International Union of Geological Sciences
International Commission on Stratigraphy

International Subcommission on Stratigraphic Classification

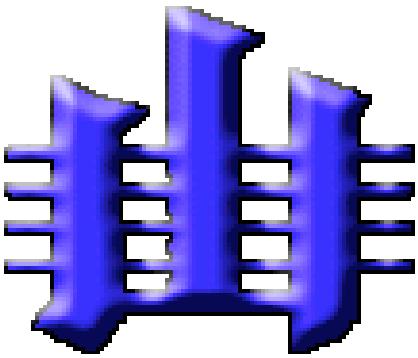
ISSC

NEW WEB SITE:
http://users.unimi.it/issc

Chair **Maria Bianca Cita**
maria.cita@unimi.it

Vice Chair **Ashton Embry**
Aembry@NRCan.gc.ca

Secretary **Maria Rose Petrizzo**
mrose.petrizzo@unimi.it



NEWSLETTER N. 12

(Circular n. 113)

December 2007

CONTENTS

1. EDITORIAL

This is an important newsletter, rich in news, some bad, some good.
We have to announce the death of Amos Salvador, one of the founding fathers of modern Stratigraphy, who chaired this Subcommission for fifteen years, authored the second edition of the International Stratigraphic Guide, strenuously defended the Subcommission that risked to be disbanded, and even recently has always been very close to it with wisdom and care.We will miss him immensely.The official obituary and several memories follow (see page 22)
Another stratigrapher died tragically a few months ago: Steve Walsh, that we nicknamed "enfant terrible". He was not a member of ISSC, but followed with much attention our attempts to improve the existing classification and interacted with our on line review process of the draft documents.
After a period of several months troubled by the strong, unprecedented conflicting attitude of IUGS versus ICS, finally the elections of the new officers were successfully completed. The new elected chair of ICS is Stan Finney, who is very close to our Subcommission.

A call for nominations (sondage d'opinion) was distributed among our members "at large" on October 6. A month later, the postal ballot was launched and our elections have been successfully run (see point 2).

Best wishes to the new elected chair and the two elected vice chairs.
They have a heavy tassk to perform, to guide the resurrected Subcommission.
None of them has been a member of the Subcommission for more than a few years.
We are facing a real generational turnover.
Who will keep the corporate memory of the honorable Subcommission created by Hollis Hedberg in 1952? Who will keep and respect the experience and expertise of the "old" voting members from different parts of the world, some of them serving in the Subcommission for over thirty years??
The updated website contains all the ISSC Newsletter distributed so far. We strongly recommend the new officers to download and keep them on paper, in order to have kind of an archive of all what happened from 2003 to now; all the difficulties we encountered, all the strenuous efforts we made to increase our visibility, and to upgrade, update and implement the International Stratigraphic Guide, with a bottom-up instead of a top-down approach.
I am really saddened by what happened to the Sequence Stratigraphy. During my mandate, I had to disband two working groups that had worked for years on the subject: in 2003 (see contents of ISSC Newsletter n.1)

CONTENTS ISSC NEWSLETTER 1

BRIEF HISTORY OF ISSC

Chairman	*Milestones*
1952-1977 H. D. Hedberg	
	International Stratigraphic Guide – A guide to stratigraphic classification, terminology, and procedure (H.D Hedberg, ed.). John Wiley and Sons, New York, 200 p., 1976.
1977-1992 A. Salvador	
1992-1994 M. A. Murphy	
	International Stratigraphic Guide – A guide to stratigraphic classification, terminology, and procedure (A. Salvador, ed.) 2nd edition. The International Union of Geological Sciences and The Geological Society of America, Inc, 214 p., 1994.
1994-2002 A. C. Riccardi	
	International Stratigraphic Guide – An abridged edition (M. A. Murphy and A. Salvador, eds.), Episodes v. 22, n. 4, pp. 255-271, 1999.
	AAPG Hedberg Research Conference "Sequence Stratigraphic and Allostratigraphic Principles and Concepts" Dallas, Texas, August 26-29, 2001.
2002-2004 M. B. Cita	
	Workshop on "Post-Hedberg developments in stratigraphic classification", 32° IGC Florence 2004.

the large and authoritative WG coordinated by Amos Salvador and appointed in 1995 had to be disbanded as a result of the lack of any constructive decision deriving from the Dallas 2001 Hedberg Conference. Again in 2007 the Task group appointed by the TG leader Ashton Embry is being disbanded because the draft document distributed in March as ISSC Report was rejected, and the revised version submitted to an ad hoc review committee of experts chaired by Chris Kendall was also rejected, notwithstanding the improvements.

What is wrong in Sequence Stratigraphy? What is wrong with the most popular, the best represented in Google, in special courses or short courses run by professional sequence stratigraphers all over the world, in textbooks and monographs published by the most authoritative publishing companies? What is wrong in that branch of Stratigraphy that substantially contributed to increase the success of the geological exploration of oil and gas resources?
Stratal architecture of layered rocks originating sequences is common to all kinds of environments, marine and terrestrial, volcanogenic or siliciclastics, and the forcing factors are not necessarily controlled by sea-level changes. My personal impression is that basin analysts largely ignore what happens in the real world on the continental margins beyond the shelf break on the slope and the upper continental rise. The investigations of the margins by submersible dives and deep sea drilling provided an immense data set, published but insufficiently recognized, that clearly demonstrate how Milankovich style sea level changes have little if anything to share with the erosional processes occurring in the deep sea. And cast severe doubts on the significance and correlation potential of the global sea-level curve extending back to the Mesozoic and beyond.
STRATIGRAPHY QUO VADIS? Was the title of a successful meeting held in Bonn and organized by prof. Seibold, chair of IUGS when Menner was chair of ICS. Twenty years later, we can now ask SEQUENCE STRATIGRAPHY, QUO VADIS?

Other important topics treated in ISSC Newsletter 12 concern our project on New Developments in Stratigraphic Classification, the outline of the new Magnetostratigraphy article, the update of the website and a call for papers.

MARIA BIANCA CITA
ISSC chair

2. ISSC ELECTIONS

2.1 CALL

From: (Maria Rose Petrizzo) mrose.petrizzo@unimi.it
Subject: ISSC ELECTION FOR THE TERM 2008-2012
Date: December 4, 2007 5:27:49 PM GMT+01:00
To: ISSC Voting

Dear ISSC voting members,
one month ago on November 6, a Sondage d' opinion -Times of election- was launched as a call for nominations. We received several proposals and after patient and careful selection of potential candidates we are now ready for the elections.
ISSC goal is to update, upgrade and implement the International Stratigraphic Guide as you well know. For this reason and as the present chair cannot be reconfirmed, we looked for an elected slate of senior officers (one chair and two vice chairs) directly involved into the ISSC project.

The officers nominated are as follows (listed in alphabetical order):
-Two candidates for one position of Chair. The candidates to the position of Chair were requested to write a brief statement on how they intend to run ISSC from 2008 to 2012 (see attachment):
Ashton EMBRY and Brian PRATT, both from Canada.
-Two candidates for two positions for vice-chairs:
Helmut WEISSERT from Switzerland and Jan ZALASIEWICZ from The United Kingdom.

The CVs of the four candidates are here attached, so that you can evaluate their personalities.
Will you PLEASE CAST YOUR VOTE as soon as possible and not later than DECEMBER 15.
We are looking for a full participation of all ISSC Voting Members.

ISSC Secretary
Dr. Maria Rose Petrizzo

ISSC ELECTION FOR THE TERM 2008-2012

VOTE FOR CHAIR
.....

VOTE FOR VICE-CHAIRS
1-.....

2-.....

DATE.....

SIGNATURE.....

2.2 CVs AND STATEMENTS BY CANDIDATES

Ashton Embry's Vision for ISSC 2008 – 2012

I have been a member of ISSC for almost 24 years and I am currently ISSC Vice Chair and Task Group Leader for Sequence Stratigraphy. Through these activities, I have gained a solid knowledge of the workings of ISSC and what our organization is capable of achieving.

Maria Cita has done an outstanding job of revitalizing ISSC and initiating a number of important projects, most notably a revised International Stratigraphic Guide. I would certainly follow her example and continue to support the initiatives begun under her leadership including the issuing of timely and informative Newsletters.

It has been said that the work and accomplishments of ISSC are not as well known as they should be and, if I was the ISSC chair, I would work hard to rectify this situation. I believe the following initiatives would go a long way to greatly increase the visibility of ISSC and have more people access our products and provide feedback to us.

- Do everything possible to facilitate and expedite the production of the Guide under the leadership of Maria Bianca Cita (no rest for the past-chair).

- Greatly expand and enhance our website such that it contains, among other things, our products on the various stratigraphic disciplines (e.g. an electronic ISG) and that these can be easily downloaded. It also is important to provide a mechanism that allows anyone to offer feedback on our products and initiatives.

- Explore the concept of an electronic ISSC scientific journal (fully refereed).

- Establish standing committees for each of the seven stratigraphic disciplines. These committees would have their own web pages on the ISSC site and would ensure that up to date information and key, new contributions on each of the disciplines are available.

- Help organize ISSC sponsored technical sessions at major conferences which have a stratigraphic component (e.g. international AAPG conventions). Formalize the commitment to have a major workshop at each IGC. Encourage and assist the organization of specialized conferences/workshops such as the recent, highly successful Penrose Conference on Chronostratigraphy.

- Establish an active fund raising program to support ISSC activities (e.g. website costs) and travel for members from less wealthy countries.

- Expand the membership to ensure as many countries as possible are represented and that leading stratigraphic researchers are members of ISSC.

- Initiate plans for a web-based Global Stratigraphic Lexicon

- Establish a Committee on the Historical Development of Stratigraphy

ASHTON F. EMBRY

Birth

August 13, 1946

Education

1968	BSc (Hon)	University of Manitoba
1970	MSc	University of Calgary
1976	PhD	University of Calgary

Employment

1970-1972	Mobil Oil Canada, Exploration Geologist
1976-1977	BP Canada, Exploration Geologist
1977-1989	Geological Survey of Canada, Arctic Islands Research Scientist
1989-1995	Geological Survey of Canada, Head, Northern Canada Regional Geology Subdivision
1995-1999	Geological Survey of Canada, Head, Regional Geoscience Subdivision
1999-present	Geological Survey of Canada, Arctic Islands Research Scientist

Publications

- 70 papers in refereed journals and symposium volumes
- 20 papers and maps in refereed GSC publications

Areas of Expertise

- Sequence Stratigraphy, Lithostratigraphy
- Devonian and Mesozoic stratigraphy/sedimentology of the Canadian Arctic Islands
- Petroleum geology of the Arctic Islands
- Arctic tectonics and origin of the Arctic Ocean
- Circum-Arctic Mesozoic Correlations

Stratigraphic Leadership Roles and Activity

- I have been a member of ISSC since 1984 and have served as Vice Chair from 2002 to present. I am currently the Task Group Leader for Sequence Stratigraphy
- I am currently a member of the North American Commission on Stratigraphic Nomenclature and have been a member from 1982 -1986 and 2002- present. I was the NACSN Vice-Chair in 1985 and the Chair in 1986.
- I am the Chair of the Geological Survey of Canada-Calgary Stratigraphic Nomenclature Committee (1985 to present).
- I am the Chair of the Canadian Society of Petroleum Geologists Stratigraphic Nomenclature Committee (1990-present)
- I teach a course on sequence stratigraphy 2 -3 times a year as part of the CSPG continuing education program (1998 – present)
- I have been responsible for developing the lithostratigraphic framework for the Middle-Upper Devonian and Mesozoic successions of the Canadian Arctic Islands. In this work I have formalized 72 new stratigraphic units (groups, formations and members).
- I have also done detailed sequence stratigraphy (1^{st} to 4^{th} order) on these successions.
- I am closely involved in the development of a web-based Canadian Stratigraphic Lexicon

Significant Leadership Roles

Geological Survey of Canada:

- Subdivision head for 10 years and directed the work of up to 30 research scientists as well as 8 support staff
- Field party chief in the Arctic Islands and was responsible for the activities and safety of up to 40 individuals in harsh and unpredictable environmental conditions over numerous field seasons
- Led various task groups on specific issues such as petroleum resource evaluation and seismic refraction programs on the continental shelf

Canadian Society of Petroleum Geologists:
- General chair of one convention and technical program chair of two conventions.
- Communications Director (2001 – present) and brought the CSPG into the digital age.
- Editor of the Bulletin of Canadian Petroleum Geology (1992-2000)
- Editor of three CSPG Memoirs including the three volume Devonian of the World

American Association of Petroleum Geologists:
- Technical Program Coordinator for the Annual AAPG Convention in 1992 and in 2005. This required bringing together 6 different organizations and ensuring everyone worked together as a team to create the best program possible

Direct-MS
- Founder, President and Research Director of the international multiple sclerosis charity DIRECT-MS (www.direct-ms.org). The charity is currently funding two clinical trials (Canada, Scotland) and the science-oriented website is a popular destination.

Awards

CSPG
- Medal of Merit (best paper on Canadian petroleum geology)
- Link Award (best luncheon talk)
- Best convention poster
- President's Award (outstanding service)
- Harry Hunter Award (long time service)

AAPG
- Sproule Award (best paper by an author under 35)
- Distinguished Service Award
- Public Service Award
- Certificate of Merit

SEPM
- Best Oral Presentation , Annual Convention

Other
- Alberta Centennial Medal

Brian R. Pratt – Statement as Candidate for ISSC Chair – December 2007

I am a sedimentologist and paleontologist and consider myself a stratigrapher at heart. Although mostly on the lower Paleozoic, my work has covered matters Proterozoic to Recent, in many parts of the world. I have a trilobite biozonation to my credit, and co-authored a textbook chapter on biostratigraphy and two papers that introduced new stratigraphic names.

I have been a member of NACSN for almost 15 years as a representative for the Canadian Society of Petroleum Geologists, serving as chair in 2002–2003. I am a corresponding member of ICS Cambrian and Ordovician subcommissions, and have been part of working groups for Cambrian stages. I have participated in IGCP activities for 20 years, including being on the Canadian national committee. For ISSC I am leading the chapter on Lithostratigraphy and am a co-author on the one on Chronostratigraphy. I am on the ad hoc Stratigraphy Prize committee for ICS. I serve on editorial boards for six journals and referee dozens of manuscripts per year in three languages.

As a university professor and dedicated participant in scientific publishing I am always reminded of the centrality of stratigraphic principles in the earth sciences, including the necessity of guidelines in the framework of instructive examples. We experienced stratigraphers (I am 54…) recognize that common sense and flexibility are fundamental to the practice of stratigraphy because we know how capricious it can be, and it is incumbent upon us to pass along our hard-earned wisdom.

As chair of ISSC I would continue the mandate and grass-roots approach established by Maria B. Cita in shepherding well-written and well-balanced chapters into print in *Newsletters on Stratigraphy*. I would endeavour to see these collected into a textbook. If it is apparent that the international Guide should be revised, I would initiate that process. I would continue my liaison and collaborations with the ICS chair-elect who is a close personal friend. I am delighted to say that I have met many current ICS and ISSC members, and feel fortunate that I can call upon them for advice. Finally, I am able to devote some of my research funding to participating in this important effort.

BRIAN R. PRATT – ABBREVIATED CURRICULUM VITAE – December 2007

ACADEMIC

B.Sc. (Honours), McMaster University, Hamilton	1972–1976
M.Sc., Memorial University of Newfoundland, St. John's	1977–1979
Ph.D., University of Toronto, Toronto	1983–1989

INDUSTRIAL

Petroleum Exploration Geologist, Calgary	1979–1982

AWARDS (*inter alia*)

Geological Association of Canada Past-President's Medal	2002
United States Antarctica Service Medal	1985
Canadian Society of Petroleum Geologists Best M.Sc. Thesis Award	1980
Geological Society of America Bulletin Exceptional Reviewer	2006

APPOINTMENTS

Professor, Department of Geological Sciences, University of Saskatchewan, Saskatoon, Saskatchewan
Research Associate, Royal Tyrrell Museum of Palaeontology, Drumheller, Alberta
Professeur Associé, Muséum National d'Histoire Naturelle, Paris

EDITORIAL BOARDS

Geological Society of America Bulletin, Geology, Journal of Paleontology, Palaios, Marine & Petroleum Geology, Bulletin of Canadian Petroleum Geology

MONOGRAPHS

Robson, S.P., and Pratt, B.R., 2007. Late Marjuman (Cambrian) linguliformean brachiopods from the Deadwood Formation of South Dakota. Palaeontographica Canadiana No. 27, 95 pp. [in press]

Pratt, B.R., 1992. Trilobites of the Marjuman and Steptoean Stages (Upper Cambrian), Rabbitkettle Formation, Southern Mackenzie Mountains, Northwest Canada. Palaeontographica Canadiana No. 9, 179 pp.

EDITED BOOKS

Pratt, B.R., and Holmden, C., eds., 2007. Dynamics of Epeiric Seas. Geological Association of Canada, Special Paper 48. [16 articles, in press]

Monty, C.L.V., Bosence, D., Bridges, P.H. and Pratt, B.R. (eds.), 1995. Carbonate Mud-mounds, Their Origin and Evolution. International Association of Sedimentologists, Special Publication 23, 537 pp.

TEXTBOOKS & ENCYCLOPEDIAS

Pratt, B.R., 2007a. Middle and Upper Cambrian *Girvanella* reefs—Microbial tufas. In: Vennin, E., Munnecke, A., Boulvain, F., Vachard, D., and Aretz, M. (coords.), Facies from Palaeozoic Reefs and Bioaccumulations. Publications of the Muséum National d'Histoire Naturelle, Paris, 65–67. [distributed by Springer, Berlin]

Pratt, B.R., 2007b. Shallow-water Ordovician reefs from Canada. In: Vennin, E., Munnecke, A., Boulvain, F., Vachard, D., and Aretz, M. (coords.), Facies from Palaeozoic Reefs and Bioaccumulations. Publications of the Muséum National d'Histoire Naturelle, Paris, 83–85. [distributed by Springer, Berlin]

Pratt, B.R., 2005. Neoproterozoic predator–prey dynamics. McGraw-Hill 2005 Yearbook of Science & Technology, McGraw–Hill, New York, p. 229–232.

Pratt, B.R., 2003. Stromatolites. In: Middleton, G.V. (ed.), Enclyclopedia of Sediments and Sedimentary Rocks. Encyclopedia of Earth Sciences Series, Fairbridge, R.W., and Rampino, M. (series eds.). p. 688–690. Kluwer Academic, Dordrecht.

Pratt, B.R., James, N.P., and Cowan, C.A., 1992. Peritidal carbonates. In: Walker, R.G., and James, N.P. (eds.), Facies Models, Response to Sea Level Change, Geological Association of Canada, p. 303–322.

REFEREED PAPERS

Zhang, X.-g., and Pratt, B.R., submitted. Microborings in Early Cambrian phosphatic and phosphatized fossils. Palaeogeography, Palaeoclimatology, Palaeoecology.

Bordonaro, O.L., Banchig, A.L., Pratt, B.R., and Raviolo, M.M., 2008. Trilobite-based biostratigraphic model (biofacies and biozonation) for the Middle Cambrian carbonate platform of the Argentine Precordillera. Geologica Acta, v. 6 [in press]

Raviolo, M.M., Bordonaro, O.L., and Pratt, B.R., 2007, Revisión estratigráfica y litofacial de la Formación La Silla (Ordovícico Inferior) en la Precordillera Oriental de San Juan, Argentina. Latin American Journal of Sedimentology and Basin Analysis, v. 13 [in press]

Pratt, B.R., and Haidl, F.M., 2007. Microbial patch reefs in Upper Ordovician Red River strata, Williston Basin, Saskatchewan: effects of heating in a deteriorating epeiric sea. In: Pratt, B.R., and Holmden, C., Dynamics of Epeiric Seas. Geological Association of Canada, Special Paper 48. [in press]

Peterhänsel, A., and Pratt, B.R., 2007. The Palliser Formation of western Canada—architecture and depositional dynamics of a post-extinction epeiric giant. In: Pratt, B.R., and Holmden, C., Dynamics of Epeiric Seas. Geological Association of Canada, Special Paper 48. [in press]

Robson, S.P., and Pratt, B.R., 2007. Predation of late Marjuman (Cambrian) linguliformean brachiopods from the Deadwood Formation of South Dakota. Lethaia, v. 40, p. 19–32.

Pratt, B.R., and Bordonaro, O.L., 2007. Tsunamis in a stormy sea: Middle Cambrian inner shelf limestones of western Argentina. Journal of Sedimentary Research, v. 77, p. 256–262. [Current Ripple article]

Dewing, K., Harrison, J.C., Pratt, B.R., and Mayr, U., 2004. A probable Late Neoproterozoic age for the Kennedy Channel and Ella Bay formations, northeastern Ellesmere Island, and its implications for passive margin history of the Canadian Arctic. Canadian Journal of Earth Sciences, v. 41, p. 1013–1025.

Coniglio, M., Frizzell, R., and Pratt, B.R., 2004. Reef-capping laminites in the Upper Silurian carbonate-to-evaporite transition in the Michigan Basin, southwestern Ontario. Sedimentology, v. 51, p. 653–668.

Hua H., Pratt, B.R., and Zhang L.-Y., 2003. Borings in *Cloudina* shells: Complex predator–prey dynamics in the terminal Neoproterozoic. Palaios, v. 18, p. 453–458.

Robson, S.P., Nowlan, G.S., and Pratt, B.R., 2003. Upper Cambrian linguliformean brachiopods from the Deadwood Formation of subsurface Alberta and Saskatchewan, Canada. Journal of Paleontology, v. 77, p. 201–211.

Pratt, B.R., 2002d. Tepees in peritidal carbonates: origin via earthquake-induced deformation, with example from the Middle Cambrian of western Canada. Sedimentary Geology, v. 153, p. 57–64. [ExpresSed article]

Pratt, B.R., 2002c. Calcification of cyanobacterial filaments: *Girvanella* and the origin of lower Paleozoic lime mud: Comment and Reply—Reply. Geology, v. 30, p. 580.

Pratt, B.R., 2002b. Storms versus tsunamis: Dynamic interplay of sedimentary, diagenetic, and tectonic processes in the Cambrian of Montana. Geology, v. 30, p. 423–426.

Pratt, B.R., 2002a. Occurrence of the siliceous sponge spicule *Konyrium* (Hexactinellida) in the Upper Cambrian of the Mackenzie Mountains, northwestern Canada. Journal of Paleontology, v. 76, p. 565–569.

Peterhänsel, A., and Pratt, B.R., 2001. Nutrient-triggered bioerosion on a giant carbonate platform masking the Famennian post-extinction benthic community. Geology, v. 29, p. 1079–1082.

Pratt, B.R., 2001c. Calcification of cyanobacterial filaments: *Girvanella* and the origin of lower Paleozoic lime mud. Geology, v. 29, p. 763–766.

Pratt, B.R., 2001b. Oceanography, bathymetry and syndepositional tectonics of a Precambrian intracratonic basin: integrating sediments, storms, earthquakes and tsunamis in the Belt Supergroup (Helena Formation, c. 1.45 Ga), western North America. Sedimentary Geology, v. 141–142, p. 371–394.

Pratt, B.R., 2001a. Septarian concretions: internal cracking caused by synsedimentary earthquakes. Sedimentology, v. 48, p. 189–213.

Pratt, B.R., Spincer, B.R., Wood, R.A., and Zhuravlev, A.Yu. 2001. Ecology and evolution of Cambrian reefs. In: Zhuravlev, A.Yu., and Riding, R. (eds.), Ecology of the Cambrian Radiation. p. 254–274. Princeton University Press, Princeton.

Robson, S.P., and Pratt, B.R., 2001. Cambrian and Ordovician linguliform brachiopods from the Shallow Bay Formation (Cow Head Group), western Newfoundland. Journal of Paleontology, v. 75, p. 241–260.

Lee, J.G., Choi, D.K., and Pratt, B.R., 2001. A teratological pygidium of the Upper Cambrian trilobite *Eugonocare (Pseudeugonocare) bispinata* from the Machari Formation, Korea. Journal of Paleontology, v. 75, p. 216–218.

Zhang, X.-G., and Pratt, B.R., 2000. A varied Middle Ordovician sponge spicule assemblange from western Newfoundland. Journal of Paleontology, v. 74, p. 386–393.

Pratt, B.R., 2000. Microbial contribution to reefal mud-mounds in ancient deep-water settings: evidence from the Cambrian. In: R. Riding (ed.), Microbial Sediments. p. 282–288. Springer, Berlin.

Pratt, B.R., 1999. Gas bubble and expansion crack origin of “molar-tooth” calcite structures in the middle Proterozoic Belt Supergroup, western Montana—Discussion. Journal of Sedimentary Research, v. 68, p. 1136–1140.

Pratt, B.R., 1998c. Probable predation of Upper Cambrian trilobites and its relevance for the extinction of soft-bodied Burgess Shale-type animals. Lethaia, v. 31, p. 73–88.

Pratt, B.R., 1998b. Syneresis cracks: subaqueous shrinkage in argillaceous sediments caused by earthquake-induced dewatering. Sedimentary Geology, v. 117, p. 1–10. [ExpresSed article]

Pratt, B.R., 1998a. Molar-tooth structure in Proterozoic carbonate rocks: Origin from synsedimentary earthquakes, and implications for the nature and evolution of basins and marine sediment. Geological Society of America Bulletin, v. 110, p. 1028–1045.

Zhang, X.-G., and Pratt, B.R., 1998. Early Cambrian trilobite larvae and ontogeny of *Ichangia ichangensis* (Protolenidae) from Henan, China. Journal of Paleontology, v. 73, p. 117–128.

Zhang, X.-G., and Pratt, B.R., 1996. Early Cambrian worm cuticles from Shaanxi, China. Journal of Paleontology, v. 70, p. 275–279.

Pratt, B.R., 1995. The origin, biota and evolution of deep-water mud-mounds. In: Monty, C.L.V., Bosence, D., Bridges, P.H., and Pratt, B.R. (eds.), Carbonate Mud-mounds, Their Origin and Evolution. International Association of Sedimentologists, Special Publication 23, p. 49–123.

Pratt, B.R., 1994. Seismites in the Mesoproterozoic Altyn Formation (Belt Supergroup), Montana: A test for tectonic control of peritidal carbonate cyclicity. Geology, v. 22, p. 1091–1094.

Zhang, X.-G., and Pratt, B.R., 1994. Middle Cambrian arthropod embryos with blastomeres. Science, v. 266, p. 637-639.

[and 35 others]

HELMUT WEISSERT

D-ERDW, ETH –Z, CH-8092 Zurich, Switzerland

Scientific Interests:

-Mesozoic climate and the global carbon cycle

-Response of biosphere to greenhouse climate pulses

-Alpine paleoceanography

Education:

1988	**Habilitation**, ETH Zürich, C-isotope stratigraphy, a monitor of paleoenvironmental change: a case study from the Early Cretaceous
1979	**PhD** ETH Zürich**,** "Die Paläozeanographie der südwestlichen Tethys in der Unterkreide". Supervisors : Prof. K. Hsü, Prof. D. Bernoulli
1974	**Diplom** in Geology, ETH Zürich. Supervisors: Prof. R. Trümpy, Prof. A. Gansser

Professional Experience:

1993-	Professor, ETH Zürich
1988-1993	Senior lecturer, ETH Zürich
1982-1988	Oberassistent, ETH Zürich
1980-1982	Postdoctoral Reseach Associate, Basel University
1979-1980	Postdoctoral Research Associate, USC University of Southern California
1976-1979	Ph.D. Student at the Geological Institute, ETH Zürich

Other professional activities

-President of the platform Geosciences, ScNat (2007-)
-Alternate of SASEC Science Advisory Structure Executive Committee" of IODP (Integrated Ocean Drilling Program).
-President of the Swiss Geological Commission (1994-2004)
-Member of the Editorial Board Journal of Sedimentary Research (1996-2001), Geologica Carpathica, Journal of the Geological Society (1998-2004), Geologica Insubrica, Paleoceanography (1996-2002), Sedimentology (1991-1996). Geology (2005-…)
-Voting member of the IUGS Sub-commission on the Cretaceous

Award:

Goldene Eule, ETH, for excellence in teaching, 2005

Selected Publications:

Weissert, H., McKenzie, J.A., Channell, J.E.T. 1985. Natural variations in the carbon cycle during the Early Cretaceous. In: *The carbon cycle and atmospheric CO2: Natural variations Archean to the Present* (Ed E.T.S.a.W.E. Broecker), **Geophysical Monograph, 32**, pp. 531-545.

Weissert, H.J. and Bernoulli, D. 1985. A transform margin in the Mesozoic Tethys: evidence from the Swiss Alps. *Geol. Rundsch.*, **74**: 665-679.

Weissert, H., Lini, A. 1991b. Ice age interludes during the time of Cretaceous greenhouse climate. In: *Controversies in modern geology* (Ed j.A.M. D.W. Müller, H.Weissert (eds.).), pp. 173-191. Academic Press, London.

Weissert, H., Lini, A., Follmi, K.B. and Kuhn, O. 1998. Correlation of Early Cretaceous carbon isotope

stratigraphy and platform drowning events: a possible link? *Palaeogeogr., Paleoclimatol., Palaeoecol.*, **137**: 189-203.
Menegatti, A.P., Weissert, H., Brown, R.S., Tyson, R.V., Farrimond, P., Strasser, A. and Caron, M. 1998. High-resolution delta C-13 stratigraphy through the early Aptian "Livello Selli" of the Alpine Tethys. *Paleoceanography*, **13**: 530-545.
Weissert, H. and Erba, E. 2004. Volcanism, CO2 and palaeoclimate: a Late Jurassic-Early Cretaceous carbon and oxygen isotope record. *Journal of the Geological Society*, **161**: 695-702.
Wortmann, U.G., Herrle, J.O. and Weissert, H. 2004. Altered carbon cycling and coupled changes in Early Cretaceous weathering patterns: Evidence from integrated carbon isotope and sandstone records of the western Tethys. *Earth and Planetary Science Letters*, **220**: 69-82.
Heimhofer, U., Hochuli, P.A., Herrle, J.O., Andersen, N. and Weissert, H. 2004. Absence of major vegetation and palaeoatmo spheric PCO2 changes associated with oceanic anoxic event 1a (Early Aptian, SE France). *Earth and Planetary Science Letters*, **223**: 303-318.
Galli, M.T., Jadoul, F., Bernasconi, S.M. and Weissert, H. 2005. Anomalies in global carbon cycling and extinction at the Triassic/Jurassic boundary: evidence from a marine C-isotope record. *Palaeogeography Palaeoclimatology Palaeoecology*, **216**: 203-214.
Louis-Schmid, B., Rais, P., Schaeffer, P., Bernasconi, S.M. and Weissert, H. 2007. Plate tectonic trigger of changes in pCO(2) and climate in the Oxfordian (Late Jurassic): Carbon isotope and modeling evidence. *Earth and Planetary Science Letters*, **258**: 44-60.

Projects:

- Tectonics - an important driver of mid-Cretaceous climate. (SNF, 2007-2010 PhD student Martino Giorgioni)

-Mid-Cretaceous greenhouse climate and opening oceanic gateways: in search for feedbacks between tectonics, climate and oceanography. (SNF, PhD student Christina Keller)

-TUMMS Towards an understanding of methane sources and sinks. S-ENETH Project, 2007-2008, Post-doc Sabine Méhay)

-The Oxfordian: major turning point in Mesozoic oceanography and climate .(SNF, 2003-2007; PhD completed: Pauline Rais, Beat Louis-Schmid)

-Evolution of carbonate coasts during times of major environmental change in the Cretaceous: In search of feedbacks between the marine carbon system, paleoceanography and climate (ETH Project 2001-2007, PhD theses completed: U. Heimhofer (2004), S. Burla (2007)

CURRICULUM VITAE

NAME Jan Antoni **ZALASIEWICZ**

ADDRESS

(home) 117 Fairway
Keyworth
Nottingham
NG12 5DP
UK

(work) Department of Geology
University of Leicester
Leicester
LE1 7RH
UK

DATE OF BIRTH 14 April 1954

E-mail: JAZ1@leicester.ac.uk Tel: 0116 2523928 Fax: 0116 2523918

EDUCATION:

1975-1978 Ph.D University of Cambridge, U.K.
1972-1975 B.Sc. (Hons) in Geology (1st Class) University of Sheffield, U.K.

EMPLOYMENT HISTORY:

1994-present Lecturer in Geology, University of Leicester
1979-1994 Field geologist and biostratigrapher, British Geological Survey

PROFESSIONAL AFFILIATIONS:

Geological Society (Council Member 2001-2003; currently chair of Stratigraphy Commission); International Subcommission on Stratigraphic Classification; Palaeontological Association; formerly on Palaeontographical Society Council and the committees of the Quaternary Research Association and the Joint Association of Quaternary Research.

POSITION SUMMARY

- Teaching clastic and carbonate sedimentology, stratigraphy, palaeontology, geological fieldwork, volcanology, environmental studies and Quaternary geology to undergraduate students. Supervision of undergraduate project work and postgraduate research students.

- Carrying out of multidisciplinary research in the earth sciences: field-based palaeoenvironmental studies, sedimentology, stratigraphy, palaeontology, geochemistry.

- Communication of science to the general public and schools, through popular science journalism and public lectures. Contributor to *New Scientist*, *Education Guardian* and *Palaeontological Association Newsletter*.

SUMMARY OF CURRENT RESEARCH FIELDS

- Biostratigraphy, taxonomy, palaeobiology and taphonomy of graptolites.
- Paleoenvironments of the early Palaeozoic and the Quaternary.
- Sedimentation and diagenesis in mudrocks; geochronology of diagenesis.
- Low-grade metamorphism of mudrocks; geochronology of mudrock deformation.
- Geology of the Welsh Basin, Anglesey and the Sudetan accretionary prism,Poland.
- Stratigraphical techniques and classification.

SELECTED PUBLICATIONS

ZALASIEWICZ, J.A. 1984. A re-examination of the type Arenig Series. *Geological Journal* **19**, 105-124.
ZALASIEWICZ, J.A. 1984. Dichograptid synrhabdosomes from the Arenig of Britain. *Palaeontology* **27**, 425-429.

ZALASIEWICZ, J.A. and MATHERS, S.J. 1985. Lithostratigraphy of the Red and Norwich Crags of the Aldeburgh-Orford area, south-east Suffolk. *Geological Magazine* **122**, 287-296.
ZALASIEWICZ, J.A., MATHERS, S.J. and CORNWELL, J.D. 1985. The application of conductivity methods to geological mapping. *Quarterly Journal of Engineering Geology* **18**, 139-148.
ZALASIEWICZ, J.A. 1986. Graptolites from the type Arenig Series. *Geological Magazine* **123**, 537-544.
MATHERS, S.J. and ZALASIEWICZ, J.A. 1986. A sedimentation pattern in Anglian marginal meltwater channels from Suffolk, England. *Sedimentology* **33**, 559-573.
ZALASIEWICZ, J.A., MATHERS, S.J., HUGHES, M.J., GIBBARD, P.L., PEGLAR, S.M., HARLAND, R., NICHOLSON, R.A., BOULTON, G.S., CAMBRIDGE, P. and WEALTHALL, G.P. 1988. Stratigraphy and palaeoenvironments of the Red Crag and Norwich Crag formations between Aldeburgh and Sizewell, Suffolk, England. *Philosophical Transactions of the Royal Society of London,* **B322**, 221-272.
ZALASIEWICZ, J.A. 1990. Silurian graptolite biostratigraphy in the Welsh Basin. *Journal of the Geological Society, London* **147,** 619-622.
MILODOWSKI, A.E. and ZALASIEWICZ, J.A. 1991. Redistribution of rare earth elements during diagenesis of turbidite/hemipelagite mudrock sequences of Llandovery age from central Wales. In *Developments in Sedimentary Provenance Studies* (ed. MORTON, A.C., TODD, S.P. and HOUGHTON, P.D.), *Geological Society Special Publication No. 57*, 101-124.
ZALASIEWICZ, J.A. 1993. Dissepiments in the graptolite *Monograptus turriculatus*. *Lethaia* **26**, 203-205.
ZALASIEWICZ, J.A. 1994. Middle to late Telychian (Silurian: Llandovery) graptolite assemblages of central Wales. *Palaeontology*, **37**, 375-396.
ZALASIEWICZ, J.A. & TUNNICLIFF, S.P. 1994. Uppermost Ordovician to Lower Silurian graptolite biostratigraphy of the Wye valley, central Wales. *Palaeontology*, **37**, 695-720.
ZALASIEWICZ, J.A., RUSHTON, A.W.A. & OWEN, A.W. 1995. Late Caradoc graptolitic faunal gradients across the Iapetus Ocean. *Geological Magazine*, **132**, 611-617.
EVANS, J.A. & ZALASIEWICZ, J.A. 1996. U-Pb, Pb-Pb and Sm-Nd dating of authigenic monazite: implications for the diagenetic evolution of the Welsh Basin. *Earth and Planetary Science Letters* **144**, 421-433.
ZALASIEWICZ, J. & WILLIAMS, M. 1999. Graptolite biozonation of the Wenlock (Silurian) rocks of the Builth Wells district, central Wales. *Geological Magazine*, **136**, 263-283.
COLLINS, A.S., KRYZA, R. & ZALASIEWICZ, J.A. 2000. Macrofabric fingerprints of Late Devonian-Early Carboniferous subduction in the Polish Variscides, the Kaczawa Complex, Sudetes. *Journal of the Geological Society, London*, **157**, 283-288.
ZALASIEWICZ, J.A., RUSHTON, A.W.A., HUTT, J.E. & HOWE, M.P.A. (Editors) 2000. *Atlas of Graptolite Type Specimens*. Folio 1. Paleontographical Society.
ZALASIEWICZ, J.A. 2001. Graptolites as constraints on models of sedimentation across Iapetus: a review. *Proceedings of the Geologists' Association*, **112**, 237-251.
JONES, H., ZALASIEWICZ, J.A. & RICKARDS, R.B. 2002. Clingfilm preservation of spiraliform graptolites: Evidence of organically sealed Silurian seafloors. *Geology*, **30**, 343-346.
SHERLOCK, S.C., KELLEY, S.P., ZALASIEWICZ, J.A., SCHOFIELD, D.I., EVANS, J.A., MERRIMAN, R.J. & KEMP, S.J. 2003. Precise dating of low-temperature deformation: strain-fringe dating by Ar/Ar laserprobe. *Geology*, **31**, 219-22.
ZALASIEWICZ, J.A., SMITH, A, BRENCHLEY, P., EVANS, J., KNOX, R., RILEY, N., GALE, A., RUSHTON, A., GIBBARD, P., HESSELBO, S., MARSHALL, J., OATES, M., RAWSON, P. & TREWIN, N. 2004. Simplifying the stratigraphy of time. *Geology*, **32**, 1-4.
GIBBARD, P.L., SMITH, A.G., ZALASIEWICZ, J.A., BARRY, T.L., CANTRILL, D., COE, A.L., COPE, J.C.W., GALE, A.S., GREGORY, F.J., POWELL, J.H., RAWSON, P.R., STONE, P. & WATERS, C.W. 2005. What status for the Quaternary? *Boreas*, **34**, 1-6.
ZALASIEWICZ, J., WILLIAMS, M , SMITH, A., BARRY, T.L., BOWN, P.R., RAWSON, P., BRENCHLEY, P., CANTRILL, D., GALE, A., GIBBARD, P.L., GREGORY, F.J., HOUNSLOW, M., KNOX, R., POWELL, P., WATERS, C., MARSHALL, J., OATES, STONE, P. & TREWIN, N. 2007. The scale-dependence of strata-time relations: implications for stratigraphic classification. *Stratigraphy*, **4**, 59-64.
GABBOTT, S., ZALASIEWICZ, J., & COLLINS, D. In press. Sedimentation of the Burgess Shale (Mid-Cambrian, British Columbia). *Journal of the Geological Society*.

2.3 ISSC ELECTION RESULTS

Number of Voting Members: 43
Valid votes received within the deadline (December 15, 2007): 29

Position of Chair
Dr. Ashton Embry received 13 votes.
Dr. Brian Pratt received 16 votes.

Position of vice-chairs
1° vice chair
Dr. Helmut Weissert (25 votes)
Dr. Jan Zalasiewicz (3 votes)
Dr. Brian Pratt (1 vote)

2° vice chair
Dr. Helmut Weissert (3 votes)
Dr. Jan Zalasiewicz (20 votes)

Based on the results the next ISSC Officers effective August 2008 are:

ISSC Chair
Dr. Brian Pratt

1° ISSC vice chair
Dr. Helmut Weissert

2° ISSC vice chair
Dr. Jan Zalasiewicz

My warm congratulation to the next ISSC Officers and thanks to Dr. Ashton Embry for letting his name stand for election.
Many thanks to the ISSC voting members for casting their votes.

Dr. Maria Rose Petrizzo
ISSC Secretary

3. ISSC PROJECTS

NEW DEVELOPMENTS IN STRATIGRAPHIC CLASSIFICATION

The final goal of ISSC is to update, upgrade and implement the International Stratigraphic Guide (ISG, Hedberg, 1976-first edition; Salvador, 1994-second edition; Murphy and Salvador, 1999-abridged edition). The International Stratigraphic Guide is a most important official document of large distribution which requires a revisitation because of the fundamental advances of stratigraphy in the last approximately thirty years. A project was developed by ISSC following a workshop organized during the 32nd IGC in Florence, entitled "Post-Hedberg Developments in Stratigraphic Classification". A bottom-up approach was initiated with the distinction of seven subjects (subdisciplines) to be developed by different groups of scientists mostly but not necessarily ISSC members. The project is not funded, and is uniquely based on voluntary participation of dedicated scientists with a team work approach.

The target is represented by undergraduate and graduate students, field geologists, professionals. Each chapter will start with an incipit summarizing the historical development of that peculiar branch of stratigraphy. Basic concepts have to be clearly presented, followed by precise definitions. Then real examples (case – studies) will be presented and discussed.

Finally recommendations and the terminology to be adopted and problems in the application of the methods will be developed.

Background and motivation of this ambitious project are clearly expressed in the presentation published on Newletters on Stratigraphy (Cita, 2007) to which reference is made.

A series of review-articles are foreseen under the umbrella of "New developments on Stratigraphic Classification". A workshop with the same title is planned during the 33nd IGC in Oslo, in 2008 (see 5.3).

Only after the Oslo workshop and the publication of the various review articles in the coordinated series, the assemblage of the various articles in a book is foreseen after passing the prescribed check points for approval in order to obtain the permission to use the ICS and IUGS logo.

3.1 THE ORGANIZATION

Task Group leaders have been appointed for categories of stratigraphic units not included in previous ISG as

- Chemostratigraphy
- Cyclostratigraphy
- Sequence stratigraphy

Working Group leaders have been appointed for categories already considered as

- Biostratigraphy
- Chronostratigraphy.
- Lithostratigraphy
- Magnetostratigraphy

Each Task Group and/or Working Group consists of a limited number of scientists with broad international experience. Overall at least 24 scientists are presently involved in this project. The products of their efforts are circulated through ISSC Newsletters, first among members, then within a larger community through the national liaisons.

Participation of our large and variegated membership to the project proceeds in two steps:

STEP 1 - is the distribution of a detailed outline of each chapter (= review paper to be published in Newsletters on Stratigraphy). ISSC members have one month on-line review time to send comments or additions to ISSC chair. Comments are sent to the Group leader, who modifies the text accordingly

STEP 2 –When the text and illustrations are ready, they are sent to ISSC members for another one month on-line review. Additional comments received by ISSC chair are assembled and sent to the group leader for revision of the text prior to its finalization.

3.2 STATE OF THE ART (as of end December 2007)
Papers published:
Cita M. B. , 2007. New developments in stratigraphic classification. A project of the International Subcommission on Stratigraphic Classification ISSC. Newsletters on Stratigraphy 42(2), p. 69-74.

Strasser A., Hilgen F. and Heckel P., 2007. Cyclostratigraphy - concepts, definitions, and applications. Newsletters on Stratigraphy 42(2), p. 75-114.

3.2.1 Task Groups
CYCLOSTRATIGRAPHY
Leader: Andreas Strasser, Switzerland, andreas.strasser@unifr.ch
Fritz Hilgen, The Netherlands, fhilgen@geo.uu.nl
Philip Heckel, USA philip-heckel@uiowa.edu
Outline distributed in ISSC Newsletter 7 (June 2005).
Comments received and forwarded to the leader. Available in the ISSC archive kept by the secretary Maria Rose Petrizzo.
Full text distributed in January 2006, comments received.
Paper published: Strasser A., Hilgen F. and Heckel P., 2007. Cyclostratigraphy - concepts, definitions, and applications. Newsletters on Stratigraphy.

SEQUENCE STRATIGRAPHY
Leader: Ashton Embry, Canada, AEmbry@NRCan.gc.ca
Donald E. Owen, USA, owende@hal.lamar.edu
Benoit Beauchamp Canada, bbeaucha@ucalgary.ca
Erik Johannessen Norway, EPJ@statoil.com
Piero Gianolla, Italy piero.gianolla@unife.it
Outline distributed in ISSC Newsletter 8 (October 2005).
Comments received and forwarded to the leader. Available in the ISSC archive kept by the secretary Maria Rose Petrizzo.
Full text distributed in February 2007, comments received and followed by a heated on-line debate (see http://strata.geol.sc.edu/SeqStratForm.html). Rejected in its first version.
Second revised version rejected by an ad-hoc international review committee of five experts chaired by Chris Kendall. Gianolla has not contributed to this version.
Task Group disbanded.
Eventual appointment of a new group postponed to after the Oslo Workshop (see p. 20).

CHEMOSTRATIGRAPHY
Leader: Helmut Weissert, Switzerland, helmut.weissert@erdw.ethz.ch
M. Joachimski, Germany, joachimski@geol.uni-erlangen.de
M. Sarnthein, Germany, ms@gpi.uni-kiel.de
Outline distributed in ISSC Newsletter 9 (June 2006).
Comments received and distributed in ISSC Newsletter 10 (November 2006)
Full text distributed in appendix to ISSC Newsletter 11 (June 2007), comments received
Paper approved by scientific coordinator and submitted for publication on December 15, 2007.

3.2.2 Working Groups

BIOSTRATIGRAPHY

Leader: Jacques Thierry, France, jthierry@mail.u-bourgogne.fr; jacques-thierry2@wanadoo.fr
Stan Finney, USA, scfinney@csulb.edu
Stephen Hesselbo, UK, stephess@earth.ox.ac.uk
Yuri Gladenkov, Russia, gladenkov@ginras.ru

Outline distributed in ISSC Newsletter 9 (June 2006).
Comments received and distributed in ISSC Newsletter 10 (November 2006)
Full text promised for next January 2008 (to be distributed as appendix to Newsletter 12)

CHRONOSTRATIGRAPHY

Leader: Maria Bianca Cita, Italy, maria.cita@unimi.it
Ashton Embry, Canada, AEmbry@NRCan.gc.ca
Fritz Hilgen, The Netherlands, fhilgen@geo.uu.nl
Jacques Thierry, France, jthierry@mail.u-bourgogne.fr
Jan Zalasiewicz, U.K., jaz1@le.ac.uk
Stan Finney, USA, scfinney@csulb.edu
Brian Pratt, Canada, brian.pratt@usask.ca

Outline distributed in January 2007.
Comments received and distributed in ISSC Newsletter 11 (June 2007).
Full text in progress, half done, five case studies well selected and to be finalized and disseminated to ISSC members as soon as possible.
Part 1 and 3 to be discussed at Oslo workshop (see p. 20) prior to finalization.

LITHOSTRATIGRAPHY

Leader: Brian Pratt, Canada, brian.pratt@usask.ca
Stan Finney, USA, scfinney@csulb.edu
Werner Piller, Austria, werner.piller@uni-graz.at
Mike Easton, Canada, mike.easton@ndm.gov.on.ca

Outline distributed in ISSC Newsletter 11 (June 2007).
Comments received and forwarded to the leader. Available in the ISSC archive kept by the secretary Maria Rose Petrizzo.
Full text in progress.

MAGNETOSTRATIGRAPHY

Leader: Cor Langereis, The Netherlands, langer@geo.uu.nl
Wout Krijgsman, The Netherlands, krijgsma@geo.uu.nl
Giovanni Muttoni, Italy, giovanni.muttoni1@unimi.it
Manfred Menning, Germany, menne@gfz-potsdam.de

Outline see page 19.
Full text in progress, very advanced.

4. MAGNETOSTRATIGRAPHY OUTLINE - December, 2007

by Cor G. Langereis, Wout Krijgsman, Giovanni Muttoni, and Manfred Menning (?)

Magnetostratigraphy – concepts, definitions and applications

Part one: Concepts, Definitions, Procedures

1) Introduction: biostratigraphy, radiometrics and then … magnetostratigraphy
   The most characteristic property of the Earth's magnetic field: reversals
   Realisation that reversals can be used as stratigraphic tool, resulting in the GPTS
2) The geomagnetic signal: dipole field ('bar magnet') reverses randomly: fingerprint
   Ancient field recorded in the geological archive: the magnetic 'rock record'
   Can we play back the tape of ancient 'rock music'? Yes, in principle we can:
3) Demagnetization, field test, laboratory test: some principles of paleomagnetism
4) The Geomagnetic Polarity Time Scale (GPTS)
   Essentials (marine magnetic anomalies), fine-tuning & calibration
   Nomenclature: superchrons, chrons, subchrons, cryptochrons
   The extension beyond the sea-floor record: land sections

Part two: Case studies

1) *Cenozoic*. Middle Miocene magnetostratigraphy and the Serravallian/Tortonian GSSP
   An astronomically dated section: Monte Corvi beach section (Italy)
   Fine-tuning the GPTS with an Astronomically dated Geomagnetic Time Scale (APTS)
2) *Mesozoic*. The Triassic: beyond the sea-floor record
   The Newark (continental) standard vs. the Tethys (marine) record: problems.
   Case study: Seceda core, integrated middle Triassic 'multi'-stratigraphy
3) *Paleozoic*. Still to be confirmed (Permian, Menning)

Part three: Discussion

1) The new aid in dating and correlation: astrochronology and cyclostratigraphy
   * Dating of each individual reversal, but (still) limited in time
2) Importance of determining the GPTS beyond marine magnetic anomalies (mma)
   * For dating and correlation purposes (beyond mma & astrochronology)
   * For our knowledge of the geodynamo at long time scales (reversal frequency, …)
3) Marine – continental correlations
   * 'black/white' magnetostratigaphy is not enough
   * the need for integrated 'multi'-stratigraphy (hiatuses, condensed sections, etc.)
4) The role of cryptochrons / tiny wiggles / short subchrons
   * high-resolution dating and correlation tool ?
5) How far can we go back in time ?
6) How will (future) technology and new developments help us ?

MAGNETOSTRATIGRAPHY OUTLINE
ONE MONTH ON-LINE REVIEW PROCESS

ISSC members are urgently requested to send
by **JANUARY 23, 2008 TO MILANO**

COMMENTS…….
SUGGESTED ADDITIONS……..
SIGNATURE……..
DATE……..

5. THE NEW ISSC WEBSITE

The web-site of the International Subcommission on the Stratigraphic Classification has been updated, upgraded and moved to http://users.unimi.it/issc
The entire allocation for 2007 (only 505.33 Euro after conversion) has been TOTALLY devoted to this. Suggestions and advices from the ISSC members and friends are welcome to further improve and implement the website.

6. ISSC AT OSLO 33rd IGC (AUGUST 2008)

THE 33RD INTERNATIONAL GEOLOGICAL CONGRESS IN NORWAY (http://www.33igc.org)

IMPORTANT DEADLINES
12.15.2007: Geohost application deadline
01.02.2008: Abstract submission deadline
31.03.2008: Registration fee deadline for inclusion of accepted abstracts in the programme.
15.04.2008: End of early registration lowest fee.
15.07.2008: End of pre-Congress registration (only on-site registration possible thereafter).
06.08.2008: 33rd IGC opens!

WSS-11 WORKSHOP

"NEW DEVELOPMENTS IN STRATIGRAPHIC CLASSIFICATION"

conveners:
M.B. Cita (ISSC chair), University of Milano (Italy), maria.cita@unimi.it
A. Strasser, University of Fribourg (Switzerland), andreas.strasser@unifr.ch
C. Kendall, University of South Carolina (USA), kendall29204@gmail.com
S. Finney (ICS vice-chair), California State University - Long Beach (USA), scfinney@csulb.edu

"Stratigraphic classification is an important tool for deciphering the complex sedimentary records of Earth History and a means of communication among scientists. The workshop wants to bring together specialists in litho-, bio-, chemo-, magneto-, cyclo-, sequence-, and chronostratigraphy to discuss ways to adapt the classification to the new developments in stratigraphic research. At the same time, the nomenclature should be attractive and easy to apply.
The workshop is organized by the Subcommission on Stratigraphic Classification of the International Commission on Stratigraphy, but is open to the Earth community at large.
The workshop will be run in a Penrose conference style, starting with a series of keynote presentations on the various subdisciplines of Stratigraphy, some of which derive from the introduction of new methodologies. Discussion groups will be organized for the more controversial issues, followed by an open forum discussion. Aim of the workshop is to reach a consensus, or at least a large majority on some critical points that will allow a better understanding of the history of our planet.
The ultimate goal is an update of the International Stratigraphic Guide, which should become a widely used and respected reference for stratigraphers worldwide."

contact person is M. B. Cita
for additional information on sequence stratigraphy contact C. Kendall

HPS-07 SYMPOSIUM

PLIO-PLEISTOCENE CORRELATION AND GLOBAL CHANGE

conveners:
M.B. Cita (ISSC chair), University of Milano (Italy), maria.cita@unimi.it
Brad Pillans (INQUA Commission on Stratigraphy and Chronology chair), Australia, brad.pillans@anu.edu.au

This is the title of a Symposium to be held during the 33nd IGC in Oslo, in August 2008. The Symposium is sponsored by the International Commission on Stratigraphy of IUGS, and by INQUA.

The Symposium is planned as a suite of invited lectures on topics relevant to the evolution of our planet during approximately the last five million years of its multibillion years long history.

The symposium wants to give a broad perspective and to present a state of the art of the scientific arguments available today on global change and correlation of marine and continental sediments of Plio/Pleistocene age. The best scientists are invited to contribute to the success of the initiative.

The incipit is a revisitation of the "ice age" or "glacial age" concept: is it myth or reality? Starting from Agassiz and his pioneering work on the Aar glacier all the way through the outstanding results provided by coring the ice caps in Greenland and in Antarctica (Vostok, Dome C).

Then Milankovitch theory on astronomical forcing on solar radiation will be presented.

Milankovitch, sub-Milankovitch and annual cycles as recorded in varved sediments deposited in periglacial lakes, in cyclical salt layers, in high accumulation glaciers (GRIP cores) allow to reconstruct an unprecedented high resolution stratigraphy and to reconstruct not only climate changes, but the rate of change.

Adaptation, migration, extinction of biota in response to rapid climate change is another topic of the symposium. Examples considered include mid latitude vegetation as recorded in continuously cored lacustrine successions, and large mammals, as the Siberian mammoths that survived till 5000/6000 years BP in an island of the Arctic Ocean where they had found a refuge.

Additional topics relevant to the climate change on land include desertification, loess, monsoons, the influence of mountain building on atmospheric circulation, drilling in endoreic lakes as Lake Baikal.

The continental record will be treated first because terrestrial sediments outnumber by far marine sediments on land, but are more difficult to be chrono-correlated as a result of they being discontinuous in space and time. Before passing to the marine record, that has been investigated in great detail from 1970 to the present as a result of the extended exploration of all the oceans by DSDP-ODP (1400 sites) and related scientific expeditions, the correlation potential of

a) isotopic stratigraphy, originating the MIS scale
b) magnetostratigraphy, originating the MPTS scale
c) astrocyclostratigraphy, originating the ATS scale

will be considered, presenting the integrated high resolution frame available today for the Plio/Pleistocene.

All these methologies are suitable for marine sediments, but magnetostratigraphy and - in case astronomically controlled cyclic sedimentation occurs - also astrocyclostratigraphy are applicable to the continental record. Tephrastratigraphy, when available, represents an other mean to chronocorrelate continental deposits and marine deposits of a given area.

The marine record is more continuous both in time and laterally. The multidiscipinary and interdisciplinary scenario in which most scientists have been working in the last several years allows to discriminate trends, cycles.and events.

The relationships between climate change and sea-level changes are fairly well understood, and are reflected in sequence stratigraphy.

A very nice story of the importance of plate tectonics in controlling paleogeography and paleoceanography by restricting the Panama straits and disconnecting the Pacific Ocean from the Atlantic allows to reconstruct step by step the initiation of ice house conditions in the northern hemisphere in both oceans.

What is not clear yet to day is the origin of the event known as "Mid Pleistocene revolution" where a sudden change from the precession related short duration Milankovitch cycles to the longer and stronger obliquity cycles initiates the glacial mode.

Aim of the symposium is to provide a rationale for future decisions on Plio/Pleistocene stratigraphy. The internal subdivisioin of the Pliocene Series is formal, but that of the Pleistocene has not yet been formalized . The last invited lecture, by the symposium conveners, is expected to be entitled: global stages, regional stages, or no stages for the Plio/Pleistocene?

At a time of general panic for climate change and a lack of an agreed-upon shared knowledge by opinion makers, by politicians and also by the scientific community, it is considered very important to provide a global standard of reference for the youngest part (some 5 million years) of the long history of our planet.

7. PAPERS RECEIVED

PETRI S. (2006). Problems in the utilization of the Brazilian Code of Stratigraphic Nomenclatures as related to modern research. Revista Brasileira de Geociencias 36 (1), 203-208.

SIMMONS M.D., SHARLAND P.R., CASEY D.M., DAVIES R.B., SUTCLIFFE O.E. (2007). Arabian Plate sequence stratigraphy: Potential implications for global chronostratigraphy. GeoArabia vol. 12, 2007.

8. THINGS TO BE DONE

1- COMMENT ON MAGNETOSTRATIGRAPHY OUTLINE BY JANUARY 23, 2008

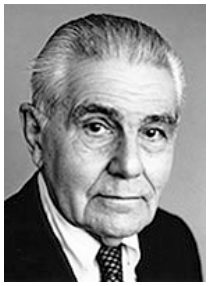
2- SEND ABSTRACT TO OSLO CONGRESS BY FEBRUARY 1, 2008

3- REGISTRATION FEES TO OSLO CONGRESS BY MARCH 31, 2008

9. OBITUARIES

AMOS SALVADOR

From: *Obituary and guestbook online at wcfish.com*



Dr. Amos Salvador died December 2, 2007 of complications from pneumonia and a malignant brain tumor. He was 84.
Amos was born April 14, 1923 in Madrid, Spain to Rosario Diaz and Fernando Salvador. He left Spain with his family in 1938 for Havana, Cuba where his father was stationed as First Secretary of the Spanish Embassy, which at that time was still that of the Republican government. When the Republicans lost the Civil War to France Amos and his family moved to Caracas, Venezuela where he lived until he graduated in 1945 from the Universidad Central de Venezuela with a degree in Geology. While in Venezuela he worked as a surface geologist with Mene Grande Oil Co (Gulf Oil) and had the good fortune to be guided and advised by Hollis D. Hedberg who was his friend and mentor for many years. With the help and encouragement of Hollis in 1948 he left Venezuela to attend Stanford where he received his Ph.D in Geology in 1950. He and his wife, Lynn Sherwood, were married in 1950 following their graduation from Stanford. From 1950-1955 Amos worked with Gulf Oil based in New York where he did work as a regional and surface geologist in North Africa, Europe and South America. In 1955 Amos left Gulf Oil and went to work for Creole Petroleum Corporation, an affiliate of Esso (now Exxon Mobil) in Venezuela and from then until 1980 worked for several Esso affiliates retiring as chief geologist of Exxon in 1980. In 1980 Amos and Lynn moved to Austin where he taught geology as the Alexander Deussen Professor of Energy Resources until his retirement.
Since retirement Amos kept very busy with his geological interests, writing papers and collaborating with the many colleagues and friends he had in the geological community around the world. Among his many publications three are noteworthy: The Gulf of Mexico Basin, Vol J, Decade of North American Geology (ed); Energy: a historical perspective and 21st Century forecast; and several editions of International Stratigraphic Guide.
Amos's life long interest in stratigraphy dates from his experience as a young surface geologist riding a mule in the back country of Venezuela. He believed that stratigraphy is a fundamental element of geology and its recent neglect disturbed him. Another abiding concern of his was the growing demand on the Earth's resources by its expanding population.
Amos is survived by Lynn, his wife of 57 years and his children, Phillip, Michael and Rosario, and by his grandchildren Solomon, Leo, Claire, Lucas and Carla.

Personal memories by Maria Bianca Cita
My memories of Amos Salvador are closely linked to his long and important chairmanship of ISSC (1977-1992). He succeeded to Hollis D.Hedberg, the founder of both the North American Commission on Stratigraphic Nomenclature (NACSN) and of the International Subcommission on Stratigraphic Classification (ISSC). The official obituary here reproduced clearly indicates that Hedberg was Salvador's mentor and had a similar carreer working for oil companies as exploration

geologist first, then becoming a manager and moving to academia in the later part of his professional life.
Hedberg, whom I first met at the 21st International Geological Congress (IGC) in Copenhagen in 1960, had a strong influence on my own stratigraphic education, and I am proud for having a copy of his Guide signed by him with the following dedication "to Maria Bianca Cita with reconnaissance for her help and support in the preparation of this work. Indeed, I co-authored with Augusto Azzaroli from Florence a "Codice Italiano di Nomenclatura stratigrafica" published in 1968 by the Geological Survey of Italy, which was largely inspired by Hedberg's work, by his clear, pragmatic practical approach, with the distinction of different categories of stratigraphic units, with the basic distinction of observations and interpretations.
Again at an IGC Congress (Montreal, 1972) I met Hedberg and discussed with him my proposal to define the Miocene/Pliocene boundary at Capo Rossello, in Sicily in correspondence with the lithologic and faunal break witnessing the Pliocene flood of the Mediterranean after the Messinian salinity crisis.
I cannot remember exactly when I first met Amos Salvador; probably in Paris (26th IGC, 1980) when he was ISSC chair, after Hedberg. I certainly met him in Washington, DC (28th GC, 1989) when Cowie was chair of ICS and Remane was Secretary general. The second edition of the Guide was edited by Amos and was published by the Geological Society of America and the American Geological Institute (AGI) in 1994, when he was no more the ISSC chair, having been substituted by Murphy in 1992. I remember that I bought a copy in Denver, Colorado, at a GSA meeting, when the new guide was just published, with three additions to the first edition: a chapter on magnetostratigraphy, a chapter on unconformity bounded stratigraphic units (UBSU) and a glossary corresponding to the index of the first edition.
But the most interesting meetings I had with Amos were unrelated to the official gatherings during IGCs. In the late nineties I was in AUSTIN, Texas, where he spent the last years of his life, and where he died a week or so ago, for one of the numerous and demanding science meetings of the Planning Committee (PCOM) of the Ocean Drilling Program (ODP). Chair of PCOM was Jamie Austin, from the Texas University in Austin.These meetings last several days, with endless reports by the various officers, scientific results, presentations of new drilling proposals, brainstorming session followed by decision making crisis and eventual final decisions…During a party run on a ferryboat on a nearby lake, I met Amos, who was still teaching at the University of Texas: it was a surprise, as to find an old friend in an unexpected place… We are approximately of the same age, and had long conversations, and he invited me to dine out with his wife, the day after. His wife is handicapped, on a wheel chair, and I was impressed by the incredibly kind and generous attitude he had with her. We spoke of our family stories, of our children who were growing in a world that was undergoing a too fast change, of his difficulty to travel long distance……
The last time I met Amos was in Dallas, Texas, in August 2001, at the Hedberg conference that he organized with AAPG. I was invited as an observer for ISSC (I was vice-chair). When I first met with Amos, he told me that very soon I had to be ready to take over after Alberto Riccardi, who had been elected at an IUGS position that was incompatible with ISSC chairmanship. The Dallas conference on sequence stratigraphy was very interesting for me but full of tension, of conflicting attitudes, of miscommunications. Sequence stratigraphy as practiced by professional stratigraphers working for oil companies and basin analysts differs substantially from the strictly scientific approach were are observations and interpretations represent, as different steps of a conceptual course that requires tests and experiments and the possibility to repeat the experiment. Amos was in the middle of a storm, incapable to go beyond Vail's paradigm of sea level changes.
Amos was not upset when I decided the Working Group he had chaired for six years had to be disbanded, and followed at a distance but with care my attempts to revitalize the Subcommission. In other words, he has been like an advisor when I took over after Alberto Riccardi in 2002. At that

time the relationships between ISSC and its parent body ICS were bad as a result of the different interpretations of Hedberg's boundary stratotype versus Cowie's (1986) and Remane et al (1996) GSSP.
Like a friend, an old friendly adviser, he criticized me 1) for not having kept the three categories of members that differenciated ISSC from all the other subcommissions: individual, ex officio and organizational instead of voting and corresponding. I changed because the new statute did not allow that, and if there is a statute, well, you just have to stick to the rules, and 2) for accepting – although with reservations- the "Louvain compromise" on the Quaternary issue and 3) for selecting Newsletters on Stratigraphy instead of AAPG Bulletin or GSA Bulletin for the publication of the new series of review articles "New Developments on Stratigraphic Classification.
The last communications with him concerned the Quaternary issue, where he strongly defended the "statu quo" position.
Finally, we all have to recognize the important role played for Stratigraphic Classification by this respectable gentleman of european origin whose life was spent in central America , entirely dedicated to the research and scientific development of natural resources.
We will miss him and share the sorrow of his premature departure with his wife, children and grandchildren.
Maria Bianca Cita

A MEMORIAL FOR AMOS SALVADOR, STRATIGRAPHER

by Donald E. Owen, Department of Earth and Space Sciences, Lamar University,Beaumont, Texas, U.S.A.

The science of stratigraphy lost one its best-known champions when Amos Salvador, duration 84 years, died of complications from pneumonia and a malignant brain tumor, December 2, 2007, in Austin, Texas. He was a professor emeritus of geology at the University of Texas at Austin since retiring during 1993.

Amos was a distinguished and very active member and of ISSC, serving as ISSC Vice Chair and Chair. He had earlier served as Chairman of the North American Commission on Stratigraphic Nomenclature. His most prominent contribution to ISSC was as editor of the second edition of the International Stratigraphic Guide (1994) as well as co-editor of the abridged and updated version (1999). It took all of his "…untiring and always congenial efforts to complete a given project and forge consensus…" (Ashton Embry, personal communication, 2007) to complete the Guide and satisfy the many contributors. Amos once described to me the monumental task of completing the Guide, which took from 1977 to 1993, as comparable to "herding cats"—he was often frustrated, but never gave up. I had the pleasure of working with Amos and seeing him in action in the ISSC Working Group on Sequence Stratigraphic for six years, another very challenging task. I was especially impressed by his hard work to find consensus within this diverse group of people, and even when I insisted on disagreeing with him on the main issue, he still treated me with courtesy and respect, even while trying to "twist my arm" around to his viewpoint! Our disagreement led to closer friendship.

In addition to his outstanding work on the International Stratigraphic Guide, Amos published many other well known geologic papers and volumes. Among the most prominent were the Gulf of Mexico volume of the GSA Decade of North American Geology series and the 2005 AAPG Studies in Geology volume, Energy: a historical perspective and 21st century forecast. As the latter publication indicates, Amos was quite concerned with the growing demand on Earth resources by

its rapidly increasing population. His two 2006 publications in defense of the Tertiary and Quaternary are additional examples of his passionate commitment to stratigraphy and high level of activity during retirement.

Amos was born in Madrid, Spain during 1923, and then moved to Havana, Cuba during 1938, where his father was First Secretary of the Spanish Embassy, and later to Caracas, Venezuela, where he earned a B.S. in geology from Universidad Central de Venezuela during 1945. Amos then worked in remote areas of Venezuela as a field geologist on muleback and petroleum geologist for Mena Grande Oil Company, a subsidiary of Gulf Oil Company. While working in Venezuela, he met and began his mentoring by long-time Gulf geologist, Hollis Hedberg, who needs no introduction to the community of stratigraphers. Hollis later advised Amos to do graduate study at Stanford University, where Amos completed his Ph.D. in geology during 1950. Amos then worked for Gulf in New York City during 1950-1955, where he was a regional geologist for South America, north Africa, and Europe. He left Gulf for Creole Petroleum Corporation, an Esso (later ExxonMobil) affiliate, again in Venezuela. Amos continued with various Esso affiliates until his retirement as Chief Geologist of Exxon, USA, during 1980. The last stop in the distinguished career of Amos Salvador was as Alexander Deussen Professor of Energy Resources in the Department of Geological Sciences at the University of Texas at Austin beginning during 1980, followed by appointment as Morgan J. Davis Professor of Petroleum Geology from 1990 -1993, when he retired from UT. While at UT and during retirement, Amos was an outspoken advocate of the importance of stratigraphy as a fundamental element of geology and was critical of the decline in teaching stratigraphy in many U.S. universities. He often urged me to continue the strong emphasis on stratigraphy to my students, as he did to many other stratigraphers in academia.

Amos is survived by his wife of 57 years, Lynn, his sons Phillip (a geologist with ConocoPhillips in Jakarta) and Michael, and his daughter, Rosario. I was fortunate to attend a visitation in his honor in Austin, December 7, 2005, and talk with his family and many of the prominent geologists and other friends who packed the room to celebrate his life and his service to his profession. We shall miss him greatly.

STEPHEN L. WALSH

From: *www.sdnhm.org (San Diego Natural History Museum)*

Stephen L. Walsh (1961-2007) received a B.S. degree in Geology at San Diego State University in 1987, and worked as Field Monitor and Curatorial Assistant in the Department of Paleontology of the San Diego Natural History Museum for almost 20 years. His research interests included the Paleogene stratigraphy and mammal faunas of southern California and the western United States, and the theoretical foundations of biostratigraphy, biochronology, and chronostratigraphy.

Publications:

Rasmussen, D. T., M. Shekelle, S. L. Walsh, and B. O. Riney. 1995. The dentition of Dyseolemur, and comments on the use of the anterior teeth in primate systematics. Journal of Human Evolution 29:301-320.

Robinson, P., Gunnell, G. F., Walsh, S. L., Clyde, W., Storer, J., Stucky, R. K., Froehlich, D., Ferrusquia-Villafranca, I., and McKenna, M. C. 2004. Wasatchian through Duchesnean biochronology of North America, in Woodburne, M. O. editor, Late Cretaceous and Cenozoic Mammals of North America: Biostratigraphy and Geochronology: New York, Columbia University Press. p. 106-155.

Silcox, M. T., K. D. Rose, and S. L. Walsh. 2002. New specimens of picromomyids (Plesiadapiformes, Primates) with description of a new species of Alveojunctus. Annals of Carnegie Museum 71:1-11.

Walsh, S. L., 1987. Mammalian paleontology of the southern outcrops of the Mission Valley Formation, San Diego County, California. Unpub. undergraduate thesis, Department of Geology, San Diego State University, 171 p.

Walsh, S. L., 1991a. Late Eocene mammals from the Sweetwater Formation, San Diego County, California; pp. 149-159 in P. L. Abbott and J. A. May (eds.), Eocene Geologic History San Diego Region. Pacific Section SEPM Volume 68.

Walsh, S. L., 1991b. Eocene mammal faunas of San Diego County; pp. 161-178 in P. L. Abbott and J. A. May (eds.), Eocene Geologic History San Diego Region. Pacific Section SEPM Volume 68.

Walsh, S. L., 1996a. Middle Eocene mammal faunas of San Diego County, California; pp. 75-119 in D. R. Prothero and R. J. Emry (eds.), The Terrestrial Eocene-Oligocene Transition in North America. Cambridge University Press, Cambridge.

Walsh, S. L., 1996b. Theoretical biochronology, the Bridgerian/Uintan boundary, and the "Shoshonian Subage" of the Uintan; pp. 52-74 in D. R. Prothero and R. J. Emry (eds.). The Terrestrial Eocene-Oligocene Transition in North America. Cambridge University Press, Cambridge.

Walsh, S. L., 1997. New specimens of Metanoiamys, Pauromys, and Simimys (Rodentia: Myomorpha) from the Uintan (middle Eocene) of San Diego County, California, and comments on the relationships of selected Paleogene Myomorpha. Proceedings of the San Diego Society of Natural History no. 32, p. 1-20.

Walsh, S. L., 1998a. Fossil datum terms, paleobiological event terms, paleontostratigraphy, chronostratigraphy, and the definition of land-mammal "age" boundaries. Journal of Vertebrate Paleontology 18:150-179.

Walsh, S. L., 1998b. Notes on the anterior dentition and skull of Proterixoides (Mammalia: Insectivora: Dormaaliidae), and a new dormaaliid genus from the early Uintan (middle Eocene) of southern California. Proceedings of the San Diego Society of Natural History no. 34, p. 1-26.

Walsh, S. L., 1998c. History and semantics of the "monophyly debate." Evolutionary Theory 11:307-323.

Walsh, S. L., 1998d. Diachrony of mammalian appearance events: Comment. Geology 26:955-956.

Walsh, S. L., 2000a. Bunodont artiodactyls (Mammalia) from the Uintan (middle Eocene) of San Diego County, California. Proceedings of the San Diego Society of Natural History no. 37, p. 1-27.

Walsh, S. L. 2000b. Eubiostratigraphic units, quasibiostratigraphic units, and "assemblage zones." Journal of Vertebrate Paleontology 20:761-775.

Walsh, S. L. 2001. Notes on geochronologic and chronostratigraphic units. Geological Society of America Bulletin 113:704-713.

Walsh, S. L. 2003. Notes on geochronologic and chronostratigraphic units: Reply. Geological Society of America Bulletin 115:1017-1019.

Walsh, S. L., 2004. Solutions in chronostratigraphy: The Paleocene/Eocene boundary debate, and Aubry vs. Hedberg

on chronostratigraphic principles. Earth-Science Reviews 64:119-155.
Walsh, S.L., 2004. Time and time-rock again: an essay on the (over)simplification of stratigraphy. The Palaeontology Newsletter, v. 57, p. 18-26.
Walsh, S.L. 2005. The role of stratotypes in stratigraphy. Part 1: Stratotype functions. Earth-Science Reviews 69:307-332.
Walsh, S.L. 2005. The role of stratotypes in stratigraphy. Part 2: The debate between Kleinpell and Hedberg, and a proposal for the codification of biochronologic units. Earth-Science Reviews 70:47-73.
Walsh, S.L. 2005. The role of stratotypes in stratigraphy. Part 3: The Wood Committee, the Berkeley school of mammalian stratigraphic paleontology, and the status of provincial golden spikes. Earth-Science Reviews 70:75-101
Walsh, S.L. 2006. Hierarchial subdivision of the Cenozoic Era: A venerable solution, and a critique of current proposals. Earth-Science Reviews 78:207-237.
Walsh, S. L., and T. A. Demere. 1991. Age and stratigraphy of the Sweetwater and Otay formations, San Diego County, California; pp. 131-148 in P. L. Abbott and J. A. May (eds.), Eocene Geologic History San Diego Region. Pacific Section SEPM Volume 68.
Walsh, S. L., and R. Estes. 1985. Earlier Eocene? microvertebrate fossils from San Diego County, California: A preliminary report; pp. 75-83 in P. L. Abbott (ed.), On the Manner of Deposition of the Eocene Strata in Northern San Diego County. San Diego Association of Geologists field trip guidebook.
Walsh, S. L., Gradstein, F. M., and Ogg, J. G. 2004. History, philosophy, and application of The Global Stratotype Section and Point (GSSP). Lethaia 37:201-218.
Walsh, S. L., D. R. Prothero, and D. J. Lundquist. 1996. Stratigraphy and paleomagnetism of the middle Eocene Friars Formation and Poway Group in southwestern San Diego County, California; pp. 120-154 in D. R. Prothero and R. J. Emry (eds.), The Terrestrial Eocene-Oligocene Transition in North America. Cambridge University Press, Cambridge.
Walsh, S. L., and Storer, J. E., Cylindrodontidae; in Janis, C. M., Gunnell, G. F., and Uhen, M. D. (eds.), Evolution of Tertiary Mammals of North America, Volume 2: Marine Mammals and Smaller Terrestrial Mammals. Cambridge University Press, Cambridge, UK (in press).
Walsh, S. L., 2001. New specimens of Merycobunodon (Artiodactyla, Oromerycidae) from the early Uintan of San Diego County, California. Journal of Vertebrate Paleontology 21, supplement to no. 3, p. 111A (abstract).
Walsh, S. L., 2002. The Paleocene/Eocene boundary debate, and Aubry vs. Hedberg on chronostratigraphic principles. Journal of Vertebrate Paleontology 22, supplement to no. 3, p. 117A (abstract).
Walsh, S. L., and R. Q. Gutzler. 1999. Late Duchesnean-early Chadronian mammals from the upper member of the Pomerado Conglomerate, San Diego, California. Journal of Vertebrate Paleontology 19, supplement to no. 3, p. 82A (abstract).

Personal memories by Maria Bianca Cita

Steve Walsh has never been a member of our Subcommission, but he interacted with our activities related to the future new guide.

I personally met him only once, in Seattle, in november 2003, when I asked to the chair of NACSN (Brian Pratt) to attend their annual meeting in order to present the ISSC plans for the Firenze 2004 workshop on" post-Hedberg developments in stratigraophic classification" and invite them to attend. Walsh was also invited, and made a brief presentation dealing with the Mammal ages. He looked like a hippy, with jeans and rucksack. Old members of NACSN did not like him, and prevented me to have a conversation because "he had not even a Ph D"…The same expression was used by other top class american stratigraphers the following year in Firenze (32nd IGC).

Meanwhile Steve Walsh produced a series of valuable review papers published on Earth Science Reviews, which is notoriously the journal with the highest impact factor in our research field. I was impressed by his knowledge of all the literature, old and new, dealing with Chronostratigraphy, and by his critical evaluation of some controversial issues. He also co-authored papers with the chairman and secretary general of ICS and has a paper in press with Amos Salvador.

He was in our mailing list and every time we distributed some new pieces (outlines, full texts) he was among the firsts, if not the first, to answer, and his comments were intelligent and useful. The last correspondence we had was a comment on the chemostratigraphy text, last summer.

Reportedly he committed suicide after a diagnosis of leukemia.

I am really sorry for the loss of our "enfant terrible" and share the sorrow with those who knew him better than me, as Jan Zalasiewicz.

CALL FOR PAPERS

THE 33RD INTERNATIONAL GEOLOGICAL CONGRESS IN NORWAY
(http://www.33igc.org)

WSS-11 WORKSHOP
"NEW DEVELOPMENTS IN STRATIGRAPHIC CLASSIFICATION"

conveners:
M.B. Cita (ISSC chair), University of Milano (Italy), maria.cita@unimi.it
C. Kendall, University of South Carolina (USA), kendall29204@gmail.com
A. Strasser, University of Fribourg (Switzerland), andreas.strasser@unifr.ch
S. Finney (ICS vice-chair), California State University - Long Beach (USA), scfinney@csulb.edu

HPS-07 SYMPOSIUM
PLIO-PLEISTOCENE CORRELATION AND GLOBAL CHANGE

conveners:
M.B. Cita (ISSC chair), University of Milano (Italy), maria.cita@unimi.it
Brad Pillans (INQUA Commission on Stratigraphy and Chronology chair), Australia, brad.pillans@anu.edu.au

IMPORTANT DEADLINES
01.02.2008: Abstract (maximum 500 words) submission deadline
31.03.2008: Registration fee deadline for inclusion of accepted abstracts in the programme.
15.04.2008: End of early registration lowest fee.
15.07.2008: End of pre-Congress registration (only on-site registration possible thereafter).
06.08.2008: 33rd IGC opens!

Merry Christmas and a Happy New Year!