
Pander Society Newsletter



Compiled and edited by P.H. von Bitter and J. Burke

DEPARTMENT OF NATURAL HISTORY (PALAEOBIOLOGY),
ROYAL ONTARIO MUSEUM, TORONTO, ON, CANADA M5S 2C6

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Webmaster Mark Purnell, University of Leicester

Chief Panderer's Remarks**May 30, 2008**

Dear Conodont Colleagues:

When spring finally comes to southern Canada in May of each year, it signals to Joan Burke and me that it is time to get moving on the Pander Society Newsletter, and to get it off to Mark Purnell, so that he can post it on the Leicester University server. This year we have, with your help and despite overactive and irritating ROM Spam filters, been able to assemble the Newsletter earlier than in the last couple of years. I thank you for sending in your news reports and contributions in (mostly) timely fashion; also, I thank Joan & Mark for their ongoing dedication, and for making it possible for all of us to stay current by means of this Newsletter.

A small, but successful Pander Society Conodont Symposium, organized by Jed Day, was held in April 2008 in Evansville, Indiana, in conjunction with a meeting of the North-Central section of GSA. The symposium was notable as being held on the 40th Anniversary of the first full meeting of the Pander Society in Iowa City, Iowa, May 8-11, 1968; the presence in Evansville of four Panderers (Glen Merrill, Jim Miller, Carl Rexroad and me), who were present at the inaugural meeting in Iowa City 40 years ago, was noteworthy. Former Chief Panderer, Carl Rexroad, led a most interesting conodont field trip to several operating coal mines in southern Indiana (see Past Meetings).

I learned via a post card from former Chief Panderer Dick Aldridge (Thank you), that a number of you enjoyed an informal meeting of the Society on/about December 15, 2007, in a pub in Uppsala, Sweden. I dutifully record this meeting, and my impression of the serious nature of the discussions that may, or may not, have taken place there (see Past Meetings).

The second International Conodont Symposium (ICOS 2009), being organized by Charles Henderson in Calgary, Alberta, Canada, for July 12-17, 2009, was strongly endorsed at the business meeting in Evansville. ICOS is going 'international', this being the first time that it (or its parent ECOS) has met outside of Europe. Charles promises to put on an exceptional 'show' of western Canadian hospitality & the conodont meetings will be preceded by the Calgary Stampede (July 3-12, 2009). Both Charles & I invite you to keep the first half of July 2009 open, so that you are able to come and enjoy Calgary, Alberta, Canada (see Future Meetings).

Finally, it was a mile-stone year for me personally, in that I retired from the University of Toronto last fall, after 32 years of service, and from the Royal Ontario Museum the end of January 2008, having just started my 38th year there. The winds of change were blowing hard, and it was time to 'graduate' to the Emeritus stage of my career; I'm enjoying the more flexible hours, although of course the remuneration isn't quite the same. The ROM has generously allowed me to keep my office and (some) of my research facilities, and I consider myself most fortunate.

I wish all of you good health & success in your conodont work.

Peter

Peter von Bitter
'Chief Panderer'

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A Surprise

Pander Society members may be both interested, and surprised, to learn that Christian Pander is alive and well, as a well-known football player in Germany.

From Wikipedia, the free encyclopedia

Christian Pander

Christian Pander (born 28 August 1983 in Münster) is a German footballer who plays for FC Schalke 04. His position is left-back and he is known for his powerful left-foot, thunderous free-kicks and willingness to burst up the left wing.

He scored on his debut for Germany on 22 August 2007, a powerful strike from roughly 25 yards against England. The game ended with Germany winning 2–1.

[edit] External links

Schalke 04 Profile (**German**) **Personal information**

Full name	Christian Pander
Date of birth	August 28, 1983 (age 24)
Place of birth	Münster, Germany
Height	1.86 m (6 ft 1 in)
Playing position	Defender

Club information

Current club	Schalke
Number	24

Senior clubs¹

Years	Club	App (Gls)*
2003–2004	FC Schalke 04 II	31 (2)
2001– <i>present</i>	FC Schalke 04	57 (4)

National team²

2004–2005	Germany U-21	06 (0)
2007–	Germany	02 (1)

¹ Senior club appearances and goals counted for the domestic league only and correct as of May 17, 2008.

² National team caps and goals correct as of 25 November 2007.

* Appearances (Goals)

Linda Wickström, Gilbert Klapper, and indirectly Pilar Navas-Parejo, recently wrote that a Facebook entry for a Pander Society is for a “very informal” “school society”. It is likely a fan-club for Christian Pander (above), who also doubles as a hip-hop artist and rapper with the creative or stage name “Funky Pee”.

40th Anniversary Volume of the Pander Society

To commemorate the 40th anniversary of the founding of the Pander Society in Calgary in 1967, to celebrate the first full meeting of the Society in Iowa City in 1968, and to provide a publication forum for papers presented at North American Pander Society meetings in 2006 (Conodonts in Sequence Stratigraphy, Conodonts in the 21st Century) and 2007 (Mixed Conodont Faunas), as well as for those presented at ICOS 2006, a theme volume on these and other conodont topics is being published as a Bulletin of *Paleontographica Americana*.

In an update of April 24, 2008, Jeff Over reports that the managing editor of *Paleontographica Americana*, the publisher of the Pander Society Pander volume, has informed him that page proofs should be ready this summer. Jeff has stated, with "some confidence", that the volume will be out in 2008.

The Pander Society Medal & The Hinde Medal for Young Conodont Researchers

Please forward your nominations for the Pander Society Medal & The Hinde Medal for Young Conodont Researchers to the Pander Society Medals Committee consisting of John Repetski (chair), Cristina Perri and Cheng-yuan Wang. If one, or both of these medals are to be awarded at ICOS 2009, then the nomination & selection process must be complete about this time next year, so please get in touch with the Committee as soon as possible.

Since an 'actual' Hinde Medal could not be presented to Mark Purnell, the first recipient of that award at ICOS 2006 in Leicester, the Chief Panderer will be doing his best to bring about the design and manufacture of such a medal in time for ICOS 2009. Lennart Jeppsson has very generously offered to assist with the financing of this award, and the Chief Panderer encourages (? begs) others to come forward, so that the costs may be shared equitably.

Thank you

The Pander Society thanks the Department of Natural History, Royal Ontario Museum, for providing the facilities that make the assembly and production of this Newsletter possible; the Society also thanks The University of Leicester for permitting the Newsletter to be distributed from their webserver.

Business Meeting

The Chief Panderer convened and chaired a Pander Society business meeting at Evansville, Indiana, on April 24, 2008, immediately following the Pander Society Conodont Symposium, organized by Jed Day. The presence in Evansville of four Panderers (Glen Merrill, Jim Miller, Carl Rexroad and Peter von Bitter), present at the first full meeting of the Pander Society in Iowa City, Iowa, May 8-11, 1968, was noted. The International Conodont Symposium (ICOS 2009), being organized by Charles Henderson in Calgary, Alberta, Canada, for July 12-17, 2009, was discussed, and it was agreed that ICOS 2009 should be next year's 'official' meeting of the Society, and that participation by all Pander Society members in this international meeting was highly desirable. Bill Furnish's passing, last fall, was noted. (Please see Jed Day under Past Meetings, as well as Gilbert Klapper under Obituaries, regarding Bill's accomplished life). Jim Miller pointed out that a joint meeting of the North-Central and South-Central sections of GSA will be held in Branson, Missouri in 2010, and should the Pander Society decide to meet with these sections of GSA in 2010, then he would be prepared to organize a Pander Society Symposium (see Future Meetings).

Electronic Availability of Conodont Publications:

In this year's Newsletter Bibliography:

Eight publications: (Antoshkina and Königshoff [2008], Brime et al. [2007], Donoghue et al. [2007], Lehrmann et al. [2007], Ramezi et al. [2007], Rudkin et al. [2008], von Bitter et al. [2007] and Young et al. [2007] are available at <http://www.doi.org/> using digital object identifier (doi) codes.

Metcalf and Sone (In Press) is [?will be] available on-line through Science Direct.

Wang et al. (2007) is available at <http://www.ordovician.cn:35>

Schmitz et al., (2007) is available at Nature Geoscience Online

Zhuravlev, A. (2007) is available at <http://hdl.nature.com/10101/npre.2007.659.1>.

The Geological Society America makes abstracts from past GSA meetings available at www.geosociety.org under Past Meetings. Abstracts in this Newsletter were accessed and reproduced in this manner.

Distribution of Conodont Bibliographies

The computer programme EndNote is used to compile the yearly Newsletter bibliography. Thus, if you use EndNote (or similar bibliographic software) you will be able to directly import the annual bibliography into a library file, saving you tedious typing time. Files will be made available via Pander Society website_ (www.conodont.net), complete with instructions for downloading and importing. Starting in 2006, bibliographic files from each of the Pander Society Newsletters will be cumulative, and will (hopefully) be available *ad infinitum*. These bibliographic files are the electronic version of the bibliographies formerly compiled by Samuel Ellison, and others before him.

Because of the sheer volume of conodont publications that you report each year, and because of the diversity of languages in which you publish, relatively few of the publications listed in the annual bibliography can be checked in detail by your editors. Thus, if you submit non-conodont publications, we generally have no way of 'weeding' these out; the control of what ends up in the Conodont Bibliography depends almost solely on the self-control that you, the submitting authors, exercise.

If you are able to, please submit your publications in EndNote compatible format, making the editors' job of assembling the Pander Society Newsletter easier.

PAST MEETINGS

September 2007, Nevada, U.S.A.

The Subcommittee on Devonian Stratigraphy and IGCP 499 - Devonian Land Sea Interaction met in Nevada in September for a week long field trip and three days of technical sessions. The field trip, led by Jared Morrow with contributions from Mike Murphy, Charlie Sandberg, and John Warne, started in Las Vegas and ended in Eureka, NV, with a focus on all things Devonian. Stops ranged from, although not visited in stratigraphic order, the Silurian-Devonian boundary to the Devonian-Carboniferous boundary, with much attention on conodont-bearing strata that included topotype horizons, as well as several beds that yield conodonts in the 1,000s per kilo. Other highlights included the Alamo Breccia, stromatoporoid reefs, the Frasnian-Famennian boundary, and glorious after glorious section under generally sunny skies. There were only two minor disasters on the trip, other than the occasional flat tire and sunburn. The first was the instant mashed potato sandwiches, on white bread, prepared for the vegetarians one day. The second was arriving in Eureka and finding that the hotel had cancelled most of the reservations. People demonstrated much patience and good humor, while the mess was sorted out at the end of a long day, and while sharing what rooms were available - all was good the next day and for the meeting. The technical sessions, held in the Eureka Opera House, built in 1880 and now fully restored, were organized by Jeff Over. There was a

definite conodont-flavor to the field trip and meeting, as 24 of the participants, out of 45 from 13 countries, looked at conodonts, at least occasionally, for pleasure and profit. Ten presentations focused on conodont related topics, and numerous other talks incorporated conodont data. The program and abstracts are available as a pdf at: <http://www.geneseo.edu/CMS/display.php?dpt=frasnian>. Entertainment on successive nights, in addition to talking about conodonts, featured Alan Chamberlain reviewing oil and gas exploration in eastern Nevada, Charlie Sandberg's historic perspective on Great Basin geology, and Billy Rose, a singing cowboy, who played for the banquet. It was also found that Peter Carls and Nacho Valenzuela-Ríos have fine singing voices. All in all, much conodont work was discussed and planned, suggesting that all is well with conodonts in the Devonian.

(submitted by Jeff Over)

December 2007, Uppsala, Sweden

Former Chief Panderer Dick Aldridge wrote that a number of you enjoyed an informal meeting of the Pander Society over refreshments in a pub in Uppsala, Sweden. That it must have been a very successful (and possibly very informal) meeting was evidenced by the fact that at least half of the signatories were unable to identify themselves, or to clearly sign their names in writing; thus, sadly, the condition and identity of some of the participating Panderers must remain in question, as must their ability to differentiate their P₁ from their P₂ elements. The much stained, square piece of Kwak 'Breweriana' (a post-card composed of porous absorptive material similar to that of the round 'Deckels' used by German conodont workers during Pander Society meetings in local Beerstuben), that records this 'dark' blot on the history of the Society, will be placed in Pander Society Archives in Leicester, both as evidence & for further research.

April 2008, Evansville, U.S.A.

2008 Pander Society Symposium : Conodont Biostratigraphy and Correlation of Paleozoic and Early Mesozoic Records of Environmental Change convened on Thursday April 24th, the first day of North-Central section of the Geological Society of America's meeting in Evansville Indiana, with Jed Day of Illinois State University as chair. An enthusiastic group of Panderers presented historical summaries and recent results of research on Paleozoic conodont biostratigraphy and systematics, bearing on improvements to taxonomy and refinements to zonations of Carboniferous and Permian conodont sequences (Conodont abstracts from the Symposium, and in other sessions at Evansville, are provided elsewhere in this Newsletter).

Immediately following the Symposium, Chief Panderer Peter von Bitter convened a brief business meeting. The key agenda items pertained to fixing the location and dates of the 2009 Pander Society Symposium. A quorum of members agreed that the 2009 Pander Society meeting should be the International Conodont Symposium (ICOS 2009), being organized by Charles Henderson of the University of Calgary in Calgary, Alberta, Canada, for July of 2009.

An important part of the business meeting concerned the death of Dr. William Furnish in October of 2007. For members who may not have heard, Bill Furnish passed away in Iowa City shortly after celebrating his 95th birthday. (Gilbert Klapper's tribute to Bill Furnish is provided in the Obituary section of this Newsletter). Later this year, Gilbert Klapper and Jed Day plan to circulate letters to Pander Society members, friends and former students of Bill's, to solicit funds to establish a William F. Furnish Scholarship to support student research in paleontology, through the Paleontological Society. They would also like to establish a scholarship fund through SEPM, since Bill's early career also included work in petroleum geology in the Middle East and Central and South America.

Finally, Jim Miller pointed out that in 2010 a joint meeting of the North-Central and South-Central sections of GSA will be held in Branson, Missouri, and should the Pander Society decide to meet with these sections of GSA in 2010, then he would be prepared to organize a Pander Society Symposium (see Future Meetings).

(submitted by Jed Day, symposium organizer)

**2008 Pander Society Field Trip, North-Central section of the Geological Society of America,
Evansville, Indiana, April 26, 2008**

The first stop on the Pander Society field trip, “Aspects of Pennsylvanian stratigraphy, sedimentation and conodonts in southwestern Indiana” was in West Franklin on the banks of the Ohio River, the village for which the West Franklin Limestone Member was named. This member straddles the boundary between the Desmoinesian and Missourian Series and offered reasonable collecting from both ages of rock. Then after a coffee break, also along the Ohio River, the participants stopped at a road cut displaying older rocks of Atokan age for collecting from the Lead Creek Limestone Member. Scott Waninger’s mother was in charge of serving a great lunch (a Big Thank You), before the next stop at Black Beauty’s Somerville Coal mine where Phil Ames, the company geologist, took over. This was mostly an observational stop, where three coals are strip mined from more than 200 feet of rocks. The participants got a good idea of the scale of mining and of mining techniques and watched a shot go off. The final stop at Black Beauty’s Francisco Underground Mine was also under Phil Ames leadership. The field trip participants drove down to the level of the underground mine in the Springfield Coal Member, and then worked their way back up the access road through about 175 feet of Desmoinesian strata, before returning to Evansville.

(submitted by Carl Rexroad, field trip organizer)



FUTURE MEETINGS

26-28 June, 2008, Moscow, Russia International Conference “Development of Early Paleozoic biodiversity: ROLE OF BIOTIC AND ABIOTIC FACTORS, AND EVENT CORRELATION” (IGCP Project 503)

Contact for conference: Rozhnov, Sergey (Rozhnov@paleo.ru) & Obut, Olga (ObutOT@ipgg.nsc.ru)
Institute of Petroleum Geology and Geophysics, SB RAS, Acad. Koptuyg av., 3, Novosibirsk, 630090
Russia Tel. +7 (383) 333 2431 Fax +7 (383) 333 2301.

30 June 11 July, 2008, Altai, Russia. Post-conference field excursion.

Contact for post-conference excursion: Kushlina, Veronica (vkush@paleo.ru), Paleontological Institute RAS, Profsoyuznaya ul.,123, Moscow, 117997, Russia Tel. +7 (495) 339 9888, 339 0822 Fax +7 (495) 339 1266.

Contact address for all members of Organizing Committee: pz-conference@mail.ru
(submitted by Olga Obut)

(Please note: Registration, by April 1, 2008, was by e-mail; the third circular was apparently sent out in April, 2008; please contact the organizers [above], to determine if at this late date, it is still possible to participate in this conference and fieldtrip)

Aug. 25 - Sept 3, 2008, Uzbekistan

SDS / IGCP 499 Joint Field Meeting, A SDS / IGCP 499 joint field meeting on “Global Alignments of Lower Devonian Carbonate and Clastic Sequences”

Sept. 30 – Oct. 10, 2008, Frankfurt, Germany

Final meeting of IGCP 497 and IGCP 499. A meeting entitled “From Gondwana and Laurussia to Pangaea: Dynamics of Oceans and Supercontinents” is planned to meet as the 20th Senckenberg-Conference and 2nd Geinitz-Conference & as a joint meeting of IGCP 497 “The Rheic Ocean: Its Origin, Evolution and Correlatives” and the IGCP 499 “Devonian land sea interactions: evolution of ecosystems and climate” (DEVEC).

Contact for both meetings: Peter.Koenigshof@senckenberg.de also <http://www.senckenberg.de/igcp-499> for more information. (submitted by Peter Königshof)

Bottom preceding page:

Coming up from the entrance level of Black Beauty’s Francisco Underground Mine

1. Jed Day, 2. Scott Waninger, 3. Scott Elrick, 4. Margaret Crowder, 5. Jim Barrack, 6. Lew Brown, 7. Penny Meighen*, 8. Steven Roscoe, 9. Mike May, 10. Peter von Bitter, 11. John Nelson*, 12. Glen Merrill, 13. Phil Heckel, 14. Carl Rexroad*, 15. Fred Siewers, 16. Achim Hermann, 17. Penny Greer, 18. Vince Nowaczewski, 19. Alyssa Bancroft, 20. Emory Nelke, 21. Paul Potter, 22. John Fronimos, 23. Lance Lambert. (* trip leaders) (photo by Greg Cornett; IDs by Carl Rexroad).

June 4-11, 2009, Sardinia, Italy; Silurian Field Meeting: Time and Life in the Silurian, A Multidisciplinary Approach

The Subcommittee on Silurian Stratigraphy and associated researchers will meet in 2009 in Sardinia, Italy, from June 4th to 7th. The scientific sessions as well as the ISSS Business Meeting will be held in a small town on the southern coast of the island, a few km from Cagliari. A four-day field trip in the southern part of Sardinia will follow the meeting.

All Silurian workers are welcome to join the meeting. Any contribution on Silurian stratigraphy, palaeoecology and palaeogeography is welcome, however the major emphasis will be on integrated multidisciplinary studies on Silurian rocks and fossil biota.

Field Trip - Four days of field trip are scheduled after the meeting, from June 8th to 11th. The field trip will start from the meeting location and finish in Cagliari. Both Silurian limestone and black shale sediments will be accessible at a number of sections and outcrops as well as Hirnantian and Lochkovian sediments. The field trip is limited to 30 participants.

Programme (June 2009)

June 4th arrival of participants and Ice-breaker party
 June 5-7th technical session and ISSS Meeting
 June 8-11th field trip

More information and the first circular are available at www.unica.it/silurian2009
 The second circular will be issued in Fall 2008.

Contacts

e-mail contacts: silurian2009@unica.it; web site: www.unica.it/silurian2009

(submitted by Carlo Corradini and Annalisa Ferretti)

July 12-17, 2009, International Conodont Symposium (ICOS 2009), University of Calgary, Calgary, Alberta, Canada

The second International Conodont Symposium will be held at the University of Calgary during July 2009. General information is provided below, but more detailed information will be provided on a website that will go live on July 1, 2008. Please check <http://www.ucalgary.ca/conodont> after July 1 2008 or contact Charles Henderson (Chairman of ICOS 2009) via email at charles.henderson@ucalgary.ca or cmhender@ucalgary.ca.

Schedule/Itinerary

July 12, 2009; Icebreaker on University Campus: Sunday evening

July 13-14, 2009; Sessions at a Department of Geoscience theatre

July 15; Workshops or day trip to Royal Tyrrell Museum of Palaeontology;

July 16-17, 2009; Sessions at a Department of Geoscience theatre

July 16, 2009, Thursday evening. Western style banquet, either at Heritage Park or Kananaskis Guest Ranch

Fieldtrips: (in preparation)

July 11 and July 18; Burgess Shale day trips (geological & palaeontological sightseeing).

3-4 day post-conference Rocky Mountain fieldtrip with overnights in the resorts of Banff and Jasper; mostly latest Devonian to Early Triassic units will be viewed with collecting opportunities including the Permian-Triassic boundary. There will also be a stop to see the glaciers on the Icefields Parkway.

Accommodation:

A block of rooms have been reserved on campus; these are apartment style.

A small block of rooms have been reserved at Village Park Inn close to campus.

More information will be provided by links in our website.

Room reservations and registration will be completed by Conference and Special Events Services on Campus.

Getting to Calgary:

There are two daily flights on Air Canada to Calgary from Frankfurt and London.

There are daily flights from Sydney, Hong Kong, Shanghai, Nanjing connecting through Vancouver.

There are numerous direct or connecting flights from the United States, especially from Chicago, Denver, Los Angeles, Minneapolis, Seattle and San Francisco.

Direct flights from most major cities in Canada.

The University and City Attractions:

The University has over 25,000 full-time students and has excellent facilities for our meeting including accommodation.

Calgary has a population of nearly 1.1 million and is the gateway to the southern Canadian Rocky Mountains.

Calgary is home of ‘The Greatest Outdoor Show on Earth’ – the Calgary Stampede (July 3-12, 2009).

Possible Sessions:

2009 is the 100th anniversary of the discovery of the Middle Cambrian Burgess Shale Lagerstätten; a session on early vertebrate evolution including conodonts would be appropriate.

2009 marks the 200th birthday of Charles Darwin and 150th anniversary of publication of the Origin of Species, so a session on “evolutionary tempo and mode of Class Conodonta” would be in order.

Conodonts are increasingly used in geochemical studies and a session on “high resolution stratigraphy integrating geochemistry, geochronology and biostratigraphy” is proposed.

A session on taxonomic philosophies, that focuses on what constitutes a genus and species in the biological world of conodonts, is being considered.

There will be a facility for workshops with microscopes including dual-viewing with video monitor.

The Scientific Committee will be asking the community to make suggestions and start inviting speakers; if you have a session in mind, please contact Charles Henderson by email.

The composition of the scientific committee and many more details will appear on our website soon.

(Submitted by Charles Henderson).

April 2010

The Pander Society has been invited to meet with the North- and South-Central sections of the Geological Society of America at Branson, Missouri. The host institution for the North-Central section is Missouri State University, and Jim Miller has offered to organize a Pander Society Symposium. This is a unique opportunity for Panderers to meet at a town named “Branson” (Anyone know of a nearby place called “Mehl”? Jim is looking). The venue is a new convention center located a block from the edge of Lake Taneycomo, a new pedestrian shopping mall, and the station for a scenic train ride along the edge of the lake. Branson is famous for country music shows; however, the shows are a few miles away. Jim is searching for someone to lead an appropriate field trip for the Pander Society. As part of the overall meeting, he probably will be involved in leading a field trip similar to last year’s Pander Society trip to the Weaubleau meteorite impact structure, although these two trips probably can be scheduled so as not to conflict.

(Submitted by Jim Milller)

Other Business:

ONLINE CATALOGUE OF CONODONTS

Proposal: That the Pander Society and Micropaleontology Press develop an online Catalogue of Conodonts, that will be oriented towards community participation in order to provide a continuously improving and universally accessible consensus on diagnosis, taxonomy, distribution, and systematics in this group. The Catalogue website would be maintained and administered by Micro Press and governed by the Pander Society.

Review. The efficiency of communication in the internet makes it possible to readily create a community-based online version of the Conodont Catalogue with the following features:

(1) Original type diagnoses: These would be clearly and carefully reproduced from the literature (or from the original printed Catalogue), on an individual page basis with a full-feature search function including taxonomic terms, author, date, and keywords. The original age, stratigraphic level, locality and curation of the type material would be open to comment and supplementary information.

(2) A living synonymy: Secondary subjective statements reassigning typified material in new combinations would be parsed in an interactive network according to simple and unique relational statements, any of which could be tested and refuted, in a “wiki” model open to the community but subject to transparent peer review and ratification. The effect of proposed changes could be automatically visualized, and all proposals would be documented.

Alternative synonymies, considering supported alternative criteria, could be “live” as well as the majority consensus. A stratigraphic synthesis of user-selected taxa would be a feature of the site.

The Online Catalogue would be set up with 500 taxa, including original diagnoses and currently accepted synonymies, and with the tools for adding more basionyms and synonyms in place.

The budget is based on an estimate of 100 participating institutions. Startup would include 1 mo. of web data programming (approx. \$5,000) and 3 mos. of data entry (approx. \$12,000). This could be covered by an initial subscription surcharge in the neighborhood of \$200.

Operating costs (program maintenance and improvements, editorial, administrative) would be met by a subscription of approx. \$100 per year per institution, or \$50 per private member. Note that no further data entry is budgeted in view of the interactive intention of the Catalogue.

The Micropaleontology Press is an independent 501(c) 3 nonprofit, with the mission of supporting the stratigraphic sciences. It has published the Ellis and Messina Catalogues since 1942, and the journal "Micropaleontology" since 1954, and is actively involved in online data services.

(proposal by Jim Barrick; please contact Jim at jim.barrick@ttu.edu, with your support and/or your concerns).

(Repeated from 2007 Newsletter)

Becoming a Part of Con-nexus

Con-nexus is a 'free' e-mail forum for the rapid exchange of ideas and information concerning conodonts and conodont research

To subscribe, go to the following webpage and enter your details:

<http://lists.le.ac.uk/mailman/listinfo/con-nexus>

To post a message to all other members of con-nexus (only subscribers can post), address it to: con-nexus@lists.le.ac.uk

To unsubscribe go to the following webpage and enter your details:

<http://lists.le.ac.uk/mailman/listinfo/con-nexus>

This page also contains other useful information, such as how to access archives, and change your subscription information and settings.

Please note:

- A)** anything communicated in an email to Con-nexus is instantaneously communicated to **all** members world-wide; this, of course, also applies to any Con-nexus messages that you click 'reply' to, even if you intend to reply only to the sender. **In other words:** use with caution, i.e. your faithful servant recently felt pretty foolish when he responded to one of our members 'out of the office' messages, a response that was seen all over the world. A new kind of Conodont Spam !!!
- B)** if you wish to continue to be a part of Con-nexus, then **You** have to update or change your e-mail using the system above. You have to make that change, i.e. your webmaster, or your editors, won't.

Conodont Abstracts Presented and Published at the 2008 meeting of the North-Central section of the Geological Society of America and the Pander Society, Evansville, Indiana, April 2008.

Pander Society Symposium: Conodont Biostratigraphy and Correlation of Paleozoic–Early Mesozoic Records of Environmental Change

LOOKING BACK OVER 40 YEARS: HISTORICAL PERSPECTIVES ON THE DEVELOPMENT OF CAMBRIAN TO EARLIEST ORDOVICIAN CONODONT BIOSTRATIGRAPHY

[MILLER, James E.](#), Geography, Geology, & Planning Department, Missouri State University, Springfield, MO 65897, JimMiller@MissouriState.edu

Klaus Müller described Cambrian conodonts from the USA and Europe in 1959. Pete Palmer found the American specimens while dissolving scraps of trilobite samples to find early Late Cambrian phosphatic brachiopods. Müller's taxa were mostly paraconodonts, a few protoconodonts (*Chaetognatha*), and a euconodont, *Cordylodus proavus*. Many more Cambrian conodonts were named by the early 1970s in Asia, North America, and Australia. Paraconodonts are used in Asia to delineate Middle and early Late Cambrian zones, although their global utility is not yet demonstrated. As Cambrian euconodonts diversified, paraconodonts gradually became less common but persisted well into the Early Ordovician.

Euconodonts diversified rapidly during the Late Cambrian, with four major lineages identified: 1) *Proconodontus*–*Eoconodontus*–*Cambrooistodus*–*Cordylodus*; 2) *Teridontus*–*Semiacontiodus*–*Monocostodus*–*Utahconus*–*Rossodus*–*Polycostatus*; 3) *Dasytodus*–*Hispidodontus*–*Hirsutodontus*–*Rotundoconus*–*Clavohamulus*; and 4) *Fryxellodontus*. Rapid evolution of abundant, cosmopolitan faunas resulted in detailed biozonal schemes that can be correlated globally. Lineage 1 is used to delineate zones; lineages 2–4 are used mostly to delineate subzones. Sea-level rises produced diversification within lineages, and abrupt sea-level drops caused extinctions.

Many morphological innovations appeared among euconodonts during the Late Cambrian and continued into the Ordovician. Euconodonts began as single-element apparatuses with smooth surfaces, extremely deep basal cavities, and little white matter (*Proconodontus*). Two-element apparatuses developed with shallower basal cavities and with cusps made of white matter (*Eoconodontus*) and with geniculate elements (*Cambrooistodus*). Denticulate *Cordylodus* may have been the first euconodont to develop complex multi-element apparatuses that compare with Ordovician taxa. Finely striate coniform apparatuses (*Teridontus*) produced various multi-element descendant genera with diverse costate ornament. The *Dasytodus* Lineage had spinose (*Dasytodus*, *Hispidodontus*, *Hirsutodontus*) or granulose ornament (*Rotundoconus*, *Clavohamulus*); only *Clavohamulus* survived very long into the Ordovician. *Fryxellodontus* had a complex symmetry transition but it was short-lived.

BIOSTRATIGRAPHIC SIGNIFICANCE OF ORNAMENTED *GNATHODUS* SPECIES (CONODONTA) IN THE FIVE DEPOSITIONAL CYCLES OF THE WINDSOR AND CODROY GROUPS (MISSISSIPPIAN; LATE VISÉAN- E. NAMURIAN) OF EASTERN CANADA

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Environmental controls on conodont distribution in evaporite-rich, shallow-water environments of the Windsor and Codroy groups (late Viséan-early Namurian) of eastern Canada, resulted in *Gnathodus* species being rare in the *Clydagnathus*-*Cavusgnathus* dominated faunas. This rarity, plus the environmental effects on conodont growth and maturity, complicate assessment of the biostratigraphic value of ornamented *Gnathodus* species.

Rare small gnathodids, associated in basal rocks of depositional cycle 1 of western Newfoundland with controversial Mississippian brachiopod-rich fissure fillings, were for many years identified as immature *G. girtyi*. These have been re-identified as *Gnathodus pseudosemiglaber* Thompson & Fellows, relying in particular on a mature individual from basal cycle 1 in New Brunswick. This species, first described from Kinderhookian and Osagean rocks in North America, has been reported worldwide, and was used to recognize a local-range subzone in China. In the British Isles, the region with Mississippian rocks most directly and commonly correlated with those of Atlantic Canada, *Gnathodus pseudosemiglaber* ranges from late Courceyan to late Chadian, whereas in Poland it extends from the late Courceyan into the early Asbian. These ranges agree approximately with the late Chadian to early Asbian palynomorph-based age determination for cycle 1 in eastern Canada; however, the recent range extension of the species in Spain into the late Asbian, and possibly the early Brigantian, suggests caution in using the species as an age determinator at this time.

Basing taxonomy on immature individuals can lead to taxonomic problems. Thus, *Gnathodus girtyi* of von Bitter and Plint-Geberl (1982) from cycles 3-5 of Newfoundland, was identified by Belka (1985) as *Gnathodus austini*. This is an immature, small specimen of *Gnathodus girtyi* and the existence of an *austini* Zone in Atlantic Canada seems unlikely. In a parallel, but dissimilar situation, *Gnathodus bilineatus* of von Bitter and Plint-Geberl (1982), from cycle 3-5 of Nova Scotia and Newfoundland, identified by Belka (1985) as *G. praebilineatus*, are with their strong posterior nodes, mature specimens of *G. bilineatus bilineatus*. *G. praebilineatus* is restricted to cycle 2 of the Windsor & Codroy groups, as will be the eponymous zone, if it is identified in eastern Canada.

DIVERSIFICATION OF *IDIognathodus* P₁ ELEMENTS IN THE UPPER PENNSYLVANIAN HUSHPUCKNEY SHALE (SWOPE CYCLOTHEM), MIDCONTINENT BASIN, USA

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The Upper Pennsylvanian Hushpuckney Shale is well known for its diverse and abundant conodonts. The The Hushpuckney Shale represents the peak diversity for *Idiognathodus* following the Late Desmoinesian extinction. The extinction of the genera *Neognathodus* and *Swadelina* provided *Idiognathodus* with a broad range of available ecological niches. *Idiognathodus* P₁ elements recovered from the Checkerboard/South Mound, Exline, Critzer, and Hertha cyclothems exhibit variability in rostral lobe shape and size. In the Hertha cycle, expanded rostral lobe bearing species (*I. swadei* and *I. turbatus*) become less abundant than species bearing restricted rostral lobes (*I. sulciferus* and *I. eccentricus*). New species like *I. vorax* and *I. species 1* developed dorso-ventrally elongate rostral lobes rather than rostro-caudally expanded rostral lobes.

In the Hushpuckney shale, elongate rostral lobes and reduced rostral lobes become more common. Those species once known for their expanded rostral lobes (*Idiognathodus. swadei* and *I. turbatus*) exhibit weak development of their rostral lobes, mimicking the elongate lobes found in several new species (*I. species S* and *I. species R*). Several species exhibit severely reduced rostral lobes (*I. species J*, *I. species E* and *I. species B*). In addition to rostral lobe reduction, caudal lobes show evidence for reduction. *Idiognathodus* species P (*I. cancellosus?*) and *I. species H* do not have rostral lobes and have caudal lobes that have merged almost completely with the caudal adcarinal ridge. With decreasing morphological variability in lobes, P₁ elements show greater variation in platform ornamentation. Eccentric grooves (*I. eccentricus*, *I. turbatus*, and *I. species R*), medial nodosity (*I. species B*), long medial carina (*I. species P* and *I. species H*), medial grooves (*I. species E*), and chaotic platforms (*I. species J*) become increasingly more common. Flat, uniformly ridged platforms remain common when lobes are preserved (*I. swadei* and *I. sulciferus*). Juvenile specimens of *I. species B* show the first development of a true troughed platform. While it is not retained in adult specimens, the presence of a troughed platform implies that *I. species B* may be the ancestor of the descendent genus *Streptognathodus*.

PRELIMINARY APPARATUS RECONSTRUCTION OF *JINOGONDOLELLA ALTUDAENSIS*, AND ITS BEARING ON THE ORIGIN OF *CLARKINA*

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The Reef Trail Member of the Bell Canyon Formation is the uppermost basinal unit in type Guadalupian strata, international reference for the Middle Permian Series. These strata are characterized by species of the conodont genus *Jinogondolella*. Conodonts from the Reef Trail Member represent the zone of *Jinogondolella altudaensis*. These are the youngest species of *Jinogondolella*, which was replaced by *Clarkina*—the genus that characterizes the Lopingian (Upper Permian) Series. The basal Lopingian GSSP is defined on the transition from *Clarkina postbitteri hongshuiensis* to *Clarkina postbitteri postbitteri*. *Clarkina postbitteri hongshuiensis* most likely evolved directly from advanced forms of *Jinogondolella altudaensis* in west Texas, although some workers support derivation from different ancestral species. Advances in our understanding of both the Reef Trail Member and apparatus reconstructions for *Jinogondolella* now allow us to more rigorously approach this important lineage question.

The zone of *Jinogondolella altudaensis* is comprised of several species of *Jinogondolella*, so it has been difficult to secure monospecific faunas for multi-element study. We currently have several faunas from the Reef Trail Member in which *Jinogondolella altudaensis*, the predominant species in terms of richness, co-occurs with only one other *Jinogondolella* species. By a process of elimination, we can reconstruct a partial apparatus of *Jinogondolella altudaensis* for preliminary comparison with *Clarkina*. *Jinogondolella altudaensis* had dimorphic P₂ elements that are sometimes difficult to differentiate because the posterior process tends to break a few denticles away from the cusp. This process is twisted and in one form at a significant angle to the anterior process, so careful sieving is necessary for recovery. The M and S₀ elements do not appear to be particularly distinctive from other *Jinogondolella* species, although some M elements commonly have an almost crescent-shaped cusp. The S₁ elements can have a similar cusp, and all the S₁s have a reduced posterior process. The S₃ elements are bipennate with an anterior process that bifurcates near the cusp. These apparatus features support *Jinogondolella altudaensis* as the immediate ancestor of *Clarkina*.

CONODONTS FROM A NEW REFERENCE SECTION NEAR THE ORIGINAL TYPE REEF TRAIL MEMBER, BELL CANYON FORMATION (LATEST GUADALUPIAN SERIES): BIOSTRATIGRAPHY, CORRELATION, AND SIGNIFICANCE

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Previous research has established the Guadalupian-Lopingian GSSP (Middle-Upper Permian Series boundary) in South China at the transition from *Clarkina postbitteri hongshuiensis* to *Clarkina postbitteri postbitteri*. The Reef Trail Member of the Bell Canyon Formation comprises the uppermost Guadalupian in its type region, and understanding its biostratigraphy is imperative for international Middle to Upper Permian correlations. The Reef Trail type section was established at McKittrick Canyon where it 1) had received the most study to that time, 2) represents the slope paleoenvironment for intercalation of fossils representing both the shelf and basin, and 3) lies near the type localities of several biostratigraphically important fusulinid species. Problems with the Reef Trail type section are that 1) it is a composite section, 2) it includes a considerable amount of covered section, and 3) the uppermost beds are not present, but lie on a nearby hill outside the boundaries of Guadalupe Mountains National Park.

Continuing fieldwork has produced three new reference sections critical to better documenting Reef Trail biostratigraphy. An auxiliary section near the original type section has less covered section and only a single, minor offset. In the Patterson Hills (western Guadalupe Mountains National Park), a complete basinal section extends from the underlying Lamar Member through the Reef Trail Member to the overlying Castile Formation. Another basinal section in the Patterson Hills better exposes strata immediately surrounding the Reef Trail-Castile contact. Conodonts from these sections represent the zone of *Jinogondolella altudaensis*, including *J. altudaensis*, *J. xuanhanensis*, *J. crofti*, *J. cf. J. granti*, and *J. artafrons*. Rare specimens represent other conodont genera as well. Morphologically advanced specimens of *J. altudaensis* characterize the uppermost beds of the Reef Trail Member, just below the Castile Formation in the Patterson Hills. These advanced specimens are transitional to the genus *Clarkina*. *Clarkina postbitteri hongshuiensis*, the first representative of the genus, has been recovered from just below

the Castile in the Apache Mountains on the opposite side of the Delaware Basin.

LATE DEVONIAN CONODONT BIOSTRATIGRAPHY KEY TO UNDERSTANDING THE TIMING AND CAUSE OF FAUNAL EXTINCTIONS AND CARBONATE PLATFORM EVOLUTION IN THE IOWA AND WESTERN ILLINOIS BASINS

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During the Late Frasnian (Late Devonian), a profound sea level rise of a minimum estimated magnitude of 90-125 m began during Montagne Noire (M.N.) Zone 11 initiated Lime Creek carbonate ramp deposition in western, central and northern Iowa. Progressive deepening and highstand during the upper part of M.N. Zones 11-12 are reflected by the incoming and progressive diversification of the platform-dwelling platform shelly faunas with shelly taxa reaching peak diversity during M.N. Zone 12. Distal ramp clinoform shale wedges downlapped onto the Middle Frasnian erosional surface across central and eastern Iowa and filled paleokarst cavities hosted in older Devonian and Silurian carbonates (Independence Shale). During peak highstand, inner shelf facies of the Owen Member prograded over middle shelf facies in the Lime Creek Formation platform. Distal ramp muds prograded into southeastern Iowa as recorded by Sweetland Creek Shale deposition. The Lower Kellwasser Event is recorded by extinction of the diverse middle shelf shelly biota high in the interval of M.N. Zone 12 and lower M.N. Zone 13. Resumed deepening in the very late Frasnian resulted in Lime Creek platform backstepping indicated by abrupt juxtaposition of middle shelf facies with offshore conodonts and brachiopods over shallow platform carbonates in the middle part of the Owen Member. Lowstand emergence eroded platform deposits spanning the Frasnian-Famennian boundary interval in northern Iowa, although a conformable F-F boundary is recognized in basal sections of the lower part of the Grassy Creek Shale (type locality of the Sweetland Creek Shale) and newly documented subsurface well sections in southeastern Iowa. Subtropical sea surface temperatures (SST) reconstructed from oxygen isotope ratios of conodont apatite from the and Lime Creek Formation and coeval units in Germany indicate warming during the Late Frasnian (SST > 30° C) and with two significant SST cooling events coinciding with the Lower and Upper Kellwasser bioevents and stepped Kellwasser extinctions of late Frasnian platform shelly faunas in central North America.

Session: New Approaches and Initiatives in Paleozoic High-Resolution Stratigraphy: A Session Commemorating 15 Years of Views from the Craton and Beyond II

REVISED CONODONT BIOSTRATIGRAPHY AND $\delta^{13}\text{C}_{\text{CARB}}$ CHEMOSTRATIGRAPHY OF THE LOWER SILURIAN (LLANDOVERY AND WENLOCK) OF OHIO AND WESTERN NEW YORK

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Most Silurian conodont biostratigraphies of the North American Midcontinent Basins and Arches region (NAMBA) were completed prior to significant revision of taxonomy and/or ranges of several conodonts important for lower Silurian (Llandovery and Wenlock) zonation by Lennart Jeppsson, Richard Aldridge, and Peep Männik during the last ten years. As a result, correlations of lower Silurian strata in NAMBA, including those of Ohio and western New York, based on conodont biostratigraphies developed prior to 1997 need to be re-examined. This study presents a revised conodont biostratigraphy and recently published and preliminary $\delta^{13}\text{C}_{\text{carb}}$ chemostratigraphy for lower Silurian strata of Ohio and western New York as a means to effect a revised correlation for those strata.

The *Distomodus kentuckyensis* Zone, *Pterospirifer eopennatus* Superzone, *Pt. celloni* Superzone, *Pt. amorphognathoides amorphognathoides* Zonal group, *Pt. procerus* Superzone, *Kockelella ranuliformis* Superzone, *Ozarkodina sagitta rhenana* Zone, and *K. walliseri* Zonal group are developed in the lower Silurian, Brassfield Formation-Lilley Formation sequence, of southern Ohio. The Peebles Dolomite lacks diagnostic conodonts. The *D. kentuckyensis* Zone, *Pranognathus tenuis* Zone, *Pt. amorphognathoides*

amorphognathoides Zonal group, *K. ranuliformis* Superzone, and *K. walliseri* Zonal group are developed in the lower Silurian, Brassfield Formation-Laurel (of Ohio) Formation sequence, of west-central Ohio. The Euphemia, Springfield, Cedarville, Waldron and Louisville formations lack diagnostic conodonts. The *D. kentuckyensis* Zone, *P. tenuis* Zone, *Pt. eopennatus* Superzone, *Pt. celloni* Superzone, *Pt. amorphognathoides amorphognathoides* Zonal group, *K. ranuliformis* Superzone, *Ozarkodina sagitta rhenana* Zone, and *K. walliseri* Zonal group are developed in the lower Silurian, Neagha Shale-Goat Island Dolomite, of western New York. The Eramosa Dolomite lacks diagnostic conodonts. The Sheinwoodian Ireviken Excursion is recorded in the lower Silurian, Estill-Lilley sequence, in southern Ohio; Osgood-Laurel (of Ohio) sequence, in west-central Ohio; and Irondequoit-Goat Island sequence, in western New York. The Homerian Mulde Excursion is recorded in the lower Silurian, Waldron-Louisville sequence, in west-central Ohio.

SILURIAN CONODONT BIOSTRATIGRAPHY AND $\delta^{13}\text{C}$ STRATIGRAPHY OF THE ERAMOSA FORMATION, SOUTHWESTERN ONTARIO, CANADA

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The Eramosa lithofacies were named in Ontario almost a century ago, but the relative ages and regional lithologic and stratigraphic relationships of these strata are still poorly understood. This dolostone succession is among the most economically significant Paleozoic sedimentary rocks in Ontario. It has been given formational rank, been allocated as an upper member of the underlying Amabel Formation, and been designated as the basal member of the overlying Guelph Formation. Recently completed regional mapping and core logging along the Niagara Escarpment reveals the following: a disconformable relationship exists between the Eramosa and the underlying Amabel Formation; at least two significant diastems are present in the Eramosa strata; and the contact between the Eramosa and the overlying Guelph lithofacies varies from transitional to disconformable regionally.

This study is the first attempt to carry out a combined biostratigraphic and chemostratigraphic study of the Eramosa lithofacies in southwestern Ontario. This research will provide the detailed stratigraphic framework required to determine a more accurate age for this lithofacies, help clarify the stratigraphic relationship of the Eramosa lithofacies in this region with strata currently recognized as the Eramosa in the remainder of Ontario and western New York, and facilitate correlation into the Michigan Basin. Preliminary results indicate that the Eramosa lithofacies in the Wiarton area of the Bruce Peninsula (Ontario Highway 6 outcrop and Ledgerock Quarry composite stratigraphic section) is early Wenlock (early to middle Sheinwoodian) in age. Samples from the Wiarton area record the latter part of the positive $\delta^{13}\text{C}$ excursion recognized as the Ireviken Excursion and have yielded *Ozarkodina sagitta rhenana*. The Eramosa lithofacies from two drill cores in the Guelph area, located more than 100 km to the south, appear to record the positive $\delta^{13}\text{C}$ excursion recognized as the Mulde Excursion, thereby indicating a late Wenlock (Homerian) age. A recent report of *Ctenognathodus* cf. *murchisoni* in the Eramosa Lagerstätte at Hepworth, located 15 km south of Wiarton, suggests that the biota at this locality is within the *Ctenognathodus murchisoni* Zone, and therefore the Eramosa lithofacies in this area would also be late Wenlock (Homerian) in age.

THE LAU PRIMO-SECUNDO OCEANIC EVENT (LUDLOW, SILURIAN) IN SOUTHERN LAURENTIA

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The late Ludlow Lau Primo-Secundo Event is recognized in two regions in southern Laurentia, the Arbuckle Mountains in southern Oklahoma and the western edge of the Illinois Basin in Missouri. Major

changes in conodont faunas, shifts in rock type, and a positive $\delta^{13}\text{C}$ excursion characterize the Lau Event in both regions, but the sections in Oklahoma and Missouri preserve somewhat different records of the Lau Event.

Pre-Lau strata in southern Oklahoma comprise brownish argillaceous, silty wackestones and shales with graptolites. A diverse *Dapsilodus*-dominated fauna includes species characteristic of the Havdlem Primo Episode in moderate abundance: *Polygnathoides siluricus*, *Oulodus siluricus*, *Ozarkodina confluens*, *Walliserodus* sp., *Kockelella* sp. and *Panderodus recurvatus*. Above a 0.1 m dark brown shale bed, a new *Dapsilodus*-dominated fauna, characterized by *O. snajdri*, abundant *Wurmiella excavata* and rare *Panderodus*, replaces this fauna. Clay and silt content declines sharply above the dark shale and resistant wackestones appear slightly higher that yield *Pedavis latialata* and *Parazieglerodina plodowskii*? Values of $\delta^{13}\text{C}$ dip from +1.0 ‰ in strata below the dark shale bed to -0.5 ‰ in the bed, rise to near +4.0 ‰ where the *O. snajdri* fauna appears, and fall back to +1.0 ‰ in the overlying resistant wackestones. The Lau Event appears to be truncated, possibly at a sequence boundary marked by the dark shale bed.

The Lau Event may be preserved more completely in eastern Missouri than in Oklahoma. In Missouri, pre-Lau strata comprise mottled red argillaceous wackestones and shales yielding a *Panderodus*-dominated fauna, with abundant *P. recurvatus* and less common *Ozarkodina confluens* and *Walliserodus*. Above this lies a 0.9 m argillaceous greenish gray carbonate mudstone from which only a few elements of *Pseudooneotodus* have been recovered. Interbedded reddish shale and thin wackestones reappear above the mudstone, in which an abundant *Dapsilodus* and *Wurmiella excavata* fauna appears. This is overlain by a resistant wackestone with *Parazieglerodina plodowskii*? Values of $\delta^{13}\text{C}$ dip from +1.0 to -3.5 ‰ in the base of the greenish-gray mudstone, rise to near +5.0 ‰ in the top of the mudstone, and fall to +1.0 ‰ in the overlying shale and thin limestones and the upper resistant wackestone unit.

AN APPROACH TO CORRELATING WIDESPREAD MAJOR PENNSYLVANIAN CYCLOTHEM SUCCESSION WITH GLACIAL SUCCESSION IN GONDWANA

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Conodont-based biostratigraphic correlation of Middle to Late Pennsylvanian Midcontinent cyclothems with those elsewhere in North America has been extended to the cyclothems now recognized in Russia and Ukraine in eastern Europe. This correlation of biostratigraphic zonation with major sea-level fluctuation events in the Pennsylvanian pantropical belt provides a framework for incorporating radiometric dates from volcanic-bearing marine successions into the named units of the Pennsylvanian time scale. It also provides a framework for tying the fluctuation events into the glaciation events that are becoming identified in Gondwana, where the cold-water marine faunas are too provincial to be correlated, and the subpolar spore assemblages have not yet allowed detailed correlation. However, the primary evidence developed so far for multiple glaciations in the Gondwana succession on a scale sufficient to have caused major fluctuations in sea level delineates only a few longer times of major glaciation during the entire late Paleozoic, in contrast to the large number of major and intermediate cyclothems recognized in the Pennsylvanian pantropical zone. This discrepancy results from several factors, including lack of data, both from parts of Gondwana where Pennsylvanian strata are absent and from the immense ice-covered part of Antarctica. More importantly, the most conspicuous evidence of glacio-eustatic fluctuation in the pantropical zone, the major and intermediate cyclothems, represent the highest stands of sea level when there was the least ice coverage on Gondwana. When marine withdrawals between the highest stands extended only to the lower Midcontinent shelf (Kansas), they indicate only regional ice buildup in Gondwana. Hence these longer periods of time that include several major and intermediate cyclothems with lesser regressions between them would appear only as longer interglacial episodes over most of Gondwana. In contrast, only the greatest sea-level withdrawals in the Midcontinent (into the basin margin of central Oklahoma) would be represented by glacial deposits over much more of Gondwana, and these times are only about one-fifth as frequent as the short intense highstands that are represented so conspicuously by the major and intermediate cyclothems on the Midcontinent shelf.

Poster Session: Undergraduate Research

MICRO-INVERTEBRATE AND CONODONT PALEOECOLOGY OF THE DEPAUPERATE ZONE IN THE UPPER ORDOVICIAN MAQUOKETA FORMATION OF LUANA AND POSTVILLE QUARRIES, NORTHEAST IOWA

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Preliminary work for this study focused on the unusual diminutive fauna of the Depauperate Zone within the lower Maquoketa Formation in northeast Iowa. This region was part of an upwelling system that brought phosphate rich waters to the surface and produced dysoxic and anoxic water conditions. The fauna within this zone are unusually small in size and could either represent a seasonal die off so that only juveniles are present, or are diminutive due to harsh water conditions. To better understand the living conditions, a population study was done.

Fossils from bulk shale samples from the Postville and Luana quarries were picked, identified and counted. Resulting data was used to investigate the local population dynamics. The Postville location had a much higher diversity and abundance of fauna than the Luana locality. Postville samples contained 8 different Phyla, where as Luana had 6. Postville samples contained 2752 Mollusca, 941 Brachiopoda, 454 Arthropoda, 348 Echinodermata, 48 Protochordata, 30 Hyolitha, 8 Cnidaria, and 7 Bryozoa. Luana was found to have 3808 Mollusca, 25 Protochordata, 7 Arthropoda, 1 Brachiopoda, and 1 Cnidaria. Only one of the phyla, the Mollusca, in the Luana sample had a higher abundance than that of the Postville.

The Luana is interpreted to have experienced lesser bottom water oxygenation than the Postville locality on the basis of lower diversity and overall faunal composition. Work is currently being conducted on the conodonts at both locations to evaluate age equivalence and whether the conodont fauna shows differences in diversity/abundance that parallels or departs from the patterns seen in the invertebrates. Conodonts also hold interest in this study due to their nektonic nature, as they may record environmental conditions different from those represented by the benthic invertebrates.

THIS TRANSGRESSION WILL NOT STAND: A COMPARISON AND CHARACTERIZATION OF A HIGH FREQUENCY SEQUENCE AND FLOODING SURFACES USING CONODONT DISTRIBUTION PATTERNS AND SEQUENCE STRATIGRAPHY: IOLA LIMESTONE (UPPER PENNSYLVANIAN; IOWA AND KANSAS)

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Observing spatial distribution patterns of conodonts can show what the depositional basin was like during the period the cyclothem was created. Results of spatial observations offer clues and evidence to water depth, environmental energy, shore line location, advance and retreat direction and higher resolution sea level fluctuations that show a cyclothem is more than the result of just a simple transgression and regression. By increasing both temporal and spatial resolution the Iola Limestone should be found to be far more complex than previously imagined.

Conodont samples were collected from two sections of the Iola near Winterset, Iowa, and from five sections in eastern Kansas. Samples were processed for conodonts, and multivariate statistical methods were applied to temporal and spatial distribution patterns. Spatial distributional gradients relative to correlative surfaces at the base and near the top of the Muncie Creek Shale are the principle focus of this study. Additional study of these sections will also help identify key changing points of the Muncie Creek member. The Winterset section of the Muncie Creek is calcareous with much benthic fauna and very thorough bioturbation. The Holiday Drive section of the Muncie Creek is more carbonaceous and phosphatic with bioturbation limited to upper areas. A better understand of this core shale will lead to a

better understanding of the Iola Limestone and what the depositional basin was like during the Iola deposition. Ideas of the depth and energy of the deposition can also be obtained by the previously mentioned conodont distribution statistics. Temporal and spatial trends in conodont distribution patterns may help clarify the relationship of the Iola in Iowa and Kansas.

Poster Session: Paleontology

NEW GRAPTOLITE AND CONODONT FAUNAL DATA FROM THE MIDDLE ORDOVICIAN DAWANGOU SECTION, TARIM BASIN, WESTERN XINJIANG, CHINA, AND ITS IMPLICATIONS FOR BIOGEOGRAPHY

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The Middle Ordovician Sargan Formation that is well exposed at the Dawangou Section in the Tarim Basin (Xinjiang Autonomous Region) of western China consists of graptolite-rich black shale with thin limestone interbeds that contain conodonts. Previous studies by Zhou et al., 1992, Wang and Zhou, 1998, and Bergström et al., 1999, provided graptolite and conodont biozonations for the Dawangou section, which was subsequently chosen as the auxiliary Global Stratotype Section and Point (GSSP) for the base of the *Nemagraptus gracilis* Zone and the base of the Upper Ordovician Series. We have recently conducted a detailed re-examination of the graptolite collections from the Sargan Formation, updating the graptolite identifications and refining the existing graptolite biozonation. In addition to providing important new graptolite information, our study has also discovered abundant conodonts on some bedding plane surfaces, which allows for a more precise conodont zonation of the lower Sargan Fm. The lowermost part of the Sargan Fm. contains a rich graptolite fauna that can be referred to the *Pterograptus elegans* Zone. At 4.23 m above the base of the formation *Pseudamplexograptus distichus* and *Cryptograptus tricornis* first appear, and are closely followed by *Hustedograptus vikarbyensis* and *Didymograptus munchisoni*. The latter taxon appears late in the Tarim region relative to its FAD in Great Britain. A distinct faunal change occurs at 8.32 m with the debut of *Dicellograptus vagus*, and other dicellograptids. *Nemagraptus gracilis* first appears at 10.11 meters above the base of the formation. The graptolite faunal succession is most similar to the Middle Ordovician succession of Baltoscandia. The conodonts present on the black shale surfaces are typical of deep water, North Atlantic assemblages, and include the taxa *Periodon aculeatus*, *Pygodus anitae*, *P. serra*, *P. anserinus*, *Protopanderodus varicosatus*, and *Walliserodus* sp. This is first report of *P. anitae* from the lower Sargan Fm. and its presence provides a precise conodont age of upper *E. suecicus* Zone for this interval. Like the graptolite fauna, the conodonts exhibit strong affinities to Baltoscandian faunas. The faunal similarities indicate that Baltica and Tarim likely occupied similar paleolatitudinal positions during the Middle and early Late Ordovician.

CONODONT CAI THERMAL MATURITY MAPS FOR THE CENTRAL APPALACHIAN, ILLINOIS, AND MICHIGAN BASINS

[REPETSKI, John E.](#)¹, RYDER, Robert T.², EAST, Joseph A.², NORBY, Rodney D.³, REXROAD, Carl B.⁴, ROWAN, Elisabeth A.², SHAW, Thomas H.⁵, BERGSTRÖM, Stig M.⁶, TRIPPI, Michael H.², and WEARY, David J.¹, (1) U.S. Geological Survey, 926A National Center, Reston, VA 20192, JREPETSKI@USGS.GOV, (2) Eastern Energy Resources, United States Geol Survey, 12201 Sunrise Valley Drive, MS 956, Reston, VA 20192, (3) Illinois State Geological Survey, 615 East Peabody Drive, Champaign, IL 61820, (4) Indiana Geological Survey, 611 N. Walnut Grove, Bloomington, IN 47405, (5) LK Energy, Houston, TX 77098, (6) Ohio State Univ - Columbus, 155 S Oval Mall, Columbus, OH 43210-1308

New thermal maturity maps have been constructed for Paleozoic rocks of the central part of the Appalachian basin (New York to central Kentucky) and for the Michigan and Illinois basins, using

conodont color alteration index (CAI). New CAI values were derived from drill cuttings from several hundred wells throughout the region and from several dozen outcrops along the edges of the Illinois basin. Ordovician, Devonian, and Carboniferous carbonate intervals were chosen for CAI because they are within or near probable hydrocarbon source beds and oil and gas reservoir zones in these basins. These maps show thermal patterns that are aligned with, and probably causally related to, structural and geophysical features, such as the Rome trough and selected basement-fault systems. Also, the CAI isograds show differing levels of compatibility with known hydrocarbon accumulations, suggesting that accumulations originating from local migration may be distinguished from ones originating from longer-distance migration.

The CAI isograds indicate higher paleotemperatures than can be explained by present burial depths over the region, as do other paleothermal investigations, e.g., vitrinite reflectance (%Ro). Possible sources of additional heating vary from region to region but include burial and insulation of lower Paleozoic rocks by Devonian black shale and Pennsylvanian coal, migration of hot geothermal fluids, local emplacement of mantle-derived rocks along reactivated extensional structures during post-Paleozoic time, and crustal thinning. These data and maps will aid in resource assessments and the development of burial/thermal history, hydrocarbon generation, and fluid flow models for these basins.

Apologies if any ‘conodont-bearing’ or conodont-related abstracts, were ‘missed’ at this or any other meeting.

All abstracts of conodont, or conodont-related, papers, presented at Geological Society of America meetings are reproduced courtesy of Geological Society of America, P.O. Box 9140, Boulder, CO 80301-9140 USA (<http://www.geosociety.org>).

Research Interests

Paleozoic. Albanesi; Poole; Repetski; Yao

Upper Paleozoic. Beatty

Lower Paleozoic. Bergström; Pyle

Cambrian. Bagnoli; Barnes; Donoghue; Dong (Xiping); Kozur; Miller (J.F.); Nicoll; Qi; Raine; Repetski; Smith

Ordovician. Agematsu; Albanesi; Aldridge; Bagnoli; Barnes; Dong (Xiping); Dzik; Ethington; Ferretti; Hall; Izokh; Jassi; Leatham; Leslie; Löfgren; MacKenzie; McCracken; Männik; Miller (J.F.); Norby; Nowlan; Obut; Percival; Raine; Reimers; Repetski; Sarmiento; Sashida; Savage; Smith; Stouge; Sweet; Suttner; Tarabukin; Viira; Wickström; Witzke; Zhang; Zhen

Silurian. Albanesi; Aldridge; Bancroft; Barnes; Barrick; Benfrika; Corradini; Dopieralska; Garcia-López; Izokh; Jeppsson; Katvala; Kleffner; Luppold; McCracken; Männik; Mawson; Metzger; Miller (Giles); Norby; Nowlan; Purnell; Sandberg; Sarmiento; Savage; Simpson; Slavik; Tarabukin; Valenzuela-Rios; Viira; von Bitter; Wang (Cheng-yuan); Wickström; Zhang

Devonian. Agematsu; Alekseev; Barrick; Belka; Bender; Benfrika; Boncheva; Bultynck; Çapkinoğlu; Castelló-Corraliza; Corradini; Day; Dusa; Dusa; Dzik; Gatovsky; Gholamalian; Girard; Gouwy; Groessens; Herbig; Izokh; Johnston (David); Katvala; Kirilishina; Klapper; Königshof; Kononova; Liao; Luppold; McCracken; Manship; Martinez-Perez; Matyja; Mawson; Metzger; Miller (Giles); Morgan; Narkiewicz; Nazarova; Norby; Over; Perri; Piecha; Randon; Ruppel; Savage; Slavik; Sloan; Spalletta; Stritzke; Suttner; Szaniawski; Tarabukin; Uyeno; Valenzuela-Rios; Wang (Cheng-yuan); Wang (Ping); Wankiewicz; Weddige; Woroncowa-Marcinowska; Yolkin; Witzke; Zhuravlev

Frasnian/Famennian. Girard; Gouwy; Kirchgasser; Kirilishina; Sanz-Lopez; Spalletta

Carboniferous. Bardasheva; Barrick; Belka; Bender; Boncheva; Çapkinoğlu; Dopieralska; Dusa; Garcia-López; Gatovsky; Groessens; Henderson; Herbig; Igo (Hisayoshi); Jones (G.L.); Kononova; Lang; Lambert; McCracken; Matyja; Mawson; Meischner; Nakrem; Nazarova; Nemyrovskaya; Orchard; Park; Perri; Piecha; Purnell; Qi; Randon; Rexroad; Spalletta; Swift; Wang (Cheng-yuan); von Bitter; Wang (Ping); Wardlaw

Mississippian. Lane; Mason; Medina-Varea; Miller (J.F.); Norby; Rexroad; Ruppel; Sandberg; Sanz-Lopez; von Bitter

Pennsylvanian. Bancroft; Brown; Heckel; Lane; Méndez; Merrill; Norby; Pieracacos; Rexroad; Rosscoe; Scomazzon; von Bitter; Whiteside; Zhuravlev

Permian. Henderson; Isozaki; Klets; Lambert; Nakrem; Orchard; Park; Perri; Qi; Randon; Reimers; Shen; Shilong; Swift; Wang (Cheng-yuan); Wang (Ping); Wardlaw; Zhuravlev

Permian-Triassic Interval. Aldridge; Beatty; Goudemand; Henderson; Jiang; Kolar-Jurkovšek; Lai; Metcalfe; Sudar

Triassic. Alekseev; Goudemand; Hirsch; Henderson; Igo (Hisayoshi); Katvala; Kilic; Klets; Kolar-Jurkovšek; Kovacs; Leatham; Liu; Márquez-Aliaga; Mastandrea; Meço; Nakrem; Narkiewicz; Nicoll; Nowlan; Orchard; Perri; Plasencia-Camps; Reimers; Rigo; Savage; Shilong; Sudar; Swift; Wardlaw; Yao

Early Hettangian. Kozur

Biology. Katvala; Nicoll; Szaniawski

Palaeobiology. Aldridge; Armstrong; Buryi; Donoghue; Gedik; Girard; Henderson; Jassi; Leslie; Martinez-Perez; Márquez-Aliaga; Norby; Purnell; Plasencia-Camps; Smith

Affinities. Katvala

Systematic Palaeontology. Savage

Systematics. Sanz-Lopez; Valenzuela-Rios

Taxonomy. Bagnoli; Bergström; Bultynck; Dong (Xiping); Jeppsson; Johnston (David); Klapper; Liao; Löfgren; McCracken; Männik; Matyja; Mawson; Miller (Giles); Repetski; Rexroad; Rosscoe; Sandberg; Sashida; Shen; Simpson; Spalletta; Suttner

Multielement Taxonomy. Goudemand; Metzger; von Bitter

Multielement Analysis. Ishida;

Apparatus Reconstruction. Agematsu; Kolar-Jurkovšek; Lambert; Wardlaw

Cladistics. Aldridge; Barnes; Purnell; Wickström

Evolution. Aldridge; Dzik; Liao; Männik; Nemyrovska; Purnell; Szaniawski; Wardlaw; Zhuravlev

Phylogeny. Gatovsky; Kirilishina; Kononova; Smith; Wickström

Phylomorphogeny. Bardashev; Bardasheva

Biodiversification. Stouge

Mass Extinctions. Metcalfe; Sandberg

Extinction Dynamics. Beatty

Morphology. Gatovsky; Martinez-Perez; Zhuravlev

Morphogenesis of Elements. Goudemand

Functional Morphology. Jones (D.); Nazarova; Purnell

Ontogeny. Gatovsky; Goudemand

Morphometry. Girard; Goudemand; Purnell

Shape Analysis. Goudemand; Purnell; Sloa

Microevolutionary Pattern & Process. Jones (D.)

Ultrastructure. Barnes;

Histology. Dong (Xiping); Goudemand; Martinez-Perez; Weddige; Zhuravlev

Polygonal Ornament. Lai

Surface Texture Alteration. Repetski

Conodont Metamorphism. Königshof

Palaeoecology. Armstrong; Barnes; Beatty; Bergström; Brown; Bultynck; Çapkinoğlu; Gholamalian; Goudemand; Hall; Henderson; Jones (D.); Johnston (David); Katvala; Kilic; Kirilishina; Kononova; Kozur; Lai; Leatham; McCracken; Männik; Mason; Matyja; Mawson; Medina-Varea; Méndez; Narkiewicz; Navas-Parejo; Nemyrovska; Nowlan; Park; Perri; Purnell; Rigo; Sandberg; Scomazzon; Stritzke; Suttner; Tarabukin; von Bitter; Wankiewicz; Zhang; Zhen; Zhuravlev

Palaeoenvironment. Albanesi; Boncheva

Biofacies. Gatovsky; Gholamalian; Liao; Piecha; Poole; Repetski; Sandberg; Valenzuela-Rios

Facial Transitions & Changes. Boncheva**Biogeography.** Barnes; Metcalfe; Percival; Zhen; Zhuravlev**Palaeogeography.** Katvala; Krahl; Männik; Navas-Parejo; Nemyrovska; Nowlan; Orchard; Slavik**Palaeobiogeography.** Agematsu; Goudemand; Ishida; Kozur; Medina-Varea; Repetski; Sandberg; Scomazzon; Suttner; Yolkin**Zoo-paleogeography.** Hirsch**Palaeoceanography.** Leslie**Palaeoclimatology.** Day; Goudemand; Leslie; Trotter**Palaeogeology.** Márquez-Aliaga; Plasencia-Camps**Oceanic Episodes.** Kleffner**Eustasy.** Barnes**Stratigraphy.** Boncheva; Bardashev; Bardasheva; Bender; Gouwy; Jeppsson; Kozur; Lang; Männik; Matyja; Sandberg; Slavik; Spalletta; Suttner**Lithostratigraphy.** Dumoulin**Depositional Settings.** Dumoulin**Sedimentology.** Suttner**Tectonosedimentary Evolution.** Krahl**Erosion.** Wankiewicz**Biostratigraphy.** Agematsu; Albanesi; Bader; Bagnoli; Bardashev; Barnes; Barrick; Beatty; Brown; Bultynck; Corradini; Day; Dong (Xiping); Garcia-López; Gatovsky; Gholamalian; Groessens; Hall; Heckel; Henderson; Herbig; Ishida; Isozaki; Izokh; Johnston (David); Katvala; Kirchgasser; Kirilishina; Klapper; Kleffner; Kolar-Jurkovšek; Kononova; Krahl; Leatham; Liao; Liu; Löfgren; Luppold; McCracken; Martinez-Perez; Mastandrea; Medina-Varea; Metcalfe; Miller; Nakrem; Narkiewicz; Navas-Parejo; Nemyrovska; Nicoll; Norby; Nowlan; Obut; Orchard; Percival; Perri; Piecha; Qi; Raine; Randon; Repetski; Rexroad; Rigo; Ruppel; Sarmiento; Savage; Scomazzon; Shilong; Simpson; Spalletta; Stouge; Strizke; Sudar; Suttner; Sweet; Valenzuela-Rios; Viira; von Bitter; Wardlaw; Weddige; Whiteside; Witzke; Woroncowa-Marcinowska; Yao; Yolkin; Yoshida; Zhen**Biochronology.** Goudemand**Zonation.** Bardashev; Bardasheva; Wankiewicz**Boundaries.** Izokh; Obut; Yolkin**Chronostratigraphy.** Bagnoli; Kleffner;**Global Correlation.** Liao; Valenzuela-Rios**Graphic Correlation.** Gouwy; Shen**Events.** Bultynck; Jeppsson; Kleffner; Sandberg; Suttner**Sequence Stratigraphy.** Johnston (David); Männik**Sequence Biostratigraphy.** Lambert**Stratophenetics.** Dzik**Geochemistry.** Barnes; Belka; Dopieralska; Purnell; Rigo; Ruppel; Trotter**Chemostratigraphy.** Barrick; Day**Sr and Nd isotope data.** Scomazzon**Carbon Isotope Stratigraphy.** Bancroft**Stable Isotope Chemostratigraphy.** Day**Palaeoseawater Chemistry.** Trotter**Preservation.** Sashida**Taphonomy.** Bader; Mason; Purnell; Wankiewicz**CAI.** Barnes; Belka; Boncheva; Cole; Garcia-López; Gatovsky; Ishida; Königshof; Kozur; Mason; Mawson; Meco; Narkiewicz; Nemyrovska; Navas-Parejo; Nicoll; Norby; Nowlan; Piecha; Qi; Raine; Repetski; Sanz-Lopez; Sarmiento; Smith; Spalletta; Sudar; Wang (Ping); Wickström; Zhang; Zhuravlev**Thermal Maturation.** Hall**Vitrinite Reflectance.** Königshof

Illite Crystallinity. Königshof

Conodont Processing Methods. Bancroft

Conodont Lagerstätten. von Bitter; Purnell

Reworked Conodonts in impact breccias. Miller (J.F.)

Conodont and agglutinated foraminiferal palaeoecology. Herbig

Palmatolepids. Manship

Current Research Activities

Agematsu, Sachiko. Ordovician to Devonian biostratigraphy in Thailand and Malaysia; Triassic conodonts in Japan.

Albanesi, Guillermo. Lr. Paleozoic conodont faunas from western and northwestern Argentine basins, as well as localities elsewhere in South America; Is leading extended project on high-resolution conodont-graptolite biostratigraphy of the Ordovician and Silurian systems of Argentina (with G. Ortega); A new project on conodont paleothermometry of the Precordillera, and biostratigraphy and paleoenvironments of the eastern Cordillera by Ph.D. students F. Zeballo and G. Voldman (G.A. supervisor). Continued collaboration with colleagues on diverse topics of historical geology from the Lr. Paleozoic of South America, using conodont taxonomy, biostratigraphy and paleothermometry.

Aldridge, Dick. Ordovician conodont apparatuses from the Soom Shale, South Africa (ongoing); Silurian conodonts from S. China (with Wang Cheng-yuan) (nearly completed); P/T boundary conodonts of the Meishan section, China (with Jiang et al.), polygonal patterning on gondolellid platform elements (with Jiang et al.), inter-relationships of complex conodonts (with Donoghue et al.), chapter on the discovery of conodont soft tissues (with Briggs) and a brief history of the Pander Society at 40 (with von Bitter) all completed.

Alekseev, Alexander. Devonian-Triassic conodonts from the E. European platform and the Urals; conodonts from the Moscow Basin and South Urals, and the Crimea; presently concentrating on Moscovian-Gzhelian. A new area is the Don River in the Volgograd Region.

Armstrong, Howard. *Panderodus* growth and micro-wear (with Sansom) (ongoing); grant application on stable isotope values from conodonts and SST measurement is pending (with Darren Groecke).

Bagnoli, Gabriella. Cambrian and Ordovician conodonts from N. and S. China (in cooperation with the Chinese Academy of Sciences).

Bancroft, Alyssa. Silurian conodont biostratigraphy and $\delta^{13}\text{C}_{\text{carb}}$ stratigraphy of the Eramosa Formation of SW Ontario, Canada (Master's thesis, nearing completion).

Bardashev, Igor. Silurian and Devonian stratigraphy and conodonts from Central Asia. Comprehensive work "Stratigraphy, conodonts and zonation of Devonian and adjacent deposits of Tajikistan" continues.

Bardasheva, Nina. Carboniferous stratigraphy and conodonts from Central Asia.

Barnes, Christopher. Relating conodont biostratigraphy, biofacies and biogeography to the pattern of eustasy and tectonism affecting northern Laurentia in the early Paleozoic, using extensive conodont database (with Shunxin Zhang); Ordovician and Silurian conodont taxonomy, evolution, paleoecology, and the response of the conodont communities to eustatic change (with co-authors); conodont geochemistry (with Julie Trotter). Late Ordovician-Early Silurian conodonts from the Edgewood Group, Missouri-Illinois (with Tyler Kuhn and Felicity O'Brien); Late Ordovician conodonts from southern Ontario (with Zhang and Glen Tarrant); Ashgill-Wenlock conodonts from the Canadian Arctic (with David Jowett); and Ashgill conodonts from the Whitland section, South Wales (with Annalisa Ferretti).

Barrick, James. Silurian conodonts, oceanic events, and chemostratigraphy; taxonomy and biostratigraphy of Pennsylvanian conodonts.

Barskov, Igor. Conodonts from the Serpuchovian type section of the Russian Platform.

Beatty, Tyler. Early Triassic faunas from Arctic and western Canada; Permian-Triassic conodonts from South China (with C. Henderson and Jun Chen); Upper Paleozoic-Triassic conodonts from the Quesnel Terrane, western Canada.

- Belka, Zdzislaw.** Late Devonian conodont stratigraphy in the eastern Anti-Atlas, Morocco. REE isotope chemistry of conodont elements in the Variscan of Europe, and CAI studies in the Devonian of northern Africa.
- Bender, Peter.** Devonian and Lower Carboniferous stratigraphy, mainly the Lahn-Dill area of the Rheinisches Schiefergebirge.
- Benfrika, El Mostafa.** Silurian and Lr. to M. Devonian conodonts of the Moroccan Meseta.
- Bergström, Stig.** Mostly $\delta^{13}\text{C}$ chemostratigraphy and Ordovician meteorite work; however, of 7 published papers authored or co-authored in 2007, 5 dealt at least partly with conodonts.
- Boncheva, Iliana.** Late Devonian succession from the western Moesian terrane (N. Bulgaria); new conodont data from the Lr. Palaeozoic in Northern Camdag, N.W. Anatolia, Turkey; Devonian strata in the Balkan terrane, Bulgaria, as well as stratigraphy, faunas and sedimentary environments.
- Brown, Lewis.** Pennsylvanian (mostly Desmoinesian) of the Illinois Basin (with Carl Rexroad), plus study in Missouri, Kansas, and New Mexico.
- Bultynck, Pierre.** Correlation of *subterminus* conodont faunas from Europe and S. Morocco with North American *subterminus* fauna (with K. Narkiewicz) (near completion).
- Buryi, Galina.** Morphological structures of euconodonts (ongoing).
- Çapkinoğlu, Şenol.** U. Devonian-Lr. Carboniferous conodont biostratigraphy of Istanbul Zone.
- Castelló Corraliza, Verónica.** Frasnian-Famennian conodont faunas (Ph.D. study).
- Corradini, Carlo.** Silurian and Devonian of N. Gondwana, mainly in Sardinia and the Carnic Alps; Revision of the Famennian/Tournaisian conodont biostratigraphy in Sardinia, with a proposal of some variations in the biozonation scheme in use (published); conodont taxonomy across D/C boundary. *Orthoceras* limestone in several areas of the Carnic Alps (continuing); *Pseudooneotodus* in Sardinia and the Carnic Alps (*in press*).
- Day, Jed.** Middle and Late Devonian conodont and brachiopod biostratigraphy of continental margin and reef platform and basinal facies in western Canada (published) (see Whalen & Day, 2008) Alberta and B.C. Givetian-Famennian conodont faunas and biostratigraphy (with Jeff Over); Givetian and Frasnian conodont biostratigraphy of the epeiric carbonate ramp system in the Iowa Basin (Witzke, Day & Bunker, *in prep.*); Conodont apatite based sea surface records for the Frasnian-Early Famennian of the equatorial ocean from the Alberta-B.C. study sites compared with the coeval record from US mid-continent sites in the Iowa Basin, to study the role of climate change and third order sea level changes and climate as a driver for Kellwasser extinction bioevents (with co-authors); Famennian of subsurface of the Iowa and Illinois basins (with Jeff Over); Carbon isotope chemostratigraphy of the U. Famennian-D-C boundary interval in eastern Missouri (ongoing, with Rowe & Rimmer), with new more complete records of late Famennian carbon isotope events-excursions than those just documented by our group (Cramer et al., 2008); High-resolution integrated carbon-isotope and magnetic susceptibility of the Uppermost Famennian Substage in the H-32 core (near completion); short term Milankovitch precession and obliquity signals are apparently resolvable and permit astronomical calibration of interval spanning the *M. expansa* to *U. praesulcata* zones, and constraining the onset of the Late Devonian greenhouse-icehouse climate transition.
- Dhanda, Rosie.** See **Jassi**.
- Dong, Xiping.** Cambrian through Lr. Ordovician conodonts from Hunan, S. China, and Liaoning, Shandong, N. China; histology of protoconodonts, paraconodonts and the earliest conodonts from China.
- Donoghue, Philip.** Euconodont origin (with Dong Xiping, Paul Smith and Ivan Sansom) (near completion); Structure-function relations in conodont elements using finite element analysis and synchrotron radiation X-ray tomographic microscopy (with C. Martinez Perez and E. Rayfield).
- Dopieralska, Jolanta.** REE isotope chemistry of Devonian and Carboniferous conodonts from the Variscan realm.
- Dumoulin, Julia.** Lithofacies and biofacies of Paleozoic and Triassic carbonate rocks in northern Alaska; Carboniferous-Permian Lisburne Group throughout N. Alaska and on Paleozoic metacarbonate rocks in the Brooks Range and on Seward Peninsula.
- Dusar, Michiel.** Subsurface geology of northern Belgium, including Devonian-Carboniferous strata.
- Dzik, Jerzy.** Evolution of Ordovician and Devonian conodont apparatuses.
- Ethington, Ray.** Arenigian conodonts of Margie Ls. on the R. North Esk, Scotland (*in press*). Enigmatic *Ptiloncodus* mostly from the Great Basin, not a conodont, but frequent associate in Ordovician collections from Laurentia (near completion). Catalogue of the University of Missouri conodont collections (near completion). Oneota and related unit conodont faunas of U. Midwest, including review of Furnish (1938)

type material & summary of Utah-Nevada Ibexian/Whiterockian conodont collections not included in previous reports (plan to update).

Ferretti, Annalisa. Ordovician conodonts of S. Europe; *Hammannodus* gen. nov., in memory of W. Hammann, recently erected from the Tremadocian of the southern Montagne Noire, France (see Serpagli et al. 2007); unusual richness and good preservation of the assemblage allowed taxonomic revisions of *Teridontus* (see Serpagli et al., in press); Rare and problematical phosphatic plates from conodont residues of the Silurian-Early Devonian of Bohemia (with Serpagli and Štorch) & the Silurian of the Carnic Alps (with Serpagli).

Garcia-Lopez, Susana. Silurian to Lr. Carboniferous conodonts; mainly focusing on biostratigraphy and biofacies. CAI in the Cantabrian Zone and Pyrenees (NW and NE Spain).

Gatovsky, Yury. Upper Devonian and Lr. Carboniferous conodonts of the Bolshoi Karatau (Southern Kazakhstan) and the Urals. Famennian conodonts from the East Russian Platform (recent new work).

Gholamalian, Hossein. Conodont biostratigraphy of Late Devonian sequences of central Iran (ongoing).

Girard, Catherine. Response of conodonts at the Frasnian/Famennian boundary, especially in the stratotype area in the Montagne Noire (France); Morphology, and ontogeny using morphometrics.

Goudemand, Nicolas. Early Triassic conodonts (Ph.D. project); conodonts from S. China (Guangxi and Guizhou provinces), S. Tibet (Tulong area), Oman and the Salt Ranges of Pakistan.

Gouwy, Sofie. Middle Devonian conodonts of SE Sardinia (with C. Corradini) and of the southern Pyrenees (with N. Valenzuela-Rios & T. Liao).

Grossens, Eric. U. Devonian-Lr. Carboniferous biostratigraphy.

Hall, Jack. Ordovician biostratigraphy (ongoing).

Heckel, Phillip. Pennsylvanian conodont biostratigraphy, particularly regarding selecting M. and U. Pennsylvanian global stage boundaries.

Henderson, Charles. U. Paleozoic to Triassic sequence biostratigraphy around the world, including western and Arctic Canada, Bolivia, China, Russia and the U.S.A.; focus on development of refined biozonations, by investigating evolutionary models for conodont speciation, extent of conodont provincialism, and recognition of geographic clines.

Herbig, Hans-Georg. Manuscripts on U. Devonian-Lr. Carboniferous conodonts from the Betic Cordillera and the Catalanides (Spain) await completion.

Hirsch, Francis. Triassic conodont multielements; revision of the Nogami Collection (Kyoto) (with K. Ishida and Tokushima).

Igo, Hisayoshi. Carboniferous and Triassic conodonts from Thailand and Japan.

Ishida, Keisuke. Carboniferous, Permian and Triassic conodonts from SW Japan. Conodont biostratigraphy across the Carnian-Norian boundary in Jifukudani bedded chert, Tamba Terrance, Inner Zone (with T. Mikami); a comparison of the Triassic palaeogeography and faunal affinity of the southernmost Chichibu Belt of SW Japan that of the Mediterranean region and Circum-Pacific biofacies (discussions with F. Hirsch et al.); multielement studies of the Triassic Nogami Collection from SE Asia progressing well (with F. Hirsch).

Isozaki, Yukio. Mass extinction and environmental changes across the Guadalupian-Lopingian (Middle - Late Permian) boundary in Japan and S. China, using bio-, chemo-, and magneto-stratigraphy.

Izokh, Nadezhda. Ordovician, Silurian and Devonian conodonts of the Altai-Sayan folded area, W. Siberia, Russia and S. Tien Shan.

Jassi, Rosie [nee Dhandia]. *Erismodus quadridactylus* assemblage, an enigmatic Ordovician prioniodinin.

Jeppsson, Lennart. 'Mid' Sheinwoodian correlations; high-resolution correlations of the interval including the Lau Event; a guidebook to Gotland for the 2008 International Geological Congress (anticipated 2008 completion for the preceeding); Conodont extraction focusing on less well-studied (minor?) events (chiefly Boge, Linde) and the early Ludlow.

Jiang, Haishui. Permian-Triassic boundary conodonts from S. China.

Johnson, David. Conodont biostratigraphic and geological (e.g. core and thin-section examination) service work to the Canadian petroleum; u. Wabamun Group to l. Banff Formation conodont biostratigraphy of southern Alberta (with C. Henderson).

Jones, David. Using conodont element microwear to impose ecological constraints on conodont isotopic and biostratigraphic analyses.

Katvala, Eric. Biostratigraphy, paleoecology, and paleogeography of Mississippian through Triassic conodonts to constrain paleontologic, stratigraphic and tectonic interpretations in the accreted terranes of western North America; element distribution in conodont elements using the electron microprobe.

- Kilic, Ali Murat.** U. Permian and Lr. Triassic conodonts of the M. Taurids; Bithynian biostratigraphy of Kocaeli, as well as of Karaburun, Turkey; diversification of *Paragondolella* during the Olenekian-Anisian; morphological response of conodonts to environmental events.
- Kirchgasser, William.** Refining the conodont biostratigraphy of discontinuity horizons in the condensed u. Givetian and Lr. Frasnian sections of western New York, including the Leicester Pyrite, North Evans Ls. (conodont-bed of Hinde 1879), and the Genundewa Ls. and equivalent levels in central Pennsylvania (with J. Over, G. Baird and C. Brett); also trying to recover zone-defining conodonts from a newly discovered mid-Frasnian goniatite cephalopod horizon with *Naplesites* in the Lr. Rhinestreet Shale at Lake Erie shore, a level above the presumed Belpre Ash Bed.
- Kirilishina, Elena.** Frasnian-Famennian boundary interval conodonts of central Russian Platform.
- Klapper, Gilbert.** Frasnian and Famennian conodont taxonomy and biostratigraphy.
- Kleffner, Mark.** Late Wenlock-Ludlow (Silurian) oceanic episodes and events, southern Laurentia (with J. Barrick); conodont biostratigraphy and δ^{13} chemostratigraphy for the Late Silurian-Early Devonian of western New York (with J. Barrick, J. Ebert and D. Matteson); conodont biostratigraphy and δ^{13} chemostratigraphy for the late Llandovery and Wenlock of Ohio and western New York (with B. Cramer); δ^{13} chemostratigraphy for the Late Ordovician-E. Silurian of the North American Midcontinent (with S. Bergström); revision of a conodont-, graptolite-, and chitinozoa-based Silurian chronostratigraphy (with J. Barrick).
- Klets, Tatyana.** Permian and Triassic conodonts from NE Asia.
- Kolar-Jurkovšek, Tea.** Biostratigraphic studies of the Permian-Triassic and Triassic in the Dinarides.
- Königshof, Peter.** Middle Devonian sequences of the Rheinisches Schiefergebirge of Germany, Morocco and Russia, focusing upon microfacies, sea level changes and biostratigraphy (part of IGCP 499).
- Kononova, Ludmila.** Middle-Late Devonian and E. Carboniferous conodonts.
- Kozur, Heinz.** Taxonomy and worldwide biostratigraphy of Palaeozoic and Triassic conodonts and their apparatuses; palaeobiogeography of Permian and Triassic conodonts of Turkey.
- Krahl, Jochen.** Paleogeography of the nappe in Crete, Greece, especially that of the outer Hellenides.
- Lai, Xulong.** Permian-Triassic and Guadalupian-Lopingian boundary conodonts in S. China.
- Lambert, Lance.** Carboniferous and Permian conodont, including Moscovian chronostratigraphic boundary interval studies (with respective task groups). E. to M. Permian conodont studies (with colleagues).
- Lane, Richard.** Nashui section, Guizhou Province, China, focusing on the Viséan-Moscovian (with Xiangdong Wang, Qi Yuping, Barry Richards and Wang Zhi-hao).
- Lang, Jiabin.** Conodonts and stratigraphy of N.E. China.
- Leatham, Britt.** Biostratigraphic studies Ordovician-Devonian carbonates of southern Basin and Range (initiated with the late J.D. Cooper of CSU Fullerton).
- Leslie, Stephen.** Middle and Late Ordovician conodonts & (more recently) Early Ordovician faunas, mostly bedding plane conodonts from dark shale sequences; integration of conodont and graptolite biostratigraphic data from dark shales & examining bedding plane associations to determine apparatuses architecture (with Dan Goldman); Mohawkian biostratigraphy (with C. Mitchell, S. Samson and P. Sadler); Late Ordovician paleoceanography and paleoclimatology (with M. Saltzman, S. Young and A. Herrmann).
- Liao, Jau-Chyn.** Conodont biostratigraphy and biosedimentation of neritic and pelagic facies in the Spanish Central Pyrenees; correlation with other sequences, mainly in the Iberian Chains and Rhenish Slate Mountains.
- Liu, Jianbo.** Lower Triassic conodonts (with Shouren Yang) and Ordovician conodonts (with Yong Yi Zhen).
- Löfgren, Anita.** Lower and M. Ordovician conodont biostratigraphy, morphology and taxonomy of (mainly) Baltoscandia (with colleagues).
- Luppold, Friedrich.** Conodonts of the Silurian-Devonian boundary in SE Anatolia; also ostracode, palynomorph and geochemical studies (with Dojen, Brocke, and Mann, respectively); Lr. M. Devonian of the Harz-Mountains is *in press*; temporary M. to U. Devonian outcrops at the Oker reservoir (ongoing, with P. Buchholz).
- Männik, Peep.** Evolution, taxonomy and palaeoecology of conodonts, conodont-based high-resolution stratigraphy, bioevents and palaeogeography; sequence stratigraphy and evolution of sedimentary basins; “Upper Ordovician-Lower Silurian conodont biostratigraphy in stratigraphic sequences” (new 4 year project funded by the Estonian Science Foundation); evolution and high-resolution stratigraphy of the Early

Palaeozoic sedimentary basins on Baltica and Siberia palaeocontinents (with colleagues from Estonia, Russia, Sweden, U.K. and U.S.A.).

Márquez-Aliaga, Ana. Iberian (western Tethys) Triassic paleobiology and biostratigraphy.

Martínez-Pérez, Carlos. Emsian conodonts from the Spanish Central Pyrenees (Ph.D., currently being completed; supervised by Jose Ignacio Valenzuela-Ríos).

Mason, Charles. Conodont biostratigraphy of the Lr. Mississippian of Kentucky; conodont CAI and age of target bedrock and impact breccias of the Haughton Impact structure, Devon Island, Nunavut, Canada.

Mastandrea, Adelaide. Conodont biostratigraphy of the Carnian-Rhaetian of N. Calabria; Triassic-Cenozoic microbialites.

Matyja, Hanna. Devonian and Mississippian conodonts; Mississippian stratigraphy and facies development in NW Poland (in press); M. Devonian and Frasnian conodont and palynomorph biostratigraphy (with E. Turnau); integrated conodont-foram biostratigraphic and event stratigraphic study of the Famennian in NW Poland (with A. Tomas); integrated biostratigraphic, sedimentologic, event stratigraphic, magnetic susceptibility and isotopic study of the uppermost Famennian (with co-authors).

Mawson, Ruth. Taxonomy and age-implications of late Silurian, Devonian and E. Carboniferous conodonts from eastern Australia, northernmost Pakistan, NW Xinjiang (China), and New Zealand.

McCracken, Alexander. Middle to U. Ordovician, Silurian, Devonian and Carboniferous conodonts from various Canadian locales.

Meço, Selam. Biostratigraphy and paleontology.

Medina-Varea, Paula. Mississippian conodonts of Sierra Morena (SW Spain) and Morocco (Ph.D. research); gnathodid taxonomy and biostratigraphy, Mississippian, Atlantic Canada (with P. von Bitter).

Meischner, Dieter. Conodonts from the Lower Carboniferous and Serpuchovian, especially the species *G. bilineatus* and *G. girtyi* (with T. Nemyrovska).

Méndez, Carlos. Pennsylvanian conodonts from the Cantabrian Mountains of N. Spain.

Merrill, Glen. *Gondolella* (ongoing, with von Bitter); Lr.-M. Pennsylvanian of SE Ohio (ongoing).

Metcalf, Ian. Permian-Triassic conodonts from China, SE Asia and Australia; systematics and evolution of *Isarcicella* (with B. Nicoll) and *Hindeodus* and *Vjalovognathus* (with B. Nicoll and B. Wardlaw) nearing completion; Permian-Triassic boundary and end-Permian mass extinction, China and Australia.

Metzger, Ronald. Devonian multielement taxonomy of conodonts from the State Quarry Limestone near Iowa City, Iowa.

Miller, Giles. Iranian Silurian conodonts (with V. Hairapetian); a thelodont study, including mention of conodonts (*in press*); a more detailed description of the conodont fauna to follow; work on Devonian collections from the Urals (submitted).

Miller, James. U. Cambrian and lowest Ordovician conodont biostratigraphy; Lr. Ordovician, U. Devonian, and Mississippian conodonts (and other fossils) reworked into a middle Mississippian meteorite-impact breccia in Missouri.

Nakrem, Hans Arne. Permian and Triassic conodonts (and bryozoans) from Svalbard; completion of Triassic biostratigraphy in 2008.

Narkiewicz, Katarzyna. European equivalent of *subterminus* Fauna (with P. Bultynck) and M. Devonian conodonts from Belarus (with S. Kruchek).

Nascimento, Sara. Pennsylvanian conodonts of the Amazon Basin, Brazil (Ph.D. project).

Navas-Parejo, Pilar. Paleozoic stratigraphy and conodont biostratigraphy of the Malaguide Complex (Betic Cordillera, SE Spain), and related Mediterranean domains (Ph.D. project).

Nazarova, Valentina. Middle-U. Devonian and Carboniferous conodonts from the Russian Platform; functional morphology of conodonts.

Nemyrovska, Tamara. Palaeontology and biostratigraphy of the Carboniferous conodonts of the Donets Basin (Ukraine) and the Cantabrian Mountains (Spain).

Nicoll, Robert. Permian and Triassic conodonts from China and Australia (with I. Metcalfe); several Australian Cambro-Ordovician papers (*in progress*).

Norby, Rodney. *Lochriea* apparatus (with P. von Bitter); Silurian biostratigraphy (with D. Mikulic); CAI database for Illinois Basin (with J. Repetski).

Nowlan, Godfrey. Conodont animal affinities (in preparation, with S. Turner and A. Blicek et al.); the stratigraphy of the Phillipsburg tectonic slice in the Quebec Appalachians (with O. Salad Hersi and D. Lavoie).

Obut, Olga. Ordovician conodont biostratigraphy.

- Orchard, Michael.** Carboniferous, Permian, and Triassic biostratigraphy and paleogeography of Cordilleran terranes; potential conodont defined base of the Norian, using carbon and oxygen isotopes (with colleagues) [editors comment: please see Bibliography, for M.O.'s prodigious output].
- Park, Soo-in.** Mid-Carboniferous conodonts of the Pyeongchang area, Korea.
- Percival, Ian.** Ordovician conodonts, particularly from deep-water cherts in New South Wales.
- Perri, Maria Cristina.** Devonian-E. Carboniferous conodonts from the Carnic Alps (with C. Spalletta); late Permian-Triassic conodonts, S. Alps and Bükk Mtns.; Frasnian-Famennian events; Devonian-Carboniferous and Permian-Triassic boundaries; submitted for publication: P-T boundary conodonts in the Bükk Mountains, NE Hungary (with M. Sudar and J. Haas), ostracodes (studied by S. Crasquin) from the Bulla section (southern Alps, Italy), parastratotype of the western Tethys integrated with the conodont biostratigraphy, and Famennian chondrichthyan microremains (studied by C. Derycke) from Sardinia and Morocco, integrated with conodont biostratigraphy.
- Piecha, Matthias.** Devonian and Carboniferous conodont biostratigraphy, Rhenish Massif; low temperature (CAI 1-2) M. and Late Devonian conodonts, Paffrath Syncline (Bergisches Land), Germany; conodont biofacies and hiatuses, Frasnian-Famennian boundary, Rhenish shelf, NW Germany.
- Plasencia-Camps, Pablo.** Triassic conodonts from Spain, with a special interest in the Triassic genus *Pseudofurnishius*; also Triassic fishes.
- Poole, Forrest.** Sedimentology and stratigraphy of Ordovician-Permian carbonate shelf, Permian foredeep, and Permian Sonora allochthon (with R. Amaya-Martinez, A. Harris, C. Sandberg, C. Stevens and W. Berry); Devonian and Mississippian stratigraphy and sedimentology in the Antler foreland basin of Nevada and Utah, utilizing conodont, radiolarian and ammonite faunas to record foreland-basin evolution and depositional history (with C. Sandberg).
- Purnell, Mark.** Analysis of surface wear and damage of elements and how it relates to conodonts ecology and oxygen isotope signals (with David Jones). 3D surface analysis of conodont elements. Exceptionally preserved conodont skeletons and apparatus architecture (with von Bitter).
- Qi, Yuping.** Conodont biostratigraphy of the candidate sections in S. China for GSSPs for all remaining global Carboniferous stage boundaries, to be selected (with colleagues); Cambrian conodont biostratigraphy of S. and N. China is continuing (with G. Bagnoli); marine biostratigraphy of the Late Paleozoic to E. Triassic in China (supported by Chinese Oil Company) (ongoing).
- Raine, Robert.** Cambro-Ordovician, Durness Group, NW Scotland (Ph.D project)
- Randon, Carine.** Permo-Triassic conodonts from deep-water cherts in N. Thailand, and Pennsylvanian conodonts from Mexico.
- Reimers, Aleksey.** Ordovician, Permian and Triassic conodonts of the Russian Platform, the Urals and E. Siberia. Recently collected samples of Ordovician xenolites in kimberlite pipes of E. Siberia.
- Repetski, John.** Cambrian and Ordovician conodont biostratigraphy, CAI and systematics; Carboniferous CAI maps of eastern U.S. basins; biostratigraphic support for USGS mapping projects; also age-dating of faunas and studies of Cambrian and Ordovician phosphatic problematica.
- Rexroad, Carl.** Mississippian and Pennsylvanian conodont studies of the Illinois Basin (with L. Brown and J. Devera), in New Mexico (with L. Brown); U. Mississippian of West Virginia.
- Rigo, Manuel.** Taxonomic and biostratigraphic studies of U. Triassic conodonts from Lagonegro (S. Apennines), Sicily, S. Alps (Dolomites and Lombardy), Slovenia and N. Apennines (La Spezia); geochemical analyses of biogenetic conodont apatite, and Triassic paleoclimatology.
- Roscoe, Steven.** Taxonomic revision of *Idiognathodus* and *Streptognathodus* in U. Pennsylvanian, South Mound/Checkerboard to Dewey cycles of U.S. Midcontinent.
- Ruppel, Stephen.** Devonian and Mississippian conodonts of Texas (with D. Boardman and J. Over).
- Sandberg, Charles.** Late Ordovician, Devonian, Mississippian, Pennsylvanian and Early Permian conodonts from Sonora and Sinaloa, Mexico (with F. Poole); Devonian platform-to-basin transitional sequences in the southern Hot Creek Range, and from the Devonian and Mississippian terrane of the southern Fish Creek Range, both in Nevada (with F. Poole); five discrete faunas within the early Late Devonian Early *rhenana* Zone, Burbank Hills, Utah (with J. Morrow); islands in Mississippian seas, western Utah, in part evidenced by crevices fillings with abundant *Mestognathus harmalai* (with J. Morrow); Meramecian conodont faunas with a coral fauna previously unreported in the western U.S.; distal mega-tsunami deposits in western Utah related to the middle Frasnian Alamo Impact (with J. Morrow); re-identifying E. Mississippian conodonts from the Hannibal Shale in Missouri (sent by T. Thompson and D. Work).

- Sanz-Lopez, Javier.** CAI studies, Cantabrian Mountains and the Pyrenees (with S. Garcia-Lopez & S. Blanco-Ferrera); Mississippian conodonts, particularly primitive *Gnathodus* species from u. Tournaisian rocks of the N. Iberian Peninsula and S. France (in collaboration with S. Blanco-Ferrera & M.F. Perret); uppermost Moscovian to Lower Kasimovian (Pennsylvanian) Cantabrian conodonts (with S. Blanco-Ferrera and C. Mendez) (upcoming study).
- Sarmiento, Graciela.** Ordovician and Silurian conodonts.
- Sashida, Katsuo.** Conodont taxonomy and biostratigraphy of Japan and SE Asia; also Paleozoic and Mesozoic radiolarian paleontology.
- Savage, Norman.** Devonian and Triassic conodonts of Thailand; Devonian conodonts of SE Alaska.
- Shen, Shuzhong.** Permian conodonts from S. China, Tibet and Iran.
- Shilong, Mei.** Permian conodonts, including W. Sweet's Permian conodont collection from Iran (with Shuzhong Shen).
- Slavik, Ladislav.** Integrated biostratigraphy of the Lr. Devonian of Central Bohemia matched against magnetic susceptibility and gamma-ray logs in outcrops; Late Silurian- E. Devonian conodont stratigraphy (with P. Carls and N. Valenzuela-Rios).
- Smith, Paul.** Cambrian-M. Ordovician faunas of the Durness Group of NW Scotland (with R. Raine); palaeobiology and phylogenetic analysis of *Erismodus*, and other primitive prioniodinid conodonts (with R. Jassi, J. Repetski and P. Donoghue).
- Spalletta, Claudia.** Devonian-Carboniferous conodonts; Frasnian-Famennian and Devonian-Carboniferous boundaries.
- Stouge, Svend.** Lr. and M. Ordovician successions in S. China; GSSP section for the base of M. Ordovician in S. China (recently completed); M. Ordovician succession in NE Greenland, and the U. Ordovician-Silurian boundary beds from Peary Land, N. Greenland (with J.A. Rasmussen); isotopes in conodonts from different areas (with O. Lehner); Irish Ordovician conodonts (with G. Sevastopulo); conodont biodiversification in S. China and the Baltic region (*in prep.*).
- Sudar, Milan.** CAI; P-T and Triassic conodont biostratigraphy of Serbia and Hungary.
- Suttner, Thomas.** Emsian to Givetian conodonts of the Carnic Alps and the Graz Palaeozoic (Austria); Lr. Devonian icriodontid clusters from S. Burgenland (Austria).
- Szaniawski, Hubert.** The biology of early conodonts; stratigraphy of E. Devonian conodonts of Podolia, Ukraine (with D. Drygan).
- Tarabukin, Vladimir.** Ordovician, Silurian, Devonian and Lr. Carboniferous conodonts from the Selenyakh Ridge, NE Russia; event stratigraphy, biofacies, palaeoecology and palaeobiography; conodont CAI from Ordovician-Carboniferous rocks in NE Asia; conodonts from xenoliths in kimberlite pipes from the NE Siberian Platform.
- Trotter, Julie.** Isotope (O, Sr) and trace element analyses of conodonts, mainly using in-situ techniques such as ion microprobe (SHRIMP) and laser ablation multi-collector ICPMS and quadrupole ICPMS systems.
- Uyeno, Tom.** Middle and U. Devonian conodonts, Mackenzie Mountains, N. Cordillera, Canada.
- Valenzuela-Rios, José Ignacio.** Devonian high resolution biostratigraphy of Lr. Devonian sequences in Spain (Pyrenees, Iberian Chains, Ossa-Morena), Andorra, Nevada, Bohemia and Germany; M. Devonian sequences from the Spanish Pyrenees, Iberian Chains, Andorra and Germany; U. Devonian from the central Spanish Pyrenees, Andorra and Germany; Lr. Devonian calibration and correlation between European "Rhenish" and "Hercynic" facies; Lr., M. and U. Devonian from Sardinia and the Pyrenees (planned collaboration with Italian colleagues); U. Silurian biostratigraphy.
- Viira, Viive.** Ordovician and Silurian conodonts of Estonia.
- von Bitter, Peter.** Completion of papers on Mississippian, Pennsylvanian and Silurian conodonts (with Glen Merrill, Rod Norby, Mark Purnell, and others) (priority); gnathodid taxonomy and biostratigraphy, Mississippian, Atlantic Canada (with Paula Medina-Varea).
- Wang, Cheng-yuan.** Silurian conodonts from S. China (with R.J. Aldridge); Devonian conodonts of China; U. Permian conodonts from the Geladandong area in Quinghai-Tibet Plateau; Carboniferous conodont fauna from E. bank of Lake Erhai, W. Yunnan.
- Wang, Ping.** Conodont biostratigraphy in the Qingling Mountains, Shaanxi, China.
- Wankiewicz, Aleksandra.** Sedimentology and conodont stratigraphy of U. Devonian carbonate platform slope deposits, Holy Cross Mountains, Poland.
- Wardlaw, Bruce.** Integrated biostratigraphy and conodont apparatuses, Guadalupian of W. Texas (with Nestell); several papers nearing completion.

- Weddige, Karsten.** The inner Emsian stage boundary; thin-sections of conodont elements.
- Whiteside, Joseph.** Middle Carboniferous biostratigraphy and chronostratigraphy of the Fort Worth Basin (planned studies)
- Witzke, Brian.** Natural assemblages from the Ordovician St. Peter Sandstone of NE Iowa; U. Devonian stratigraphic-biostratigraphic studies in SE Iowa.
- Woroncowa-Marcinowska, Tatiana.** Middle and U. Devonian conodont biostratigraphy of the Holy Cross Mountains; integrating conodont and goniatite biostratigraphy, based on collections at the Polish Geological Institute.
- Yao, Jianxin.** Paleozoic conodonts from Tarim Basin, W. China; Permian-Triassic conodont biostratigraphy from S China.
- Yolkin, Evgeny.** Devonian conodonts from W. Siberia and S. Tien Shan (with N.G. Izokh).
- Yoshida, Takashi.** Conodont biostratigraphy.
- Zhang, Shunxin.** Palaeozoic conodont biostratigraphy and conodont CAI of Hudson Bay (part of energy resource assessment of Hudson Bay area); Late Ordovician conodonts from S. Ontario, Canada (with C. Barnes)
- Zhen, Yong Yi.** Ordovician conodonts from New South Wales, Tasmania, New Zealand and S. China.
- Zhuravlev, Andrey.** Devonian-Permian conodonts of the E. European Platform, N. Urals, and the Russian Far East; focus is on conodont palaeobiology: morphology, histology, ontogeny, function, ecology, biogeography and evolution.

Personal & Other Items of Interest

- AGEMATSU** was appointed Assistant Professor of University of Tsukuba in Japan this past year.
- ALDRIDGE** is President-elect of The Palaeontological Association, becoming President in Dec. 2008.
- ARMSTRONG** reports that conodont research has taken lower priority this year, compared with work on North Gondwana geology, Ordovician climate change and the ecological impact of mass extinction.
- BADER** is now employed with Halliburton Energy Services in Midland, Texas, as a log analyst/geologist.
- BERGSTRÖM** although retired, works in his office daily, still enjoying it all very much.
- BULTYNCK** reports that he was recently guest-editor of Special Issue of Geological Quarterly on recent approaches to Devonian conodont zonation. Issue (51[4]) contains seven contributions from the Devonian session at ICOS 2006 in Leicester (see papers on website <http://gq.pgi.gov.pl>)
- CAREY** has nothing to report of a conodont nature & is currently occupied with an assemblage of megafaunal trackways.
- CHARPENTIER** is currently not active with conodonts, working instead on Arctic oil and gas.
- COLE** reports doing a small amount of limestone sampling during the last year.
- CORRADINI** requested that the last sentence of his 2007 report of research activities, be slightly more specific, to read that he is studying a “fauna with siphonodellids across the D/C boundary in Sardinia, and the Orthoceras limestone in several areas of the Carnic Alps.”
- DONOGHUE** won the Bigsby Medal of the Geological Society of London, and presented the 2007 Halstead Lecture at the BA Festival of Science.
- FERRETTI** reports editing Special Issue of Palaeogeography, Palaeoclimatology, Palaeoecology on “Organic carbon rich sediments through the Phanerozoic: Processes, Progresses and Perspectives” (with Negri, Meyers, Štorch and Wagner).
- GOUEMAND** was involved in field trip to S. Tibet last summer.
- HALL** is still chair of his department, and spent much of last year developing a graduate program to start in the fall of 2008. He hopes to find conodonts in some of the rocks from western North Carolina; to that end, he has run a few preliminary samples from some lower Paleozoic metacarbonates from there, but reports they are “pretty fried”.
- HENDERSON** is Chairman of the Subcommittee on Permian Stratigraphy, and is focusing on completing GSSP definitions for the Permian System. The new SPS website at <http://www.nigpas.ac.cn/permian/web/index.asp> will be of interest to Permian Researchers.
- Most of his six graduate students in the Consortium for Applied Basin Studies (www.geo.ucalgary.ca/asrg) are conducting sequence biostratigraphic and petroleum geology studies in the subsurface of Alberta and northeastern British Columbia on uppermost Devonian to uppermost Triassic rocks.

HERBIG reports he had a great 2007, but that 2008 seems to be quite chaotic: papers that were rejected and had to be rewritten, a field trip to Morocco starting in late March with [a] still not completed guidebook, evaluation of the institute etc. He hopes to get into calmer waters after April 2008.

He also writes that the [?] Abstract Volume for CARBONIFEROUS CONFERENCE COLOGNE 2006 titled FROM PLATFORM TO BASIN, held on Sept. 4-10, 2006 is now available for 25.- Euros as Kölner Forum Geol. Paläont., 15, 130 pp.. Field trips - eastern Ardennes and Rheinisches Schiefergebirge, is coming soon as Kölner Forum Geol. Paläont.16 [<http://www.ccc2006.uni-koeln.de>]

KÖNIGSHOF, one of the leaders of IGCP 499, writes that he is v. busy with administrative work such as improving websites, compiling annual reports and organizing meetings and workshops, including those in Argentina (2007), and in Libya, Uzbekistan and Germany (2008). See <http://www.senckenberg.de/igcp-499>

JASSI recently submitted her Ph.D. thesis "The Homologies and Phylogenetic Relationships of Prioniodinin Conodonts".

JONES (G.) has with the upturn in metal prices, restarted mineral exploration in Irish Carboniferous limestones. In his consultancy, foraminiferal work is growing, with conodonts close behind. He will be back to panning for conodonts in his heavy residues again.

KOVACS says that 2007 was, unfortunately, a year without conodonts.

KREJSA is enjoying his 14th year of retirement, and is working on two environmental and economic histories.

LEATHAM is working with students on various aspects of non-conodont research, and trying to have some semblance of a life outside of the university. He says that they have moved labs, offices, etc. every year for the past three years; he has also been involved with K-12 inservice and preservice science teachers.

LESLIE moved from Little Rock, Arkansas to Harrisonburg, Virginia, USA where he is Department Head of Geology and Environmental Science at James Madison University.

McCRACKEN reports spending most of his time in 2007 on subdivision and lab management

McHARGUE is currently not active in conodont research.

MackENZIE has no conodont work to report on this year.

MANSHIP will be starting a new job in the fall at UTPB (Odessa, TX, USA), after graduating from Texas Tech University in May 2008 with a Ph.D. in Geoscience.

MAWSON although retired in 2007, is still involved with research and postgraduate supervision in palaeontology and museum studies; in October 2009, she will be organizing an International Conference on Museum, Galleries and Collections in the Asian and Pacific regions.

MILLER (G.) was promoted to Senior Curator, Micropalaeontology, this past year.

NICOLL is "semi-unretired" and is working part-time for Geoscience Australia, but not on conodont studies; that work, he continues to do with the Australian National University.

NOWLAN reports only a moderate level of conodont research. The lab continues to receive samples and prepare reports for clients. Recently, data on Lr. Paleozoic conodonts from NE and C. Newfoundland, and northern New Brunswick was acquired. He continues to work mainly in geoscientific outreach, currently focused on the celebration of the International Year of Planet Earth in Canada, and co-writing and co-editing a popular book on the geology of Canada entitled "Four Billion Years and Counting: Canada's Geological Heritage".

ORCHARD is heavily involved with the Triassic Subcommittee, IGCP 467, and the definition of Triassic GSSPs, all of which have conodont components as primary markers or proxies. Two boundaries were recently agreed upon, the base Olenekian in Spiti, and the base Carnian in the Italian Dolomites; two others are close [to agreement], the base Anisian in Romania, and the base Rhaetian in Austria. A description of all candidates was recently published in *Albertiana* #36

(<http://www.bio.uu.nl/~palaeo/Albertiana/Albertiana01.htm>), following a summer meeting in Albuquerque, New Mexico, that saw the publication of two Triassic volumes rich in conodont data

(<http://paleo.cortland.edu/globaltriassic/>). The base Norian, with a potential conodont defined GSSP in Canada, is the current focus.

OWEN is presently working in GIS, and trying to get out into the grasslands to look for dinosaur bones; "nothing as interesting as conodonts".

PAULL, although retired, is still very interested in Permo-Triassic boundary and E. Triassic conodonts.

PERRET-MIROUSE is retired and has given her conodont library to her Spanish colleagues Javier Sanz and Silvia Blanco.

PLASENCIA-CAMPS is a biologist, who intends to study biological aspects of conodonts. He is working on his Master's thesis on Triassic conodonts from Spain (research directors A. Marguez-Aliaga and N. Valenzuela-Rios, with additional supervision from F. Hirsch).

POOLE is completing legacy geologic studies in Sonora-Sinaloa (NW Mexico) and Nevada-Utah (USA) as Scientist Emeritus with the USGS.

PURNELL is, in addition to conodonts, actively working on quantitative analysis of tooth microwear in fishes (and dinosaurs), and has recently started a three year project on comparative taphonomy of early vertebrates. He has also taken over the role of Executive Editor of *Palaeontologia Electronica*, so if you have high quality conodont research that you would like to publish rapidly, with no page or figure limits and free use of colour, consider submitting a manuscript.

PYLE is currently involved with the Geological Survey of Canada's Secure Canadian Energy Supply Program working on Lower Paleozoic stratigraphy and petroleum potential along Mackenzie Corridor (Mackenzie River, Northwest Territories) and within Peel Plateau and Peel Plain, NWT and Yukon.

RAINE is currently writing his Ph.D. on the Cambro-Ordovician Durness Group of NW Scotland.

RANDON has moved from the University of Lille, France, to the University of Paris.

REPETSKI reports that the Pander Society Medals Committee (Repetski [jrepetski@usgs.gov], Perri [mariacristina.perri@unibo.it] and Wang [cywang@nigpas.ac.cn]) has had no formal nominations of candidates for either the Pander or Hinde Medals during the past year. He urges Society members to consider possible worthy candidates, and to formulate and submit nominations for deserving colleagues to him, or to Perri or Wang, as soon as possible, i.e. so that the full evaluation process may be completed before ICOS 2009 in July 2009.

ROSSCOE hopes to complete his Ph.D. by late summer 2008.

SANDBERG is in his 14th year as an Emeritus, and is still very active in conodont work.

SCOMAZZON is teaching biogeography at UFPel and UCPel universities in Pelotas, S. Brazil and is co-supervising Ph.D. student Sara Nascimento, who is working on conodonts of the Amazon Basin, Brazil.

SIMPSON reports that he has, regretfully, little time left for conodonts since taking on duties as the Director of Macquarie University's Museum Studies program; he does, however, maintain an interest in collaborative conodont projects with other researchers associated with the Macquarie University Centre for Ecostratigraphy and Palaeobiology.

SLOAN has been palaeontologically inactive this year.

SWEET has, with Barry Cooper, written a tribute to Christian Pander that will probably appear in September 2008 issue of Episodes. He is also sharing collections with younger folks, interested in using conodonts for other things. He reports "no new research".

SWIFT operates his own photograph restoration firm. He is a Visiting Fellow in the Geology Department at Leicester, and maintains his geological and conodontological interests.

TROTTER, as well as conducting specific conodont research, is also involved in broader marine environmental geochemistry within the recent record.

VON BITTER retired the end of January, 2008. He still has his office at the ROM and is still active, although coming in later and leaving earlier! The conodont recovery lab at the ROM is likely to close the end of June, 2009.

WANKIEWICZ is still working on her Ph.D. thesis.

WARDLAW reports that a large tome on 'Stratigraphy and Conodont Biostratigraphy of the uppermost Carboniferous and Lower Permian from the North American Midcontinent' by Boardman, Wardlaw & Nestell, has been accepted by the Kansas Geological Survey for publication as a KGS Bulletin.

WEDDIGE retired since July 2007, is both enjoying his new freedoms and still engaged in documenting the *status quo* of Devonian stratigraphy. Among other things, he is editing a volume on the German Devonian, that includes 46 contributions by well-known Devonian specialists.

WHITESIDE is setting up a new conodont extraction lab at Chesapeake, as part of their Reservoir Technology Center.

WICKSTRÖM has no new conodont work to report, having in the last year focused mostly on the SGU geological collections. During the past year, she was one of three editors of the WOGOGO (Working Group on Ordovician Geology of Baltoscandia) 2007 field guide and abstract volume, published by the SGU in Rapport & Meddelanden 128. The volume includes a conodont paper by S.M. Bergström on the Siljan area, as well as several conodont abstracts.

YOSHIDA is now retired, but still works on conodont biostratigraphy.

ZHANG has relocated to Iqaluit, Nunavut, northern Canada, where she is a Research Scientist in the Canada-Nunavut Geoscience Office.

ZHURAVLEV has moved from St. Petersburg University to the All Russia Petroleum Research Exploration Institute (VNIGRI) in St. Petersburg.

Obituaries

Kiril Yordanov BUDUROV **(26.06.1934, Burgas – 29.01.2008, Sofia)**

At the very beginning of the International Year of Planet Earth, the international geoscientific community lost Kiril Budurov, an outstanding palaeontologist and stratigrapher.

Kiril graduated from high school in Burgas in 1952, and from Sofia University in geology in 1957. After four years geological mapping in the Balkan and Sredna Gora Mountains, as field geologist with the Committee of Geology (the Geological Survey of Bulgaria), he specialized in palaeontology and biostratigraphy of Triassic and Palaeozoic conodonts at Humboldt University (E. Germany); he was subsequently appointed Chief of the Laboratory for Conodont Analysis (1961-1963), Research Associate at the Research Geological Institute of the GSB (1963), and he was elected to the Geological Institute of the Bulgarian Academy of Sciences in 1967. Specialization at Philipps University (Marburg/Lahn, W. Germany) in 1968, in Triassic conodont evolution, palaeontology and stratigraphy, strongly influenced his future research. Kiril obtained his Ph.D. in that field in 1969, followed by the D.Sc. in 1982, becoming successively Senior Researcher (1982) and Research Professor (1992). During his scientific life, he published more than 140 scientific papers, 130 of them being related to Triassic stratigraphy and conodonts.

Kiril was recognized as one of the leading conodont experts of the world. He served as Chairman of the International Triassic Conodont Group (1978), Deputy Chairman of the Subcommittee of Triassic Stratigraphy (1979) and voting member of the same subcommittee (since 1985). In 1989 he was elected Foreign Corresponding Member of the Serbian Geological Society, for his major contributions to the Triassic geology of the Balkan Peninsula. He participated in a number of national projects, bilateral projects (with Czechoslovakia, Greece, India, Romania, Russia, Serbia, Spain, Vietnam) and international projects, such as IGCP Project 4 *Triassic of the Tethys* and in the *Peritethys Atlas*. Numerous foreign specialists visited his laboratory at the Geological Institute in Sofia, for consultations with his collections and expertise.

Kiril Budurov made outstanding contributions to the palaeontology of Triassic conodonts, basing their taxonomy and phylogeny on detailed light-microscopic and SEM studies. He discovered and described thirty conodont species and ten genera, all new to science; regrettably, he did not live long enough to complete his last big endeavour, a taxonomic revision of Triassic conodonts. He established the Peritethyan and Tethyan Triassic conodont zonation of Bulgaria, almost all his Middle Triassic conodont zones later being recognized worldwide. He and his colleagues introduced eight new formal lithostratigraphic units in the Bulgarian stratigraphic nomenclature, and made important contributions to the Triassic stratigraphy and palaeogeography of Bulgaria and the Balkan Peninsula. The last correlations he



made were between the Iberian Peninsula and the Caucasus. He is a principal author of the chapter on the Triassic, in the new *Geology of Bulgaria* (now in the pre-printing stage).

(Obituary courtesy of Ivan Zagorchev, Res. Professor & Corresponding Member of the Bulgarian Academy of Sciences)

The full bibliography (original titles) of Dr. Budurov's papers has been placed on the website of the Geological Institute, <http://www.geology.bas.bg>

William Madison FURNISH (1912-2007)

William Madison Furnish ("Bill" or "Uncle Bill" as he was fondly known to almost everyone) was an outstanding teacher, a world-renowned paleontologist, and Professor Emeritus at the University of Iowa.



BILL FURNISH.

Enjoying the cake at his 95th birthday party (photograph courtesy of Jed Day)

Bill Furnish was born in 1912 near Tipton, Iowa, and celebrated his ninety-fifth birthday on August 17, 2007. He received a B.A. in 1934, M.S. in 1935, and a Ph.D. in 1938, all from the University of Iowa. Bill studied under Professor A. K. Miller, an internationally recognized specialist on fossil cephalopods and served as his postdoctoral research associate from 1938 to 1940. During the postdoctoral, Miller and Furnish published several important monographs on ammonoid cephalopods.

Bill's doctoral dissertation, numbering 38 pages, was on Ordovician conodonts from Iowa,

Minnesota, and Wisconsin and was published in the *Journal of Paleontology* in 1938. At that time, the paper represented one of the two major advances in the study of Ordovician conodonts since Pander's monograph in 1856, the other being the influential papers of Branson and Mehl in 1933. Bill's master's thesis also dealt with Ordovician conodonts.

While a graduate student, Bill was the first to extract conodonts from limestones using acetic acid, now the conventional technique. This has usually been credited to Samuel Ellison referring to papers published in the early 1940s, following graduate study at the University of Missouri. He was preceded by F. H. Strothmann in an unpublished master's thesis also at the University of Missouri. Preceding both of them, however, Furnish developed the technique with some Mississippian limestones although he did not publish the results. He informed Maurice G. Mehl about the use of acid when he visited Columbia in 1938 (W. M. Furnish, 1988, personal communication).

Beginning with his postdoctoral years, Bill's research concentrated on Paleozoic cephalopods, both ammonoids and nautiloids. However, he still maintained a vital interest in conodonts and advised an impressive number of graduate students at Iowa after he joined the faculty there in 1953.

Professor Furnish taught at Oklahoma State University in Stillwater from 1940-41, then worked as a geologist for Shell Oil and two other oil companies in east Texas from 1941 to 1946. From 1947 to 1949 he was with Creole Petroleum in Maracaibo, Venezuela, and then served as a district geologist with the Arabian American Oil Co. (Aramco) in Saudi Arabia from 1949 to 1953. Bill was deeply involved with the early development of the Ghawar oil field, the largest field in the world, responsible for 60-65% of all Saudi oil production from 1948 to 2000, and still a major producer.

Bill returned to Iowa City and the University of Iowa in 1953 as an Associate Professor, resuming his research relationship with A. K. Miller and becoming a Full Professor in 1956. Shortly thereafter, he took over the chairmanship of Geology after Miller's incapacitation due to a serious stroke.

Professor Furnish taught courses in stratigraphy, paleontology, historical and petroleum geology, and the geology of Iowa at various times from 1953 until his retirement in 1978. His lectures to undergraduates were especially notable in their ability to entrance students through personal anecdotes, highly effective stories, and a sound practical understanding of basic principles of geology and paleontology.

In the one-on-one situation with graduate advisees Bill Furnish was informal, brilliant, and without peer among teachers of paleontology. He treated one and all with extreme kindness and understanding, and is universally esteemed and admired by all his former graduate students. Bill's M.S. and Ph. D. student, Peter W. Goodwin, now retired from a career teaching at Temple University, writes that a notable characteristic was "his visiting his advisees in the field every summer, not a small task and one that I found very valuable, not only geologically, but personally. I modeled my approach directly after his. For that matter, in my career as a teacher, I tried hard to 'be like Bill'".

In describing "the relationship Uncle Bill had with his students," Ray Ethington, Emeritus Professor at the University of Missouri and also one of Bill's Ph.D. students, wrote that "he treated us as colleagues, albeit inexperienced ones, and had high expectations of us that caused us to expect ourselves to function at a high level as students and to continue so after we left Iowa City. I do not remember a time when he 'talked down' to me."

Bill was editor of the *Journal of Paleontology* from 1955 to 1957, served as president of the Society of Economic Paleontologists and Mineralogists (SEPM, now the Society for Sedimentary Geology) in 1960-1961, and became an Honorary Member of that organization in 1974. He received the Medal of the Pander Society in 1977, and the Neil Miner Award of the National Association of Geology Teachers in 1985.

With A. K. Miller, Bill was a co-author on the Paleozoic ammonoids in the *Treatise on Invertebrate Paleontology* published in 1957. He was involved with his long-time colleague Brian Glenister in the Permian part of the revised *Treatise on ammonoids*, now in press, having continued this work after retirement.

Bill Furnish was honored at a luncheon shortly after his ninety-fifth birthday by the Department of Geoscience at Iowa during an alumni meeting in September. He died peacefully in his sleep on November 9, 2007.

Bill's beloved Becky, his wife of 67 years, preceded him in death in 2005. They are survived by their five children, Dale B. of Tempe, Arizona, Elizabeth Ann Ford of Iowa City, Sarah Jean Spitzer of Iowa City, James R. of Rockville, Maryland, and Joseph L. of Benecia, California, plus 16 grandchildren and a growing number of great-grandchildren. A memorial service was held at the St Andrew Presbyterian Church in Iowa City on November 24, 2007, with more than 25 family members in attendance.

As Bill's daughter Jean remarked at the memorial service, he was a man of wisdom, one of the very few I have met. Bill Furnish will be remembered by all his former students and colleagues. He is and will continue to be deeply missed.

(Tribute courtesy of Gilbert Klapper, Visiting Professor, Northwestern University)

It was the Chief Panderer's delight, to send Bill Furnish the following greeting on your behalf, on the occasion of his 95th birthday last September:

Dr. William Furnish,
Geoscience Department,
The University of Iowa,
Iowa City, Iowa, U.S.A.

September 28, 2007

Dear Bill:

It is with much pleasure that I send you both my personal greetings and best wishes, and those of the members of the Pander Society, on the happy occasion of your 95th birthday. Not only is your long life more than double that of the Pander Society, but you are also a much valued member of the small illustrious group that have been awarded the Pander Society Medal. In presenting the medal to you in 1977, the Society honoured both the lasting significance of your early work on Lr. Ordovician conodonts, as well as your association, as mentor and colleague, with a high proportion of active conodont workers.

I still remember your visit to the University of Kansas about 1968, where you demonstrated to Curt Teichert's cephalopod class how to get at the earliest growth stage of a goniatite, the protoconch ['proloculus' in the original letter], by taking the cephalopod apart chamber by chamber. You did this with humour and patience, and with a down-to-earth human touch, that has been my image of you ever since.

On behalf of all your conodont colleagues the world over, Bill, I wish you good health and fond memories of a geological and palaeontological life well spent. I only wish that I could be with you today in Iowa City to help you celebrate, and to have some of that birthday cake.

Peter

Peter von Bitter, Chief Panderer.
Professor, Department of Geology, University of Toronto
Senior Curator, Palaeobiology, Royal Ontario Museum, Toronto

CFS (Courier Forschungsinstitut Senckenberg) (1973-2008)

Open letter from the Editor-in-Chief of CFS

Dear Colleagues:

Those of you who have published your conodont and other research in the Courier Forschungsinstitut Senckenberg (CFS) in the past, need to know that CFS 260 is/will be the last volume of this journal. Senckenberg has had to reduce the number of its in-house journals, in order to enhance the scientific visibility, quality, and revenue of those remaining; all of this, while growing an international audience, and staying within publication budget limitations.

Prof. WILLI ZIEGLER founded CFS in 1973. At the time, the journal was designed to rapidly distribute new scientific results, regardless of lay-out and peer-review. Later on, the journal underwent a profound change and became an internationally accepted peer-reviewed scientific journal, in which results on taxonomy and stratigraphy were published. Additionally, many special volumes (including monographs) in geology, palaeontology, botany, zoology and ecology were published. In the 1980s and 1990s up to ten volumes were published annually, often irregularly. In recent years, the focus of CFS changed again, with an emphasis on special volumes such as CFS 257, 258, and 259, i.e. summaries of the present state of research, as contributed at international scientific meetings. The peer-reviewed journal was very successful,

with some contributions being awarded the “Alexander von Humboldt-Gedächtnispreis”. The Honorary President of the Senckenberg Nature Research Society, Dr. Hanns Christian Schroeder-Hohenwarth, has since 1992 generously donated this award (endowed with 5.000 Euros annually) for the best article in one of the Senckenberg scientific journals.

I have been responsible for the editorial management of CFS since 1992, and later I became its Editor-in-Chief. It was a new adventure for me, receiving papers from all over the world, and establishing & coordinating contacts with many of you. Editorial work is not always fun, and I have always tried hard to respect you, the authors. This adventure has lasted 16 years!

On behalf of the Senckenbergische Naturforschende Gesellschaft, I thank all of you for your help, especially for respecting the journal's instructions when submitting papers. Furthermore, I express my sincere appreciation to members of the Editorial Board, and to the multitude of reviewers for their service over the past decades. It was the reviewers' expertise, and willingness to invest precious time, that assured the high quality of this journal. Thank you also for your messages of acknowledgement and encouragement over the years. Thank you all again!

(submitted by Peter Königshof, Editor-in-Chief, CFS)

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