focussing on four topics: 1. refined biozonation, 2. extent of provincialism, 3. the development of geographic clines, and 4. how to process 1500 kg of rocks shipped from China. During 1999, I also chaired the XIV International Congress on Carboniferous and Permian (August 17-21) and co-organized with Godfrey Nowlan the 1999 Pander Society meeting held in association with ICCP.

**Francis Hirsch.** I am on sabbatical leave from July 1999 - January 2000 at the University of Tokushima, Japan. Together with Dr. Keisuke Ishida, I am actively working on Middle and Upper Triassic conodonts.

**Hisaharu Igo.** I am working on Upper Carboniferous and Lower Permian conodonts from Kanosan Limestone, Kanto Massif, Central Japan.

**Hisayoshi Igo.** I am working on Triassic conodonts from southern Thailand and Devonian to Carboniferous conodonts from central Japan.

**Steve E.B. Irwin.** Amongst my other activities I maintain my interest in Late Devonian and Early Carboniferous conodonts. I continue to manage the operations of the micropaleontology laboratory at Geological Survey of Canada's Vancouver office.

**Keisuke Ishida.** I am working on Triassic conodonts from SW Japan in collaboration with Francis Hirsch. I am also interested in the Upper Palaeozoic materials from the melanges of SW Japan.

**Yukio Isozaki.** I am currently working on the Permo-Triassic mass extinction and its cause, using conodonts, fusulinids, ammonoids, etc., in South China and Japan.

**K. S. Ivanov.** My interests are in the Middle Paleozoic history of the Urals, the geotectonic and geodynamic history of the Urals, and in Silurian and Devonian conodonts and stratigraphy.

**Nadya G. Izokh.** My conodont studies embrace a wide stratigraphical interval and geography from the Middle Ordovician of the Western Sayan through Silurian of Tuva and Devonian of Western Siberian Plain to Lower Carboniferous of the Kuznetsk Basin. I have discovered for the first time Llanvirnian conodonts in the key Western Sayanian section as well as early Viséan conodonts in the Kuznetsk Basin.

**Lennart Jeppsson.** I am actively working and publishing on Silurian conodonts, extinction events and related matters, and hope to continue doing that for many years to come. In addition, two papers with R. Anehus and D. Fredholm on extraction methods were

published during 1999. Next in line are papers on the 'mid' Homeric Mulde Event, the conodont zonation in that interval, and a conodont-based revision of the *O. s. rhenana* zone ('mid' Sheinwoodian) on Gotland. Note that my additional address will be the best place to send reprints and letters.

**David I. Johnston.** I am still working on final submission/preparation of manuscripts based on thesis work on Early to Middle Ordovician (Arenig) conodonts from western Newfoundland, Canada and on Late Devonian (Famennian) conodonts from Western Canada.

**Gareth Ll. Jones.** I am actively working on Dinantian conodonts from Ireland, mostly in a commercial biostratigraphic way.

**Jiri Kalvoda.** I am actively working in Devonian and Lower Carboniferous conodont biostratigraphy.

**Elena Kharitonova.** I am actively working on Upper Devonian conodonts of the Timan-Pechora oil-bearing province.

**Ali Murat Kilic.** I'm actively working on Triassic Conodonts from Kocaeli Peninsula with Prof. Onder and Prof. Gedik for my PhD thesis.

**William Kirchgasser.** A paper with Gil Klapper on the Frasnian (Lower Upper Devonian) conodont sequence of New York, planned for the *Journal of Paleontology*, is in progress. Work is continuing on tracing cryptic occurrences of reworked ichthyoliths and conodonts typical of the North Evans Limestone (Conodont bed, upper Givetian-lower Frasnian) along bedding surfaces within the younger Genundewa Limestone (lower Frasnian) in western and west-central New York.

**Gilbert Klapper.** I am continuing research on Upper Devonian, Frasnian and Famennian conodonts.

**Mark Kleffner.** I am finally completing the latest revision of a conodont-, graptolite-, and now also chitinozoan-based Silurian chronostratigraphy (with James Barrick), and preparing a manuscript based on it that I hope will be ready to submit for publication by summer of 2000. I am also trying to complete a conodont biostratigraphy of the upper Lower and Upper Silurian of the northern Indiana subsurface (with Carl Rexroad). Lastly, I am working on a study of the nature of the Noland/Dayton contacts with the subjacent Brassfield and suprajacent Estill/Osgood in Ohio. I am attempting to do those projects while trying to get up and running in my new lab facilities in the new science building I moved into on my campus during 1999.

**Tatyana Vasilievna Klets.** I am actively working on Permian and Triassic of northeast Asia.

**Toshio Koike.** I continue work on the reconstruction of apparatuses of Triassic Gondolellidae and Ellisonidae in Japan.

**Tea Kolar-Jurkovsek.** I am concerned with the biostratigraphy and taxonomy of Triassic conodonts of Slovenia and Croatia.

**Sandor Kovacs.** My interest on Triassic conodonts and conodont metamorphism is maintained.

**Heinz W. Kozur.** I am actively working on Cambrian to Carboniferous conodonts from Turkey and on Permian-Triassic conodonts world-wide.

**Andrea Krumhardt.** I have collected yet more conodont samples from the eastern Brooks Range this past summer in hopes of finding cones from the Late Mississippian Alapah Limestone that weren't ball-milled into little nubbins. I am apparently a glutton for disappointment. The rest of my time is spent on Quaternary pollen from Alaska, Mongolia, and Easter Island.

**Jeff Kuglitsch.** I am actively working on Silurian (Aeronian) conodonts and ostracodes from the Michigan Basin area.

**Lai Xulong.** Although I have been involved in the study of ancient DNA, an exciting and challenging field, since 1997, I am still actively working on Permian-Triassic conodonts from South China. At the end of October 1999, I started a 6-months visit to the Department of Geology, University of Leicester. I am mainly working on Permian-Triassic conodont palaeoecology and functional morphology with Professor Aldridge and other colleagues in Leicester during my stay in the UK.

**Lance L. Lambert.** I am (slowly) continuing to clear my extended backlog of Carboniferous and Permian projects, emphasizing the North American Middle Pennsylvanian and Middle Permian.

**W. Britt Leatham.** I am continuing biostratigraphic investigations with undergraduate students on conodont faunas of the middle Ordovician through middle Devonian, Mississippian, and lower Triassic of the western USA, focusing primarily on localities in eastern California and southern Nevada.

**Oliver Lehnert.** I am continuing my main project on Cambro-Ordovician conodonts from the forgotten dolomites of the southwestern Great Basin. There, I am concentrating on a biostratigraphic framework for the sequence stratigraphy in the Ordovician Pogonip Group and Eureka Quartzite of southern Nevada and eastern California. Recently I started working on conodonts from glacial erratics in northern Germany, on other microfossils in residues from different countries together with several colleagues and friends, and I am still interested in working on Cambro-Ordovician material from South America. Last summer I participated in a joint project of the German "Geologische Bundesanstalt" and the Canadian Geological Survey to study the composition of Tertiary conglomerates (with pebbles of mainly Cambro-Silurian ages) on Ellesmere Island (Canadian Arctic). For basic information Upper Cambrian through Silurian sections in the "hinterland"

have been sampled. Godfrey Nowlan and I will work together on the corresponding conodont faunas this year.

**Stephen A. Leslie.** I am in the process of describing the conodont fauna of the Middle Ordovician Joachim Dolomite from northern Arkansas. An unexpected occurrence of a new species of *Cahabagnathus* in the Joachim fauna brought about the opportunity to collaborate with Oliver Lehnert. Oli also found a new species of *Cahabagnathus* in interbeds of dolostone and limestone in the Eureka Quartzite in Nevada. The distribution of cahabagnathids suggests a relationship between sea-level changes in the Ordovician and conodont speciation. We discussed this in our short paper at the International Symposium on the Ordovician System in Prague last year, and plan to continue this study in more detail. I spent much of 1999 collecting and processing samples from Joachim Dolomite, Plattin Limestone, Kimmswick Limestone, Fernvale Limestone, and the interval between the Upper Ordovician Fernvale Limestone and the Lower Mississippian Boone/St. Joe, which includes the Cason Shale, in north-central Arkansas. I recently began working with Bill Craig and the faunas that he collected in northern Arkansas to supplement my collections. My study of the Middle and Upper Ordovician rocks of northern Arkansas is the start of a long-term project to use conodont graphic correlation and sequence stratigraphy to investigate the Ordovician tectonic history of the Ozark Dome.

**Anita Löfgren.** I have finished two manuscripts dealing with upper Arenig conodonts and sections, mainly from Öland, and will continue work on biostratigraphy in the upper Arenig and lower Llanvirn in Sweden, as well as cooperation with Viire Viira on the Mäekalda section in Estonia. Taxonomic work is currently focused on *Drepanoistodus? venustus* and continued morphometric studies of early Arenig taxa together with Tania Tolmacheva.

**Friedrich W. Luppold.** I am actively working on Devonian, Carboniferous and Triassic conodonts: Devonian conodonts from the Harz Mountains, Upper Carboniferous conodonts with fusulinids in the Carnic Alps (with Holger Forke) and Triassic conodonts from the German basin.

**Peep Männik** I am working on the evolution, ecology and taxonomy of Ordovician and Silurian conodonts from Baltic, Arctic regions and Siberia, and on conodont-based high-resolution stratigraphy. Joint studies on the distribution of conodonts, graptolites (with Dr. D. Loydell from Portsmouth, U. K.) and chitinozoans (with Dr. V. Nestor from Tallinn, Estonia) are ongoing.

**Sara Marcus.** I am mainly interested in Devonian-Permian conodonts. I worked at the USGS in Reston with Dr Anita Harris for almost two years, and am very interested in keeping up with conodont research. I am finishing a PhD on microcrinoids and have conodonts in many of my samples. I would like to continue working with conodonts post-PhD, as they are much more useful biostratigraphically than microcrinoids!

**Richard T. Marshall.** I am still working on Pennsylvanian conodonts of Kansas and Missouri; this is a continued personal interest from undergraduate work at Univ. of Kansas.

**Adelaide Mastandrea.** I am actively working on Late Norian to Rhaetian conodonts from Calabria (Southern Italy) and I continue to work on Ladinian/Carnian conodont biostratigraphy from the Dolomites.

**Ruth Mawson and John Talent.** We continue work on several mid-Palaeozoic projects. Papers now available include (a) Tournaisian carbonates in the Ruxton Formation, north Queensland, (b) Ordovician, Early Devonian and Late Devonian-earliest Carboniferous conodonts from the Chitral region of Pakistan (with Peter Molloy, Pat Conaghan and colleagues from the University of Milan), (c) conodonts from allochthonous carbonates of the western flank of the Hill End Trough. Publication of a review of Devonian alignments for eastern Australia has been promised for early 2000. Conodont chronology of the Silurian of eastern Australia has been used as the basis for re-assessment of the Silurian of Australasia and the Indian subcontinent. Activities and publications emanating from meetings of IGCP 421 (Joint Leader John Talent) have been a prime focus of other research.

**Sandy McCracken.** I've just submitted a small paper with co-authors Derek Armstrong (Ontario Geological Survey) and Tom Bolton on Ordovician-Devonian conodonts. These were found in xenoliths from kimberlite pipes in Ontario and Quebec. A multiauthored GSC Bulletin on Baffin Island paleontology and geology is in the typesetting stage. I continue to do service work on Ordovician, Silurian and Devonian conodonts from Canada.

**Mei Shilong.** I am actively working on Permian conodonts from South China and Canada in cooperation with Charles M. Henderson. I am currently visiting the University of Calgary.

**Sergej V Melnikov.** I continue to work on Ordovician and Silurian conodonts from the Timan-North Urals region.

**L. I. Melnikova.** I continue to work on Devonian conodonts from the Timan-North Urals region.

**Carlos A. Mendez.** I am investigating Upper Carboniferous conodonts in the Cantabrian Mountains (North Spain) and beginning to work on Serpukhovian conodonts of the same area. Work on the biostratigraphy of Upper Moscovian-Lower Kasimovian strata in the region has now been extended to new sections. A project on Pennsylvanian conodonts with Carl Rexroad and Lew Brown continues, and I am collaborating in the preparation of ECOS VIII.

**Glen Merrill.** I'm actively working on Pennsylvanian conodonts from the Appalachian Basin largely to solve stratigraphic problems there and working with Carl Rexroad and Lew Brown on Illinois Basin Pennsylvanian

faunas. After some hiatus work on *Gondolella* and *Diplognathodus* with Peter von Bitter is moving again.

**Ian Metcalfe.** I am continuing to work on Devonian, Carboniferous, Permian and Triassic conodonts from China, Southeast Asia and Australia. Current work centres on conodonts from the Permian-Triassic boundary in China, and papers on the taxonomy and evolution of the genera *Hindeodus* and *Isarcicella* are currently under preparation with Bob Nicoll.

**Ron Metzger.** I am slowly finishing two projects: the first a biostratigraphic work with Brian Witzke on Silurian conodonts collected in eastern Iowa; the second on Givetian conodont multielement taxonomy from collections made in eastern Iowa.

**James F. Miller.** Currently I am working on Upper Cambrian and Early Ordovician conodonts from Utah, Colorado, Iowa, Minnesota, Wisconsin, and Texas. Projects with several other specialists deal with conodont taxonomy and biostratigraphy, as well as sequence stratigraphy, carbon-isotope stratigraphy, and associated trilobites, graptolites, phosphatic brachiopods, and phosphatic problematica.

**Jared R. Morrow.** I am continuing to work with Charles Sandberg on a conodont-based study of the distal, offshore effects of the early Late Devonian Alamo impact event, south-central Nevada. I have also assisted Charles Sandberg and Willi Ziegler on a conodont-biostratigraphic study comparing the Alamo megabreccia with the early Late Devonian Amonau breccia, west-central Germany.

**Hans Arne Nakrem.** I am still working on Triassic and Permian material from Svalbard, and also some core material from the Barents Shelf. Office duties slow down the progress, but results are to be published!

**Katarzyna Narkiewicz.** I am actively working on Middle Devonian conodonts from the Lublin area (SE Poland) and Triassic conodonts from the Polish Lowlands. I also continue CAI studies of the Middle Devonian and Triassic.

**Tamara Nemyrovska.** I am actively working on the biostratigraphy and palaeogeography of the Bashkirian, Moscovian and Kasimovian conodonts of the Donets Basin, Ukraine, as well as the Viséan, mid-Carboniferous boundary and the Moscovian/Kasimovian boundary conodonts of Spain (Palencia). I continue my research with Dieter Meischner, Willi Ziegler and Marie-France Perret on the *Gnathodus bilineatus* group and *Lochriea*, and with Rich Lane on the revision of the *Declinognathodus noduliferus* group. Last August and September I studied the Pennsylvanian conodonts of the Midcontinent with Jim Barrick, Phil Heckel and Darwin Boardman. This was very important and productive work which gave us some new ideas about the evolution of conodonts during the Pennsylvanian in Eurasia and North America.

**Bob Nicoll.** I can report that there is life after AGSO. In mid 1999, AGSO was forced by financial constraints to effectively terminate its Timescale Program and the last

of its working paleontologists. I am now a visiting fellow in the Geology Department of the Australian National University, Canberra. However, I am doing most of my research from home. I am working with Ian Metcalfe on Permian-Triassic boundary faunas from China. I am also trying to clean up some Triassic faunas from Australia. I have some Silurian material from Western Australia that needs work, and there's always all that Ordovician material waiting.

**Alda Nicora.** I am actively working on the Permo-Triassic succession of northern Italy, on Anisian-Norian conodont biostratigraphy of sequences from Lombardy, Dolomites (North Italy) and Sicily (southern Italy), and on the Permian conodont biostratigraphy of Oman.

**Rodney D. Norby.** I am still working on middle Mississippian conodonts from the Illinois Basin area as a small part of an industrial minerals study, on the upper Mississippian conodont *Lochriea* with Peter von Bitter, and with Mark Kleffner, Don Mikulic and Joanne Kluessendorf on Silurian conodonts of Wisconsin and Illinois.

**Godfrey S. Nowlan.** I am currently working on: 1, Cambrian and Early Ordovician conodonts from the subsurface of the Western Canada Sedimentary Basin and Williston Basin; 2, As Secretary of the International Working Group on the Cambrian - Ordovician boundary, completion of the necessary reports for the International Commission on Stratigraphy and the International Union of Geological Sciences (with Roger Cooper); 3, Late Ordovician and Silurian stratigraphy and biostratigraphy of the Williston and Hudson Bay basins (with F. Haidl, G. Young, R. Elias and J. Jin); 4, Lower Paleozoic conodonts from the Appalachian region of Canada; 5, Ordovician and Silurian conodont biostratigraphy in support of a major project on eastern Ellesmere Island, Canadian Arctic Islands; 6, Cambrian and Ordovician biostratigraphy of the Laurentian margin in support of a major project in Québec, Canada; 7, Recently completed a manuscript with Brian Norford and Denis Jackson on the Ordovician graptolite and conodont assemblages from the Glenogle Formation, British Columbia, Canada.

**Omer Faruk Noyan.** I completed my PhD in 1994 on "Stratigraphy and Morphogenesis of Triassic Platform Conodonts in Greece" at the University Pierre-et-Marie Curie in Paris, at the Department of Sedimentary Geology (Laboratory of Stratigraphy). At present I work on Triassic conodonts of the Karaburun peninsula in the western Anatolia region (Izmir, Turkey).

**Mike Orchard.** I continue my primary research on Triassic conodont biochronology and multielement taxonomy. Although largely focused on northeast British Columbia, as Chairman-elect of the Triassic Subcommittee I am drawn ever deeper into far-flung successions. This complements on-going 'suspect' terrane studies in which Carboniferous, Permian, and Triassic conodont faunas are often unlike American cratonal counterparts. A recently completed paper on conodonts from the accreted Cache Creek terrane emphasizes that point.

**Jeffrey Over.** I continue to work on conodonts and stratigraphy in the Upper Devonian black shale facies of North America and related strata. Several endemic taxa are currently under investigation that indicate periods of isolation in the Appalachian Basin. Zircons have been processed from the Belpre Ash suite in the middle Frasnian, and the Center Hill Ash that is close to the Frasnian-Famennian boundary. Both ashes have excellent conodont zone control. These have been sent to S. Bowring at MIT for dating. A restudy of the specimens originally described by C.L. Cooper (1935), which include *Palmatolepis regularis* and *Palmatolepis simplex*, and of the collections of Hass from the Chattanooga Shale are currently underway.

**Susan Owen.** I remain interested in conodonts.

**Soo-In Park.** I am actively working on Middle Carboniferous and Lower Permian conodonts of South Korea

**Rachel Paull.** I still work slowly on Early Triassic conodont biostratigraphy and depositional history in the Rocky Mountains, eastern Great Basin, and Colorado Plateau of the western United States. Processed samples from northeastern Nevada remain the current project.

**Pei Fang.** I am working on a regional geological survey on the scale of 1:50000 in Western Henan, incorporating Ordovician conodont studies.

**Ian Percival.** My work on conodonts in the past year has been characterised by an increasing emphasis on finding and identifying isolated elements in thick-sections of cherts from central New South Wales. This has resulted in determination of more precise (and in some instances, markedly revised) ages for the Girilambone, Wagga and Jindalee Groups and their correlatives. Darriwilian (late Middle Ordovician) and late Ordovician conodonts are sometimes very prolific in these cherts. Several papers were published during the year illustrating Ordovician conodonts from this region, obtained through more conventional acid digestion of carbonates. Collaborative studies on the taxonomy of these assemblages continue with Yongyi Zhen and Barry Webby of Macquarie University.

**Marie-France Perret.** I am working on the conodont biostratigraphy of the Carboniferous of the Pyrenees. I also work with Marie Legrand on Carboniferous conodonts from Taoudeni Basin (Niger) and with Tamara Nemyrovskaya on a revision of *Lochreia*. I am also involved in the organization of ECOS VIII.

**Maria Cristina Perri.** I continue working on Devonian-Lower Carboniferous and Permian-Triassic conodonts in the Southern Alps. My research is focused on conodont biostratigraphy and biofacies analysis.

**Lyudmila Petrunova.** I am continuing my work on conodont taxonomy and biostratigraphy of the Triassic in Bulgaria, complementing the conodont data with palynology.

**Matthias Piecha.** I am working on Devonian and Carboniferous conodonts from the Rhenish Massif, especially on low temperature (CAI 1-2) Middle and Late Devonian conodonts from the Paffrath Syncline (Bergisches Land). Furthermore, I am interested in conodont biofacies and hiatuses at the Frasnian/Famennian boundary on the shelf area of the Bergisches Land. In January 2000 a research bore will be drilled through the Late Devonian sediments of the Paffrath Syncline, organized by the Geological Survey NRW (Krefeld). The Late Devonian of the Paffrath Syncline ends within the Dasbergian (Middle *expansa*-Zone). No younger Palaeozoic sediments have been recognised there to date and many parts of the Famennian and Frasnian beds are only poorly known or totally unknown. The facies of marly mudstones and a few limestones differs clearly from other regions of the Rhenish Massif and, therefore, a further important point of investigation is the development of the Kellwasser Event at the Frasnian/Famennian boundary. Because of the low palaeotemperature (CAI 1-2) of the fossiliferous beds faunas and floras are very well preserved. The depth of the borehole for the whole Late Devonian is expected at about 600 meters.

**Jozef Pevny.** I am actively working on Anisian to Norian conodonts in pelagic facies of central Slovakia.

**Pablo Plasencia-Camps.** I've just started a Master's Thesis on Triassic conodonts from Spain. Ana Marquez-Aliaga and Nacho Valenzuela-Rios are my research directors, with additional supervision from Francis Hirsch. I'm a biologist and intend to study biological aspects of conodonts. Also I'm working on a revision of the Triassic genus *Pseudofurnishius*.

**Monica Pondrelli.** I am continuing CAI investigations of the Upper Ordovician through Early Carboniferous succession of the Carnic Alps (Austria and Italy).

**Forrest G. (Barney) Poole.** I am actively working on Upper Ordovician-Upper Mississippian carbonate-shelf stratigraphy in Sonora, Mexico, with Ricardo Amaya-Martinez, William Page, and Anita Harris, utilizing conodont ages determined by Harris. Also, I am actively working on Devonian and Mississippian stratigraphy and sedimentation in the Antler foreland basin of Nevada with Charles Sandberg, utilizing conodont faunas and zonation determined by him.

**Mark Purnell.** Somehow in 1999 I managed to obtain a permanent position but my current advanced fellowship does not end until 2003 so I am still focused on research. When not engaged in fishy activities (heterostracan feeding and diversity patterns are proving particularly diverting at the moment) I am still keen to discover more about conodonts. Ongoing projects on the skeletal architecture of *Idioproniodus* (with Peter von Bitter) *Paracordylodus* (with Tania Tolmacheva) and *Phragmodus* (with John Repetski and Steph Barrat) should all be submitted or in press before next year's newsletter. Work also continues on tooth wear patterns and functional morphology (in conodonts and other aquatic vertebrates), conodont trophic diversity, element homology and conodont relationships (with Phil

Donoghue), and matters of Lower Carboniferous taxonomy.

**Anton Ramovs.** I am working on Middle Triassic conodont faunas from the Karavanke Mountains, Slovenia.

**John E. Repetski.** I am still working chiefly on biostratigraphy, CAI, biogeography, and systematics of Cambrian and Ordovician faunas, with attention to faunas of other ages and to some phosphatic problematica when those are encountered. My current projects are related to energy, mineral deposits, and geologic mapping. Most of the work is in the Midcontinent and Appalachians, but some is in the Great Basin, Alaska, Mexico, and elsewhere. New projects include using conodonts to help examine the life cycle of MVT deposits and a search for Cambrian para- and protoconodonts in the US southern Midcontinent. Much of this work is with fellow-Panderers.

**Carl B. Rexroad.** I continue to work with Lew Brown on Upper Carboniferous conodonts from Midcontinent U.S.A. and with Joe Devera on late Lower Carboniferous conodonts in the Illinois Basin. I am also using conodonts to determine a Lower Carboniferous formational boundary that relates to limestone aggregate quality.

**Frederick S. Rogers.** I am continuing to actively work on Middle Devonian conodonts from the Dundee Formation and the Hamilton Group of southwestern Ontario, in collaboration with T. T. Uyeno, J. Wendte, and R. O. Cochran.

**Stephen C. Ruppel.** Along with Lance Lambert, I am starting a new project involving combined conodont, fusulinid, strontium isotope, and sequence stratigraphic study of the Wolfcamp-Leonard section in the Sierra Diablo of West Texas.

**Charles A. Sandberg.** My current interests are Middle to Late Devonian and Mississippian conodont event stratigraphy, extinctions, biofacies, paleoecology, paleobiogeography, and taxonomy. In collaboration with Jared Morrow and Willi Ziegler, I am currently working on conodont evidence for the Alamo Impact Event, the enigmatic Amónau Event, and other Late Devonian Events across the United States and Western Europe. With Barney Poole, I am studying conodonts of the Early Mississippian Joana shelf margin and the Devonian platform-to-basin transitional sequence in Nevada. I have started revising range charts showing most late Middle Devonian through Late Devonian conodont species in collaboration with Willi Ziegler, Roland Dreesen and Jared Morrow.

**Ivan Sansom.** Having recently been appointed as a Lecturer in Birmingham, I'm looking forward to finding time to do research in between teaching. Recent work has concentrated on Cambro-Ordovician microvertebrate faunas from North America (with Paul Smith and Karen Cochrane amongst others); Silurian microvertebrates from China (with Dick Aldridge, Nianzhong Wang and Moya Smith); and Triassic faunas from Chile. Publications are either in press or very close to

submission for all of these areas of research. I'm hoping to gain funding for fieldwork in Chile and Peru to look at the Triassic-Jurassic boundary, and am planning to get to China to resample some important Silurian sections. *Panderodus* is also back on the near horizon.

**Javier Sanz-López.** I am actively working on Silurian and Lower Devonian conodonts from the Iberian Massif and the Pyrenees. Collaboration with the metamorphism team at Oviedo University is continuing, and with Spanish Panderers I am constantly discussing conodont CAI. I am member of the organizing committee for ECOS VIII.

**Graciela N. Sarmiento.** I am actively working on Ordovician and Silurian conodonts from the Iberian Peninsula and Morocco.

**Norman Savage.** I am continuing work, in cooperation with Alexandra Yudina, on Devonian conodonts from the Timan Basin. I am also studying some new faunas from Southeast Alaska.

**Lauret E. Savoy.** I am completing research on Devonian and Mississippian sedimentology and conodont paleontology in the southern Canadian Rocky Mountains of Alberta and British Columbia, and adjacent Montana.

**Kwang-Soo Seo.** I am actively working on Ordovician conodonts from the Baegunsan Syncline Zone in Korea, specifically the Samcheck area, Yongweol area, Pyunchang area, Tanyang area, Munkyeong area etc.

**Enrico Serpagli.** I'm working on upper Cambrian to Lower Devonian material, mostly from North Gondwana. A paper (with Annalisa Ferretti) on Late Ordovician conodont faunas from Sardinia and their biostratigraphic and paleogeographic significance has been published. Two more (with Carlo Corradini) are on Silurian topics: one on the revision of the *Kockelella* group, from top Homerian to mid Ludfordian, and its evolution; the second on a Silurian conodont zonation from top Llandovery to end Pridoli, mainly based on Sardinian material.

**Tom Shaw.** I am still working on Cambro-Ordovician conodonts from the Illinois Basin, albeit slowly.

**Andrew Simpson.** I have recently published on a small fauna from the Early Silurian Quinton Formation in the Broken River region of northern Australia and have submitted a paper on Late Silurian faunas from the Jack Formation at the Broken River Crossing. Work also continues on Ordovician faunas from north Queensland. I maintain an active interest in IGCP421 and planning for the forthcoming AUSCOS Conference later this year.

**Terry Sloan.** I am continuing work on Australian Early Devonian conodonts, having successfully completed my PhD studies at Macquarie University (thesis title "Numerical Taxonomy based on Quantification of Outlines with Special Reference to Early Devonian Conodonts").

**Paul Smith.** Work proceeds apace on a number of Cambro-Ordovician projects, including looking for conodonts in a number of tectonic windows in the nunatak zone of the East Greenland Caledonides, and modelling tectonic overburden in the northernmost part of the orogen using CAI in conjunction with section balancing (with Jan Audun Rasmussen). Work also continues on the histology of Cambrian proto-, para- and euconodonts (with Karen Cochran and Ivan Sansom) and on documenting diverse mid-Ordovician vertebrate faunas from Colorado and Wyoming (with Ivan Sansom).

**Maria P. Snigireva.** My work continues on Silurian and Devonian conodonts of the Urals, together with their facies and biostratigraphy.

**Anne Somerville.** I completed my PhD thesis on "Conodont biostratigraphy and biofacies of Upper Viséan rocks in parts of Ireland" in late 1999.

**Claudia Spalletta.** I am continuing research on Early Devonian to Late Carboniferous conodonts of the Carnic Alps (Southern Alps, Italy), and have started a collaboration with Carlo Corradini on Late Devonian-Early Carboniferous conodonts of Sardinia. We are also involved in the study of Famennian conodonts from the Mrakib section (Morocco).

**Dale Sparling.** I am winding down and have no more conodonts to pick, although I will be reworking Middle Devonian residues (from Ohio) for microvertebrates to send down under to Sue Turner. She and I are making slow progress on "fishy bits" from the Givetian Prout Dolomite. The conodonts from that unit are described in a paper published in the September *Journal of Paleontology*. In retirement I am still putting in time on environmental problems generated by megapolluting agribusiness firms with assistance from state and federal "regulatory" agencies.

**Robert G. Stamm.** I am currently working on biostratigraphic investigations of Pennsylvanian and early Permian conodonts from various sedimentary basins across the United States. Collateral to this work, includes 1) the multi-element associations of four Pennsylvanian species of *Diplognathodus*, 2) the apparatus architecture of a new Permian diplognathodid from fused clusters and 3) the apparatus architecture of *Hindeodus*, also from Permian fused clusters.

**Dieter Stoppel.** I am working on Devonian and Early Carboniferous conodonts in the Northeastern part of the Rhenisches Schiefergebirge (Rhenish Massif).

**Svend Stouge.** I am actively working on several aspects of the Ordovician carbonate sequence of the East-European Platform, in cooperation with several institutions in Northern Europe. The project is financed by the Carlsberg Scientific Foundation. I am also starting a new project in collaboration with the Geological Museum and Geological Institute, both in Copenhagen, on the central East Greenland Cambro-Ordovician carbonate sequence. This work is financed by the Danish Research Council.

**Milan N. Sudar.** Although I was not very active in conodont research in 1999, due to an extremely complicated situation in my country, I am just finishing a paper on Triassic conodont metamorphism, together with S.Kovacs (Hungary), as well as a paper on C3/P1 conodonts and foraminifera from NW Serbia. In 1998 I became the Editor-in-Chief of the oldest geological journal on the Balkan Peninsula: *Annales Géologiques de la Péninsule Balkanique*, and I dedicated quite a lot of time to this job.

**Walter C. Sweet.** I am currently working with Anita Harris and Ray Ethington on a report establishing a conodont-based standard reference section for the Whiterockian Series in North America. A report on latest Ordovician conodont distribution and biostratigraphy in 3 central Nevada sections has been submitted to *Journal of Paleontology* for eventual publication (this is the work I reported on orally in Bologna).

**Andrew Swift.** My chief interests remain in Late Triassic and Late Permian conodonts, but there are plans to begin a small scale Carboniferous project in the Midlands of the UK (with Mark Purnell).

**Hubert Szaniawski.** I am working on middle Cambrian protoconodonts from Georgina Basin, Australia and on proto-, para- and euconodont paleobiology.

**Julie A. Trotter.** Intermittently I continue to research Sr isotopic compositions of conodonts in collaboration with Bob Nicoll, Mike Korsch (CSIRO) and David Whitford (CSIRO).

**Simon Tull.** I retain a passive interest in conodonts and in the Ordovician, although I am now working as a reservoir geologist in parts of the stratigraphic column where conodonts are a bit sparse!

**Tom T. Uyeno.** I am continuing my joint study with Jack Wendte on the Beaverhill Lake Group (late Givetian to early Frasnian) of subsurface Alberta. To date 95 wells have been studied, of which 51 have been sampled for conodonts, some at close intervals. I am also continuing a joint study with Fred Rogers on a sequence of Middle Devonian conodonts from a shaft in southwestern Ontario.

**José Ignacio Valenzuela-Rios.** I'm collaborating with Mike Murphy and Peter Carls aiming at the establishment of marine Early Devonian international correlation. We are working on sections in Spain (Pyrenees, Guadarrama and Celtiberia), Central Nevada and Bohemia.

Peter Carls and I keep working on palaeogeographic interpretation of southwestern Europe during the Lower Devonian. Now, we are mainly focussed on P/E boundary, the *kitabicus* boundary and subdivision of the Emsian; all these topics are directly related to SDS current activities and to IGCP 421. An internal report of 23 pages dealing with the Pragian/Emsian boundary and with subdivisions of the Emsian has been sent to members of the Emsian working group. We want to



further elaborate it, add graphic information (conodonts) and submit these data for publication during this year.

The three of us keep picking residues from several Late Silurian-Early Devonian Bohemian sections that we sampled the last three years. A paper on Spathognathodontidae during this time-span and another on U Topolu section are "in the oven". I have also started studies on correlation between Early Devonian fish remains and conodonts. At the moment these studies are focussed on Celtiberia. Additionally, I collaborate with Spanish and Bulgarian colleagues on Middle Triassic biostratigraphic studies (including conodonts) of Western Tethys Realm. An important issue here is a phylogenetic study of the genus *Pseudofurnishius*. A paper dealing with the latter was presented at the Spanish Paleontological Society annual meeting held in Madrid. A paper concerning Middle Triassic conodonts has been submitted.

Finally, I am engaged in organising the next ECOS VIII to be held in Spain and France in 2002.

**Viive Viira.** I am actively working on Late Silurian and Lower-Middle Ordovician conodonts from Estonia.

**Peter von Bitter.** I'm on a one-year sabbatical and am using my unaccustomed freedom to sit in the beautiful Beaver Valley of Ontario and peer at Lower Carboniferous conodonts from Atlantic Canada.

**Wang Cheng-yuan.** I am actively working on the Permian conodonts from South China and Inner Mongolia, and on the Silurian conodonts from Inner Mongolia, as well as Late Devonian conodonts from Guangxi, China.

**Wang Zhi-hao.** I am working on Ordovician to Triassic conodonts from China.

**Karsten Weddige.** I am working on Lower Devonian conodont apparatuses on bedding-planes and conodont function. Stratigraphical studies continue on the Lower and Middle Devonian of Morocco, Barrandian and in Central Asia (Uzbekistan-Tadjikistan).

**Nathan Aaron Wilke.** I am currently working on the sedimentology and sequence stratigraphy of the Bethany Falls Limestone (Kansas City Group, Missourian Series).

**Tatiana Woroncowa-Marcinowska (T.Vorontzova).** I am working on Upper Devonian and Lower Carboniferous conodonts from Central Kazakhstan.

**Xia Feng-Sheng.** I am actively working on Ordovician conodonts from North China.

**Yao Jianxin.** I am actively working on Permian and Triassic conodonts from South China and Japan.

**Mehdi Yazdi.** A project on the Late Devonian conodont biostratigraphy in the Dalmeh area (NE Ardekan, Central Iran) will be completed by Vachik Hairapetian by the end of 1999. This metamorphosed sequence yielded well-preserved conodont elements and microvertebrate remains of Late Frasnian to Late Famennian age. A joint paper (with Susan Turner) on

Late Devonian and Carboniferous vertebrates from the Shishtu and Sardar Formations of the Shotori Range, Iran, will be published in *Records of Western Australian Museum*, IGCP 421 Volume.

**Evgeny A.Yolkin.** During the last year I have been busy mainly on a stratigraphical survey on the Palaeozoic of the Western Siberian Plain and on a computer analysis of the Pragian brachiopod database from regions of the Asia-Australia hemisphere. Joint conodont studies with Nadya Izokh concern the comparison of evolutionary rates in the Emsian conodont and trilobite lineages. Some Emsian sections of the Gorny Altai have been sampled for conodonts.

**Glenn Zagger.** My interest is in Devonian and Mississippian conodonts, and the relationship of conodonts to black shale events in the Upper Devonian.

**Zhang Jianhua.** I am continuing work on Ordovician conodonts. Since October 1999 I have been working at Victoria with Chris Barnes. Currently I am identifying Ordovician conodonts from the Amadeus Basin in central Australia.

**Zhang Shunxin.** After having worked on Upper Triassic conodonts from California and Oregon in the University of Montana late last year, I am currently working on Silurian and Ordovician conodonts from Anticosti Island and Western Newfoundland, specially focusing on statistics.

**Andrey V. Zhuravlev.** I am working on the Upper Devonian and Lower Carboniferous conodonts from the north of the Russian Platform and the Urals; Permian conodonts from the Trans-Caucasus and Urals. The main fields of interest are biostratigraphy (especially shallow-water conodont zonations), palaeoecology, functional morphology, histology (including micro-reticulation), and CAI.

**Willi Ziegler.** I have continued studies on Devonian and Lower Carboniferous conodonts mainly as listed in last year's report. With C.A. Sandberg I worked on refining and re-adjusting conodont biozonation in the Frasnian (*transitans* to Late *rhenana* zones) section at the famous Martenberg Cliff, Germany. The results were included in our manuscript: Utility of Palamatolepids and Icriodontids in recognizing Upper Devonian Series, Stage and possible substage boundaries (in press).

Progress on cooperation on Uralian Devonian Conodonts and sedimentology, facies and event stratigraphy was discussed with Dr. Maria Snigireva and Colleagues from Ekaterinburg during their visit in Frankfurt this fall. Devonian conodonts from the Middle Urals which have been studied in the past year are very abundant, well preserved and indicate a continuous zonation from Givetian through Middle Frasnian. They help as well at clarifying facies development.

Together with C.A. Sandberg and Jared Morrow work has started on conodont age and nature of the famous earliest Frasnian Tuff-Breccia of Amnau near Marburg. A comparison study with the Alamo Impact Breccia of Nevada is in progress. Cooperation with Igor Bardashev and A. Kim and additional colleagues from both sides on the Devonian and Lower Carboniferous of

Tadjikistan and Uzbekistan was continued through joint field work in Middle Asia last summer.

Teamwork with Senckenberg Devonian specialists on Devonian Stratigraphy and Palaeontology in the Moroccan AntiAtlas contributed to the SDS-Meeting and IGCP 421 in Errachnidia in April and early May.

A study on taxonomy and phylogeny of Viséan and Serpukhovian gnathodids (mainly the large and poorly known *Gnathodus bilineatus*-group) and their role in generating *Declinognathus noduliferus* has started with Tamara Nemyrovska and Rich Lane, supported by the German NSF and Humboldt Foundation.

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