International Union of Geological Sciences
International Commission on Stratigraphy

International Subcommission on Stratigraphic Classification

ISSC

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

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NEWSLETTER N. 13

(Circular n. 114)

June 2008

CONTENTS

1. EDITORIAL

This is my last editorial and it will be short and simple, but full of news and informations.

We invested a lot of energy in the last several months in order to achieve some visible, concrete results stemming from our ambitious project NEW DEVELOPMENTS IN STRATIGRAPHIC CLASSIFICATION. We succeded to have two full days for us to present, discuss, integrate what has been done and is in progress, and to dress new plans for the future. The final programme of Symposium HPS-12 (to be run on August 8, full day) and of Workshop WSS-11 (August 10, full day) are here displayed at pages 3-4.They share the same name, and the same conveners (Cita, Kendall, Strasser and Finney). All together 25 presentations are expected. The two review papers on Cyclostratigraphy and on Chemostratigraphy will be presented and printed at the time of the congress and those in progress will be presented by the protagonists. The topics with more problems involved are Chronostratigraphy and Sequence Stratigraphy. The former requires as prerequisite a final decision on the single *versus* dual nomenclature: in absence of that, only the five case studies selected (Ediacaran for the Precambrian, Hirnantian for the Paleozoic, Pliensbachian for the Mesozoic, K/T boundary and Miocene/Pliocene boundary) will be presented. For Sequence Stratigraphy, we were able to have eight discrete presentations with real world case studies. These will be followed during the Workshop by five presentations dealing with conceptual models, classification, principles and alike. A general discussion will follow and hopefully a position paper is expected to be released.

We are negotiating for having the ISSC business meeting at the end of the workshop, and it will be an open meeting, whose agenda will be distributed in the near future.

PLIO-PLEISTOCENE CORRELATION AND GLOBAL CHANGE is the title of Symposium HPS-07, planned for August 9, with Cita and Pillans as conveners. The programme is found at page 5. This symposium follows a request made by ICS chair Gradstein almost two years ago, during the ‘cold war’ for the Quaternary, that is before the deterioration of the relationships between INQUA and ICS. The two conveners represent the two organizations, and decided to invite a number of scientists presenting new data and interpretations obtained by drilling in endoreic lakes, in the oceans, in ice caps. Data and interpretations dealing with migration and extinction of biota, with changes in geochemistry, in sedimentary patterns, in population dynamics in response to climate change. The Symposium has 25 presentations overall, 21 oral and 4 posters. The last eight contributions will present personal or institutional positions towards the definition and internal subdivision of the last 5 Ma of the history of our planet. Symposium HPS-07 will be followed back to back by a public session (Open meeting – see page 6) chaired by Stan Finney, elected chair of ICS, and John Clague, past chair of INQUA. All ISSC members, also if not experts in the Quaternary, are warmly invited to attend the sessions.

The September issue of EPISODES (see the uncorrected proof of the index at page 13) is entirely dedicated to the Quaternary problem. Edited by Gibbard (chair of the Quaternary Subcommission of ICS) and by Pillans (chair of the INQUA Commission on Stratigrahy and Chronology), it should help- along with the outcome of our wide open symposium to orient those who will make the final decision on the subject. My problem is: who are those who make the final decision ??

The March issue of EPISODES is entirely dedicated to the Nordic countries, and is spectacular for the images, the variety and the interest of the subjects.The photos of the east coast of Seeland at Stevns Klint (at page 108 and 186 of the journal) brought me back to 1960, when I visited that outcrop in 1960 during the IGC run in Copenhagen. It was my first international congress, and I presented two papers: one with Hans Bolli on the K/T boundary in the Paderno section, and one with Isabella Premoli Silva on the planktonic foraminifers of the Langhian in the Langhe. Afterwords, I often visited the Nordic countries, when 12 “small” European countries, after years of negotiations, were able to create a consortium in order to become member of the Ocean Drilling program under the umbrella of the European Science Foundation starting from thr mid eighties. The first scientific committee (ESCO) was chaired by Olaf Eldholm who represented the Nordic countries. Then it was my turn, in representation of the ‘non Nordic’ countries that included Italy, Swizerland, Netherlands, Belgium, Spain, Greece, Turkey... I saw Olav photo in the Episodes special issue, and this reminded me - along with the photos of Jorn Thiede - and of the Secretary General of the Congress Arne Solheim of the old, glorious days of ODP. We had meetings in Finland, twice in Iceland, twice in Denmark, one in Norway, one in Sweden. I saw the photos of Bjorn Sundquist and of David Gee, who have been so helpful and friendly with me, to accomodate our demanding requests to the very rigid organization of the big congress. I thank them from the deep of my heart.

In conclusiom, the Oslo congress is my last responsability towards ISSC. The generational turnover will happen there and I do hope that with three consecutive full days at our disposal we should be able to interact with each other in an open, democratic and possibly friendly atmosphere.

See you in Oslo

Maria Bianca Cita
ISSC chair

Milano, June 3, 2008

2. ISSC AT OSLO 33ND IGC (AUGUST 2008)

2.1 SYMPOSIUM HPS-12 AND WORKSHOP WSS-11

Symposium HPS-12 New developments in stratigraphic classification
FULL DAY 8 August 2008
Conveners: Cita M.B., Kendall C., Strasser A., Finney S.

Subsequent **Workshop WSS-11 New developments in stratigraphic classification**
FULL DAY 10 August 2008

Final programme
Morning Session, 8 August

Cita, M.B.: Presentation of the symposium

1324010 **Pratt, B.:** Lithostratigraphy stays with the times
1340977 **Schokker, J., Weerts, H. & Westerhoff, W.:** Integrating the concepts of lithostratigraphy and lithofacies in applied geological mapping

1344917 **Thierry, J.:** Biostratigraphy: past evolution and future challenges

1345453 **Langereis, C., Krijgsman, W., Muttoni, G. & Menning, M.:** Magnetostratigraphy - its future: possibilities, pitfalls and applications

1315670 **Weissert, H.:** Carbon isotope stratigraphy - potential, problems and questions

Coffee break

1312131 **Strasser, A., Hilgen, F. & Heckel, P.H.:** Cyclostratigraphy - from orbital cycles to geologic time scale

1344911 **Zalasiewicz, J.:** The newest geological time period: the Ediacaran

1345618 **Finney, S.:** The Hirnantian Stage and its GSSP: a record of rapid global climate change

1341461 **Melchin, M., Rong, J., Williams, S.H., Koren, T. & Verniers, J.:** Report of the first restudy of a Global Stratotype Section and Point: the base of the Silurian System
1324557 **Thierry, J.:** The Pliensbachian GSSP definition (Mesozoic, Lower Jurassic): a case study
1315734 **Cita, M.B. & Premoli Silva, I.:** K/T boundary and Danian GSSP

Lunch break

1343544 **Hilgen, F.:** Progress in chronostratigraphy: the case history of the Miocene-Pliocene boundary and Zanclean GSSP

1354955 **Lerch, C., Thompson, T., Apps, G. et al.:** Creation and application of a 3D synthetic stratigraphic and seismic model using systematic stratigraphic principles and realistic rock properties

1304736 **Singh, P., Slatt, R. & Coffey, W.:** Sequence stratigraphy of mudrocks: example of the Barnett Shale, North Texas, USA

1341115 **Miller, K., Browning, J., Katz, M., Wright, J., Aubry, M.-P., Wade, B., Cramer, B., Kulpecz, A. & Rosenthal, Y.:** St. Stephens Quarry, Alabama (SSQ) corehole: an integrated magneto-, bio-, isotopic, and sequence stratigraphic reference section for the Icehouse-Greenhouse transition

1353038 **Suc, J.-P., Clauzon, G., Bache, F. et al.:** The latest Miocene – earliest Pliocene Mediterranean mega-cycle in sea-level

1343651 **Cita, M.B., Ryan, W.B.F., Jadoul, F., Berra, F. & Freeman-Lynde, R.:** Depositional processes, erosional episodes and stratal geometries recorded in the deep and steep slopes of the Atlantic Ocean: a marine geologist's perspective

Tea break

1342426 **Freeman-Lynde, R.:** Depositional processes and erosional episodes on the Bahama Escarpment

1345365 **Trincardi, F., Cattaneo, A., Ridente, D. & Verdicchio, G.:** Quaternary sequence stratigraphy of the Adriatic sea: the role of sediment advection and short-term sediment flux fluctuations

1343361 **Reijmer, J.J.G.:** Carbonate turbidites and debris flows: sea-level variations versus tectonic processes

Discussion

The substance of symposium **HPS-12 - New developments in stratigraphic classification** is further covered in the associated **workshop WSS-11** which includes the following presentations (see also the workshop programme on 10 August):

1255505 **Kendall, C.:** Sequence stratigraphy provides a basic framework to conceptual models used to interpret depositional systems: the key to simplification of the complex terminology of sequence stratigraphy is to use simple depositional models

1287934 **Christie-Blick, N., Madof, A.S. & Pekar, S.F.:** Sequence stratigraphy: interpretation versus classification

1312997 **Catuneanu, O. & Posamentier, H.:** Stratal stacking patterns and key bounding surfaces: the basis for a standard system for sequence stratigraphic analysis

1316233 **Embry, A., Johannessen, E., Owen, D. & Beauchamp, B.:** Two approaches to sequence stratigraphic classification

1318229 **Neal, J. & Abreu, V.:** A simplified scheme to classify the surfaces and geometries of sequence stratigraphy: the accommodation succession method

General Discussion: towards a generally accepted and practical sequence-stratigraphic nomenclature (key surfaces and sedimentary units)

Elaboration of a **Position paper**

2.2 SYMPOSIUM HPS-07 "Plio-Pleistocene Correlation and Global Change"

FULL DAY 9 August 2008
Conveners: M. B. Cita, B. Pillans

25 Abstract submitted: 21 oral presentations and 4 posters

Final Programme

Morning Sessions

Cita, M.B.: Presentation of the Symposium: background and motivation

1257080 **Nikolsky, P.:** Siberia mammoth, climate and late Pleistocene extinction

1318592 **Magri, D.:** Adaptation, migration, extinction of biota in response to climatic change

1321098 **Kuzmin, M:** Changes of the environment in the Central Asia reconstructed from deep sedimentary records obtained from Lake Baikal

1322377 **Oberhaensli, H.:** Lake Baikal, a continental archive registering the Pliocene climate change

1352229 **Prokopenko, A.:** Paleoclimate record from Lake Baikal: A link between marine and terrestrial Plio-Pleistocene

Coffee Break

1322307 **Ding:** Plio-Pleistocene climate history over north-central China. Records from loess deposits

1323687 **Orombelli G. et al:** Quaternary stratigraphy and ice cores

1348485 **Naish, T. et al.:** Antarctic climate evolution during the Quaternary (last 2.6 Ma) from continental margin, Southern Ocean and ice cores records

1308985 **Sarnthein, M. et al.:** Pliocene oxygen isotope records of the onset of Northern hemisphere glaciation and the origin of Quaternary-style climates

1344344 **Khelifi, N., Sarnthein, M. et al.:** Pliocene changes in Mediterranean outflow water before and after Gibraltar

1324508 **Oregan, M., Backmann et al:** Constraining the Plio-Pleistocene stratigraphy of the Lomonosov ridge, central Arctic Ocean

Lunch Break

1383908 **Leroy, S. :** Progress in palynology of the Gelasian-Calabrian stages in Europe: recognising trends, cycles and events

1322887 **Clague, J., Fraser, S.:** Louis Agassiz and the theory of the Ice Ages

1344085 **Hilgen, F., Aubry M-P. et al. :** The case for the undecapitated Neogene

1342201 **Head, M.:** The Quaternary: its character and definition

1345525 **Langereis, C., Hilgen, F.:** The Plio-Pleistocene marriage of magnetostratigraphy and cyclostratigraphy

1323894 **Lourens, L. :** On the Neogene-Quaternary

Tea Break

1342897 **Pillans, B.:** Where is the base of the Quaternary?

1342235 **Head, M.:** The Early- Middle Pleistocene transition: characterization and proposed guide for defining boundary

1345533 **Ciaranfi, N. et al:** The Ionian stage in Southern Italy

1261079 **Pillans, B. Cita M. B..:** Global stages, regional stages or no stages for the Plio/Pleistocene?

Poster presentations

1346094 **Israde-Alcantara et al.:** Climatic and tectonic significance of Neogene-Quaternary lacustrine diatomites in Central Mexico

1337903 **Doar, Kendall et al.:** Late Pleistocene to Holocene coastal marine terranes and sea level curves etc.: is the 125 ka high-stand the only higher present event?

1340594 **Tamura, I. et al.: Plio-Pleistocene tephrochronology in central Japan**

1341992 **Bertini A., Ciaranfi, N., et al.:** Proposal for Pliocene and Pleistocene land-sea correlations in the Mediterranean Area

33rd International Geological Congress, Oslo, Norway

Redefinition of the Quaternary and Pleistocene: Open Discussion

Open Meeting • 9 August 2008

Stanley C. Finney, *vice-chair and chair-elect of the International Commission on Stratigraphy (ICS-IUGS), scfinney@csulb.edu*

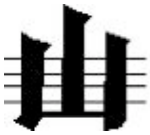
John J. Clague, *past-president, International Union for Quaternary Research (INQUA), jclague@sfu.ca*

The Quaternary is a system/period with its base coinciding with that of the Pleistocene series/epoch and is defined by the Global Stratotype Section and Point (GSSP) at Vrica, Italy, which has been dated at ca. 1.806 Ma. In the late 1990s and again today, many Quaternary scientists have argued that the boundaries of these units should be redefined to coincide with the GSSP for the upper Pliocene Gelasian Stage, which has been dated at ca. 2.588 Ma. This proposal has been resisted by those who prefer that the definitions remain unchanged and others who propose that the Quaternary System/Period be eliminated and that the Neogene be extended upward to include the Pleistocene and Holocene. Others even wish to reinstate the Tertiary.

These issues are contentious and controversial, but they must be settled if the upper and recent parts of the International Stratigraphic Chart and Geologic Time Scale, respectively, are to be finalized and given permanent stability. Now is the time to settle them. Accordingly, a special two-hour meeting will be held at the International Geological Congress (IGC) in Oslo to hear positions on all sides of the issues. All IGC attendees who wish to contribute to or observe these discussions are welcome. Proponents wishing to present positions at the meeting should contact either of the co-chairs, who will organize the discussion to ensure that all major positions and arguments on the issues are presented. Following this discussion meeting and extensive collaboration at the IGC, the International Commission on Stratigraphy will develop a plan to receive formal proposals for stratigraphic revisions and will move forward expeditiously with their consideration and evaluation.

This open evening meeting will directly follow Symposium HPS-07 (Pliocene-Pleistocene correlations and global change). The science presented in that symposium will be a basis for positions and arguments in the discussion meeting.

2.3 ICS BUSINESS MEETINGS



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INTERNATIONAL COMMISSION ON STRATIGRAPHY

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Oslo, 20 May 2008 **Final Schedule**

Re: Times and Places of the 10 Business Meetings of the International Commission on Stratigraphy (ICS) during the 33th International Geological Congress, August 6 - 14, 2008, Oslo, Norway.

1. ICS Subcommission on Stratigraphic Classification
Wednesday 6 August, 17.30 – 18.30pm, Buskerud meeting room
2. ICS Subcommission on Jurassic and Subcommission on Cretaceous
Wednesday 6 August, 17.30 – 19.30pm, Oslo I meeting room
3. ICS Subcommission on Cambrian and Subcommission on Ordovician
Wednesday 6 August, 17.30 – 19.30pm, Hordaland I meeting room
4. ICS Subcommission on Neogene and Subcommission on Paleogene
Wednesday 6 August, 17.30 – 19.30pm, Hordaland II meeting room
5. ICS Subcommission on Quaternary
Wednesday 6 August, 18.30 – 19.30pm, Rogaland meeting room

6. International Commission on Stratigraphy
Thursday 7 August, 17.30 – 18.30 pm
Hovedgård, Museum of Natural History, Sarsgate 1, (Tøyen) Oslo.

7. ICS Subcommission on Triassic
Friday 8 August, 17.30 – 18.30pm, Rogaland meeting room
8. ICS Subcommission on Silurian and Subcommission on Devonian
Friday 8 August, 17.30 – 19.30pm, Oslo I meeting room
9. ICS Subcommission on Carboniferous and Subcommission on Permian
Friday 8 August, 17.30 – 19.30pm, Hordaland I meeting room
10. ICS Subcommission on Precambrian and Subcommission on Cryogenian-Ediacaran,
Friday 8 August, 17.30 – 19.30pm, Hordaland II meeting room

3. IUGS BULLETIN n. 30 and n. 31

Bulletin of the International Union of Geological Sciences (No. 30. April 9, 2008)

IYPE GLOBAL LAUNCH EVENT
http://www.yearofplanetearth.org
The IYPE Global Launch event took place at UNESCO Headquarters in Paris February12-13. Leading politicians, heads of geoscientific organizations and many others participated in this successful launch. In his address the UNESCO Director-General Koïchiro Matsuura noted that IYPE is a timely and pertinent initiative. Never before in the history has the Earth been subject to so rapid and profound changes, both in terms of the physical environment and in social transformations.

Students from all over the world had responded to The International Student Contest and contributed approximately 130 essays, poems, drawings and video messages. Three out of the award-winning submissions were selected to perform or display and comment upon their work on stage during the Global Launch. This and the large student choir singing the Geo Song “Mother Earth” were two of the many highlights during the IYPE Launch Event.

The scientific sessions included the following Themes:

1. Population growth and climate change challenges for planet Earth.
2. Earth resources: threat or treat?
3. Geohazards: minimizing risk, maximizing awareness.

In his address the UNESCO Director General Koïchiro Matsuura trusted that the activities of the Year of the Planet Earth would lead to a long overdue recognition of the important contribution of the Earth sciences to society.

THE IYPE AFRICA LAUNCH
The Launch of the International Year of Planet Earth (IYPE) in Africa is set to take place in Arusha, Tanzania 8-9 May 2008.

FIRST WORLD YOUNG YEARTH SCIENTISTS (Y.E.S.) CONGRESS 2009.
http://www.giovanigeologi.it/iype.asp

YES Congress will take place in Autumn 2009 and will last four days. During the Congress young earth-scientists (under 35 yrs) from different backgrounds and nations will discuss future trends in earth-system science, comparing also job/research future opportunities in respective countries. The Congress will be organized on the bases of different disciplinary roundtables going on in parallel. The different roundtables will allow young representatives from primary geological associations, institutions, universities, young leaders in politics, administrative bodies, etc. from around the word to sit down together and discuss issues affecting the world, in order to individuate a short list of long-term international actions to be taken, involving their respective institutions. The aim of the congress is also to create a long-term strong inter-cultural network to help future improvement of research and working opportunities globally for young geo scientists and professionals.
For more information, look at the website:

33RD INTERNATIONAL GEOLOGICAL CONGRESS
http://www.33igc.org/coco/
More than 6000 abstracts were submitted before the March 7 deadline. You may still submit abstracts, but oral presentations are no longer guaranteed: this depends on time available at the symposia. There is, however, space available in the poster sessions. If you have submitted an abstract, please remember to register as a Congress participant. The deadline for early registrations at the lowest rate has been extended to April 30. Because of limited hotel capacity in Oslo, it is important to book accommodation early. The Local Organizing Committee urges participants to make their hotel booking online when registering for the Congress.

IUGS EXECUTIVE COMMITTEE MEETING
The 58th IUGS Executive Committee meeting was held in Marrakech, Morocco, March 17-21.

Sylvi Haldorsen
IUGS Vice President

Bulletin of the International Union of Geological Sciences (No. 31. May 21, 2008)

33RD INTERNATIONAL GEOLOGICAL CONGRESS (IGC) http://www.33igc.org
Excursions: StatoilHydro is offering a unique subsidized excursion to Spitsbergen in connection with the 33rd IGC in Norway, August 2008.

Symposia daily schedule:
http://www.33igc.org/fileshare/thumbRoot/IGC_Congress_program_split_150508.pdf
You may now check on which days individual symposia are running. Please note that minor adjustments may still take place.
Abstracts: Late abstracts for poster presentations will be accepted until May 31

THE IUGS JOURNAL: EPISODES http://www.episodes.org
For several years China has very generously hosted the journal Episodes. During these years our journal has made a very impressive move from being a newsletter of the union to becoming a well-cited and widespread journal with an above average SCI (citation index). We appreciate the support of the Chinese Ministry of Land and Resources and cannot expect this to continue.In order to maintain the same high standard in the future we would invite all other national IUGS committees to submit expressions of interest to host the journal Episodes .

ONEGEOLOGY NEWS http://www.onegeology.org/
OneGeology is an International Year of Planet Earth initiative of geological surveys to make geological map data more accessible. This has already developed impressive momentum and 78 nations are now participating.

EARTHLEARNINGIDEA http://earthlearningidea.pbwiki.com
Earth learning idea is a global geo-educational project, endorsed by the International Union of Geological Sciences and the Year of the Planet Earth team. Please find here their Spring Update:
http://earthlearningidea.pbwiki.com/f/Earthlearningidea_update.pdf

NATIONAL AND REGIONAL IYPE LAUNCH EVENTS (JAN – MAY 2008)
http://yearofplanetearth.org/index.html
11 January: Czech Republic
14 January: Malaysia
12-13 February: France
19 March: Lithuania
17-18 April: Hungary
22 April: China
22 April: Honduras
22 April: Canada
22 April: Costa Rica
23-24: Latin America
8-9 May: Africa

GENEROUS OFFER FROM THE US NATIONAL ACADEMY OF SCIENCE (NAS)
http://www.nap.edu

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MEETINGS
http://www.iugs.org/Calendar.html

Sept.15-20, 2008: 2nd European Conference of International Association of Engineering Geology (Madrid, Spain). E-mail: info@euroengeo.com; See: http://euroengeo.com

Sept. 25-28, 2008: International Conference on Environmental Impacts of Tsunami (Slubice, Polan) E-mail: tsunami@amu.edu.pl; See: http://www.tsunami.amu.edu.pl

Sept. 29-October 2, 2008: Geo2008 - Resources and Risks in the Earth System, (International Conference and annual meeting of DGG and GV) (Aachen, Germany) E-mail: info@geo2008.de

Oct. 5-8 2008: 5th Congress of Balkan Geophysical Society (Belgrade, Serbia) See: www.mageof.hu/arch/Belgrade2008.doc

Oct. 26-30 2008: Geological Society of America Annual meeting (Chicago, USA) E-mail: meetings@geosociety.org; See: http://www.geosociety.org/meetings/index

Nov. 10-13 2008: International Symposium: Fifty Years after IGY Modern Information Technologies and Earth and Solar Sciences (Tsukuba City, Japan) See: http://wdc2.kugi.kyoto-u.ac.jp/igy50

Mar. 16-20, 2009: III Cuban Earth Science Convention
Earth Science for the Society, in particular new knowledge about the Caribbean and Cuba. E-mail: geosciencias@igp.gms.minbas.cu

For a more complete list, see the IUGS website: www.iugs.org/Calendar.html

Sylvi Haldorsen
(IUGS Vice President)

4. GSSP APPROVED since January 2008

VOTE

ON THE GLOBAL BOUNDARY STRATOTYPE SECTION AND POINT (GSSP) DEFINING
Base of the **CARNIAN Stage** and of the **Upper TRIASSIC** Series

The Global boundary Stratotype Section and Point (GSSP) for the base of the Carnian Stage and the Upper Triassic Series is at the base of bed SW4 about 45 m above the base of the San Cassiano Formation in the Prati di Stuores/Stuores Wissen section (46°31□37□□N, 11°55□49″E), approximately 4.7 km south of San Cassiano (Province of Belluno, northern Italy). Bed SW4 is a marly limestone immediately underlying a sandstone bed and has the lowest occurrence of the primary marker ammonoid *Daxatina canadensis* (Whiteaves), which is
coincident with the base of the *D. canadensis* subzone of the *Trachyceras* zone. Secondary useful proxies for correlating the GSSP are the first occurrence of the conodont *'Paragondolella' polygnathiformis* (Budurov and Stefanov) and its close proximity to the base of a long normal-polarity magnetic zone (S2n)

The details of this GSSP are explained in the enclosed proposal.
Please indicate your decision, as below, and return your vote (**preferably as an electronic e-mail or fax**) prior to **15 April** 2008 to **James Ogg** (ICS Secretary).

VOTE

ON THE GLOBAL BOUNDARY STRATOTYPE SECTION AND POINT (GSSP) DEFINING
Base of the **HOLOCENE Series/Epoch** of the **Quaternary** System

The Global Boundary Stratotype Section and Point (GSSP) for the base of the Holocene Series of the Quaternary System is defined at 1492.45 m depth within the NorthGRIP (NGRIP) ice core (drilled in the year 2003 in the central Greenland ice sheet at 75.10˚N; 42.32°W; and archived at the University of Copenhagen). This level coincides with the lowest evidence of rapid climatic warming at the end of the Younger Dryas/Greenland Stadial 1 cold phase. This climatic event is most clearly reflected in an abrupt shift in deuterium excess values, followed by more gradual changes in δ18O, dust concentration, a range of chemical species, and annual layer thickness. A timescale based on multi-parameter annual layer counting and constrained by bracketing tephra layers provides an age of 11,700 yr b2k (before AD 2000) for the base of the Holocene, with an estimated 2σ error of 99 yr.

The details of this GSSP are explained in the attached proposal.
Please indicate your decision, as below, and return your vote (**preferably as an electronic e-mail**) prior to **25 April** 2008 to **James Ogg** (ICS Secretary).

VOTE

ON THE GLOBAL STRATOTYPE SECTION AND POINT (GSSP) DEFINING THE
Base of the **SELANDIAN Stage** of the PALEOCENE Series (lower Paleogene System)

The Global Stratotype Section and Point (GSSP) for the base of the SELANDIAN STAGE (middle stage of Paleocene Series, lower Paleogene) is defined in the sea-cliff along the main beach of the coastal town Zumaia (43°17.98'**N,** 2°15.63**W**)**, Basque Country, northern Spain. The proposed GSSP is at the base of the Itzurum Formation, where reddish marls overly the uppermost limestone bed of the Aitzgori Limestone Formation, ~49m above the**

Cretaceous/Paleogene boundary in the same section. The best event for global marine correlation is the second radiation of the fasciculith group of calcareous nannofossils, occurring slightly below (25cm, or ~20 kyr) the proposed GSSP. The base of the Martini nannofossil Zone NP5 (lowest occurrence of *Fasciculithus tympaniformis*) occurs 1.1m (~84-105 kyr) above the proposed GSSP. The GSSP level is interpreted to be coincident with a widespread rapid sea-level fall, and to be 10m or 32 precession cycles (~774 kyr) above the top of magnetic polarity Chron 27n.

The details of this GSSP are explained in the attached proposal.
Please indicate your decision, as below, and return your vote (**preferably as an electronic e-mail**) prior to **1 June** 2008 **James Ogg** (ICS Secretary).

VOTE

ON THE GLOBAL STRATOTYPE SECTION AND POINT (GSSP) DEFINING THE
Base of the **THANETIAN Stage** of the PALEOCENE Series (lower Paleogene System)

The Global Stratotype Section and Point (GSSP) for the base of the THANETIAN STAGE (middle stage of Paleocene Series, lower Paleogene) is defined in the sea-cliff along the main beach of the coastal town Zumaia (43°17.98'**N,** 2°15.63**W**)**, Basque Country, northern Spain. The proposed GSSP about 6.5m above the base of Member B or ~30.5m above the base of the Itzurun Formation, which is the proposed GSSP for Selandian Stage. The GSSP level corresponds to the base of magnetic polarity Chron C26n (i.e., the Chron C26r/C26n reversal). This level is 2.8m (8 beds interpreted as precession cycles, therefore ~170 kyr) above a distinct clay-rich interval that corresponds to the so-called Mid-Paleocene Biotic Event (MPBE) characterized by major calcareous nannofossil and foraminifer changes.**

The details of this GSSP are explained in the attached proposal.
Please indicate your decision, as below, and return your vote (**preferably as an electronic e-mail**) prior to **1 June** 2008 to **James Ogg** (ICS Secretary).

VOTE

ON THE GLOBAL STRATOTYPE SECTION AND POINT (GSSP) DEFINING THE
Base of the **BATHONIAN Stage** of the Middle **Jurassic**

The Global Stratotype Section and Point (GSSP) for the base of the BATHONIAN STAGE (Middle Jurassic) is defined at the at the base of limestone bed RB071 in the Ravin du Bès section (43º57'38''**N**, 6º18'55''**E**, altitude 730 m)**, Bas-Auran area, Alpes de Haute Provence, France. This marks the base of the Zigzag Zone, the basal "Standard Zone" of the Bathonian, and is characterized by the evolutionary first appearance of the ammonite species *Gonolkites convergens* Buckman, derived from *Parkinsonia*. Secondary markers include the first appearance of ammonite genus *Morphoceras* (base of Parvum Subzone in southern Europe) and events of other ammonite species. The GSSP is slightly below the Tethyan calcareous nannofossil NJT10b/11 zonal boundary (lowest *Watznauria barnese*) and slightly above the Boreal nannofossil NJ10/11 boundary (lowest *Pseudoconus enigma*). An auxiliary section at Cabo Mondego (40º11'19''N, 8º54'30''W) near Coimbra, Portugal, is proposed as Auxiliary Stratotype Section and Point because it facilitates correlation with other biogeographical provinces.**

The details of this GSSP are explained in the attached proposal.
Please indicate your decision, as below, and return your vote (**preferably as an electronic e-mail**) prior to **15 June** 2008 **James Ogg** (ICS Secretary).

5. Special issue of EPISODES on the Quaternary *June ? 2008 –*

Uncorrected proof of the contents page:

Contents

*Episodes*1

September 2008
Vol.31, No.2

Published by the International Union of Geological Sciences

Cover
The NGRIP drilling camp on the summit of the Greenland ice sheet, the locality of the Holocene GSSP. The large structure is the camp main building (_ain Dome?; the two other domes are workshop and storage buildings. The flags and pipes in the foreground mark the location of the subsurface drill and science trenches (Photo Centre for Ice and Climate: http://icecores.dk).

6. Published on LE MONDE – *May 2008*

Le Monde
Mercredi 14 mai 2008

En 1970, trois chercheurs émettent l'hypothèse que la Méditerranée s'est asséchée il y a plus de 5 millions d'années. La science vient de leur donner raison, ce qui ouvre bien des perspectives...

Sous la Méditerranée, du sel et du pétrole

LYON
ENVOYÉE SPÉCIALE

L'avenir de la mer Méditerranée préoccupe les chefs d'Etat, mais son passé, lui, passionne les scientifiques. Et leurs trouvailles pourraient susciter bien des convoitises, car il y est question de pétrole... sous une épaisse couche de sel. La thèse est la suivante : la Méditerranée fut jadis le théâtre d'une catastrophe environnementale de grande ampleur dénommée par les géologues « Crise de salinité messinienne ». Il y a 5,5 millions d'années (Ma), la quasi-fermeture du détroit de Gibraltar sous la poussée de la plaque tectonique africaine a conduit à l'assèchement de la Méditerranée. L'évaporation des eaux a provoqué le dépôt de couches de sel épaisses de 2 000 m, surmontées d'une grande quantité de sédiments. Mais la mise en évidence de ce processus a provoqué une polémique scientifique internationale, qui a duré... trente-six ans.

Les 5 et 6 mai, une séance de la Société géologique de France a été organisée à l'université Claude-Bernard (Lyon-I) en l'honneur de Georges Clauzon, seul géologue français à avoir soutenu l'hypothèse formulée il y a près de quarante ans par trois chercheurs : William Ryan, Kenneth Hsü et Maria Bianca Chita. Ces trois scientifiques étaient présents en 1970 sur le navire océanographique américain *Glomar-Challenger*, qui menait une campagne de carottages en Méditerranée sur une dizaine de sites. Les carottes montraient la présence d'importantes couches de sel. Pour les trois scientifiques, cela ne pouvait s'expliquer que par un assèchement complet de Mare Nostrum, dans un passé géologique de quelques millions d'années. Mais quand Mme Chita (professeur à l'université de Milan) présenta cette thèse à l'université de Lyon, en France, en septembre 1971, les réactions des Français et des Italiens présents furent virulentes.

Aujourd'hui, les esprits se sont apaisés, et une conférence de consensus réunie à Almeria, en Espagne, à l'initiative de la Commission internationale pour l'exploration scientifique de la mer Méditerranée, du 7 au 10 novembre 2007, a produit un texte qui signe la fin des hostilités, même s'il subsiste quelques irréductibles. Mais pourquoi une telle passion ? *« Des profils sismiques effectués en 1969 en Méditerranée avaient bien détecté la présence de sel en certains endroits. Mais personne ne s'attendait à phénomène d'une telle ampleur »*, explique Jean-Pierre Suc (CNRS, Laboratoire paléoenvironnements et paléobiosphère, à Lyon), l'un des organisateurs des journées des 5 et 6 mai.

Georges Clauzon, qui a soutenu dès le départ Mme Chita, se souvient : *« Quand Maria Chita, Italienne jeune et belle, a présenté sa théorie, elle a subi un feu nourri de commentaires et de questions très agressives, y compris de la part de compatriotes qui étaient opposés à ses vues . »* Mais il faut aussi reconnaître que, à l'époque, et pendant encore de longues années, personne n'avait une vue d'ensemble de l'histoire géologique et tectonique de la zone méditerranéenne. La plupart des scientifiques refusaient d'admettre l'hypothèse de la dessiccation complète de la mer, car elle ne cadrait pas avec les idées géologiques dominantes.

De nos jours, la communauté scientifique s'accorde sur le scénario à deux temps de Georges Clauzon, découlant du modèle présenté en 1970. De – 7 Ma à – 5,96 Ma, la Méditerranée communiquait avec l'océan Atlantique par deux corridors, l'un situé à Gibraltar et l'autre au sud du massif du Rif. Dans un premier temps, le corridor sud-rifain se rétrécit à la suite de la poussée de la plaque africaine, et le niveau de la Méditerranée baisse de 150 m. Ce qui se traduit par un premier dépôt d'évaporites. Puis on assiste au retour des conditions antérieures. Enfin, entre – 5,64 Ma à – 5,48 Ma, soit une durée de seulement 160 000 ans, une nouvelle poussée de la plaque africaine isole complètement la Méditerranée et la mer Noire.

C'est la grande crise messinienne pendant laquelle le niveau de la Méditerranée baisse de 1 500 m. L'évaporation entraîne le dépôt d'épaisses couches de sels minéraux (sulfates, chlorure de sodium et sels de potassium). Cette croûte de sel varie de 1,5 à 3 kilomètres d'épaisseur, et tapisse largement le fond des bassins. De profonds canyons se creusent à l'emplacement du lit des grands fleuves, qui seront plus tard comblés par des sédiments. Le plus spectaculaire est celui du Nil, découvert au moment de la construction du barrage d'Assouan (Egypte), avec une profondeur de 277 m sous le barrage lui-même et de 2 000 m sous Le Caire, et qui se prolonge sur 700 km. Le Rhône possède lui aussi un canyon long de près de 400 km, doté d'une profondeur de 1 150 m sous les Saintes-Maries-de-la-Mer et qui s'arrête sous la Bresse. La Société Bouygues l'a appris à ses dépens lorsqu'elle a creusé la partie souterraine du périphérique nord de Lyon. Là où les tunneliers devaient creuser du sable, ils ont en fait rencontré la rocaille du canyon.

> Lors des forages entrepris en 1970 par le « Glomar-Challenger », les carottes « sentaient le pétrole à plein nez »

Mais le volume d'évaporites déposées dans les plaines abyssales de la Méditerranée correspond à un volume d'eau de mer évaporé égal à huit fois le volume total de la mer. On suppose alors qu'une alimentation océanique a subsisté en permanence pendant la crise de salinité sous la forme d'une cascade. Cette dernière, qui devait se situer sur l'emplacement actuel du détroit de Gibraltar, a fini par éroder l'obstacle qui empêchait l'arrivée des eaux de l'Atlantique. Et *« il y a – 5,48 Ma, la remise en eau fut fulgurante : elle dura quatorze ans et remonta jusqu'au fond des canyons. Dans celui du Rhône, la mer est remontée jusqu'à Beaucaire »*, ajoute Jean-Pierre Suc. La mer Noire se remplit également mais, comme elle était moins salée, son assèchement n'a pas laissé d'évaporites. La remise en eau a eu aussi pour effet de débloquer la grande faille nord-anatolienne, qui démarre à l'est de la Turquie, et qui a à cette occasion traversé la mer de Marmara et le détroit des Dardanelles.

Si ces informations semblent aujourd'hui acquises, la dessiccation de la plus grande surface marine fermée sur Terre conserve encore une partie de ses mystères. Et si, sous le sel, se cachait un trésor ? Le chef de la mission du *Glomar-Challenger*, William Ryan (Université de Columbia) se souvient que, lors des forages entrepris dans les fonds méditerranéens en 1970, dans l'espoir de traverser les couches salines, les carottes *« sentaient le pétrole à plein nez »*. De peur de provoquer une éruption pétrolière incontrôlée, les autorités scientifiques américaines avaient alors empêché la poursuite des forages. L'idée, à l'époque, n'était pas de chercher de l'or noir.

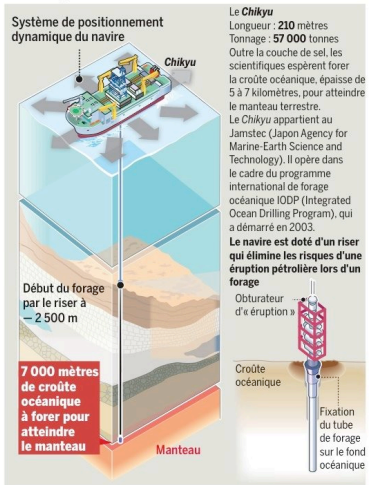
Les chercheurs réunis à Lyon les 5 et 6 mai souhaitent, eux, sonder les profondeurs méditerranéennes dans le Golfe du Lion. D'autres projettent une campagne au sud de Chypre. Un programme international pourrait permettre de mobiliser le navire de sondage japonais *Chikyu*, le seul capable de forer des puits de 5 km à 7 km de profondeur sous les 2,5 km d'eau de la Méditerranée. Il est doté d'un *« riser »*, une sorte de manchon qui entoure le train de tiges destiné à perforer les fonds marins, et qui est déjà utilisé par l'industrie pétrolière : les variations de pression sont mieux contrôlées, ce qui permet de creuser des puits profonds, même dans des zones instables.

L'idée serait de forer pour atteindre la croûte océanique. Les carottes obtenues permettraient d'en savoir plus sur la présence éventuelle de pétrole ; et d'avoir des précisions sur l'impact de la crise messinienne sur la faune et la flore, dont on sait peu de chose, si ce n'est qu'il a dû être extrêmement destructif. ■

CHRISTIANE GALUS

Des scientifiques examinent des carottes de forage sur le navire japonais « Chikyu ». ASUKA YAMAGUCHI/JAMSTEC/IODP

Des forages de 7 000 mètres à travers la couche de sel



Deux zones d'exploration

A la recherche de la roche mère

Y A-T-IL réellement des hydrocarbures sous l'épaisse couche de sel qui tapisse le fond de la Méditerranée ? En novembre 2003, l'US Geological Survey faisait fantasmer en fournissant des évaluations d'hydrocarbures pour le bassin de Provence. Dans cette zone située entre la France, l'Italie, l'Algérie et les îles Baléares, où la profondeur d'eau est de 2 km, les géologues américains avancent une estimation de 1 400 milliards de mètres cubes de gaz et de 2,23 millions de barils de gaz naturel liquide.

D'autre part, une campagne sismique menée en 2001 dans le golfe du Lion par la société norvégienne TGS Nopec a mis en évidence la présence de couches sédimentaires assez épaisses sous le sel du messinien. *« On peut donc imaginer qu'il y a un potentiel pétrolier non nul à cet endroit »*, précise Bernard Colletta, directeur de recherche géologie-géochimie-géophysique à l'Institut français du pétrole. Mais, jusqu'à présent, *« nous en sommes restés au stade des conjectures. Il n'y a rien de sûr »*, ajoute-t-il.

Propos confirmés par un autre expert des questions pétrolières : *« Aucune des majors n'a jusqu'à présent manifesté le moindre intérêt pour cette région. Elles n'ont même pas acheté les campagnes sismiques spéculatives vendues par les sociétés de géophysique, telles que Western Geco en Algérie et TGS Nopec dans le golfe du Lion »*, constate-t-il. Car les quelques puits d'exploration existants ne semblent pas indiquer la présence d'une roche mère, nécessaire à la « genèse » des hydrocarbures. Seule la plate-forme de l'Ebre, sur la côte espagnole, a été exploitée et produit des hydrocarbures, car là existe une, voire plusieurs roches mères.

Le panorama est différent dans la partie orientale de la Méditerranée, beaucoup plus ancienne que sa partie occidentale, où des hydrocarbures sont en production ; dans l'offshore de la Tunisie, par exemple, de la Libye, de l'Egypte et de la Sicile. ■

C. GA.

7. LETTERS RECEIVED

From **LYNN S. SALVADOR**

Austin, TX
Feb 3 2008

Dear Signora Cita -

I want to thank you for your two lovely letters following Amos's death in December. Amos thought the world of you and always enjoyed his collaboration with you and respected everything you did. I read with much pleasure your own memorial to him and the other pieces you included. It is wonderful to have had a profession that has provided so much satisfaction and so many good friends all over the world. Amos was a fortunate man including the fact that he was healthy and active until August when the brain tumor appeared and that he did not have to endure a long illness.

Thank you again for your kind words and for sending me all of the pieces about Amos. I hope this finds you well and doing interesting things in geology - of course that would make Amos very happy! Sincerely, Lynn Salvador

(over)

I would have liked to write
this in Italian, but I only have
Spanish as a second language and
that wouldn't work either -
All the best again -
Lynn

From: R.Cooper@gns.cri.nz
Subject: Re: Fwd: A Fresh Start
Date: February 19, 2008 11:09:05 PM GMT+01:00
To: maria.cita@unimi.it

Dear Maria,
Many thanks for forwarding the email from ICS, both this time and for the previous times you have passed on similar messages. It is very much appreciated as few of us down here are able to get to the meetings and conferences held mostly in the Northern Hemisphere, and these communications keep us in touch with live issues. We hope your successor will be as good at communication.

Best wishes, Roger
Roger A. Cooper
Emeritus Research Scientist
GNS Science - Te Pu Ao - 1 Fairway Drive, Avalon PO Box 30368, Lower Hutt, New Zealand Tel: +64 (0)4-570-4875 Fax: +64 (0)4-570-4600

From: ms@gpi.uni-kiel.de
Subject: Re: Fwd: A Fresh Start
Date: February 19, 2008 3:02:33 PM GMT+01:00
To: maria.cita@unimi.it

Dear Maria,
Thank you for sending the message of Stan Finney about the open-discussion mtg. in oslo.
However, when reading this letter more carefully, I get prefectly un happy that these experts are planning to further and further postpone a decision on the Quaternary, unitl we all will be in our graves one day. it was already last August at INQUA that a huge number of participants voted for a conclusion on this issue. And now Stan et al. are planning to go on forever.

What can we do to get the story to a (happy) end soon ? Asking for your that much experienced dipomacy and insider knowledge, with best wishes,
Michael

Begin forwarded message:
From: Stan Finney <scfinney@csulb.edu>
Date: February 15, 2008 1:25:17 AM GMT+01:00
To: charles.henderson@ucalgary.ca, emolina@unizar.es, felix.gradstein@geologi.uio.no, fhilgen@geo.uu.nl,gehling.jim@saugov.sa.gov.au, isabella.premoli@unimi.it, jgehling@ozemail.com, brichard@NRCan.gc.ca, palfy@nhmus.hu, mmelchin@stfx.ca, brian.pratt@usask.ca, marco.balini@unimi.it, gehling.jim@saugov.sa.gov.au, dharper@savik.geomus.ku.dk, jogg@purdue.edu, jyrong@nigpas.ac.cn, maria.cita@unimi.it, martin.vankranendonk@doir.wa.gov.au, morchard@nrcan.gc.ca, nicol.morton@orange.fr, philip-heckel@uiowa.edu, plg1@cus.cam.ac.uk, rbecker@uni-muenster.de, scpeng@nigpas.ac.cn, xu1936@yahoo.com

Cc: felix.gradstein@geologi.uio.no, jogg@purdue.edu (James G. Ogg), Shanchi Peng, <p.bown@ucl.ac.uk>
Subject: A Fresh Start

Dear Colleagues - voting members of ICS:
The issues of the Quaternary, Neogene, Pleistocene, and now the Tertiary have plagued ICS for the last four years, and the steps taken by ICS to decide them have been rejected repeatedly by the IUGS Executive Committee. The position of the IUGS EC has consistently been that ICS must follow the established protocol for consultation, discussion, and voting by the ICS. The IUGS EC believes that the next step cannot be rushed and should be a key topic for discussion at the IGC Congress in Oslo. Obviously, these issues will continue to be a major focus of ICS well into 2009 and possibly beyond, and they will be a primary concern of the new ICS executive.

In order to move forward to resolve the issues, I have initiated a fresh start. It will begin with an open (public) discussion meeting that has been scheduled for the evening of 9 August 2008 at the 33rd IGC in Oslo. This meeting is described in the attached announcement and listed in the scientific program of the 33rd IGC under Other Meetings. Its goal is to provide a forum where all positions on the issues can be presented, as well as challenged. There are those wanting to lower the bases of the Quaternary and Pleistocene and those wanting to keep them as they are. There are those wanting to extend the Neogene to the present, and others wanting to re-establish the Tertiary. Proponents of all these positions are encouraged to participate in the meeting and to present their views, but they will be challenged to justify their positions as well. Most importantly, the open meeting will follow directly upon the symposium organized by Maria Cita and Brad Pillans titled "Pliocene-Pleistocene correlation and global change", which will take place during the day on 9 August.
Outstanding contributions for the symposium have been recruited by Maria and Brad, and the papers presented will highlight the substantial advances in knowledge of the Pliocene and Pleistocene, and that information will be used, in turn, to justify and to challenge the positions presented in the open discussion meeting.

The actions of the last four years from eliminating the Quaternary and extending the Neogene to restoring the Quaternary as a Supera and then redefining it and the Pleistocene to include the Gelasian have confused the issues. Thus, I have decided to start over, to return to the ICS position in 2000 that was presented in the International Chronostatigraphic Chart and Explanatory Text produced by ICS Chair Jurgen Remane and distributed at the 31st IGC in Rio de Janiero. That position is that the Quaternary is a system/period with its base coinciding with that of the Pleistocene series/epoch and defined by the GSSP at Vrica, Italy.

The process by which ICS will consider revisions to this position is briefly described in the attached proposal and will be more fully developed during discussions at the Congress. The Quaternary and Neogene subcommissions will play majors roles in the process, of course. but so too will the voting members of ICS – the executive officers and the subcommission chairs. Thus, it is critical that all of you attend the Congress and this discussion meeting. I ask that you distribute this message to the other officers and officers-elect of your respective subcommissions and to all voting and corresponding members of the Neogene and Quaternary subcommmissions. I invited John Clague, Past-President of INQUA, to co-chair the open discussion meeting with me, and he has accepted. The announcement will be widely distributed in order that all geoscientists interested in these matters are notified and encouraged to attend.
Best wishes,
Stan
****

Stanley C. Finney, Chair
Department of Geological Sciences
California State University - Long Beach
Long Beach, CA 90840 USA
Phone: (562) 985-8637 - FAX: (562) 985-8638
e-mail: scfinney@csulb.edu - Co-Director, Environmental Science & Policy Program
Vice-Chair (and Chair-elect), International Commission on Stratigraphy (IUGS)

8. ANNOUNCEMENT BY J. THIERRY

Stratigraphy : Terminology and practice.

Jacques THIERRY, Professeur émérite,
Université de Bourgogne,
Centres des Sciences de la Terre & UMR-CNRS 5561 « Biogéosciences »,
6 Bd Gabriel, 21000, Dijon, France.
E.mail : jacques-thierry2@wanadoo.fr

In 1997, initiated by the French Committee of Stratigraphy, a work was published, written by 25 stratigraphic experts (« Stratigraphie : terminologie française », Comité Français de Stratigraphie, J. REY (coord.), Bull. Centres Rech. Explor.-Prod. Elf Aquitaine, Mém., 19, 164 p.). Few years late, this successfull educational, professional and attractively illustrated book was out of order.

Enthousiasted when reading the French language version, Felix GRADSTEIN, Chairman of the International Commission of Stratigraphy (I.C.S.), commended Professors Jacques REY and Simone GALEOTTI for assembling a team to translate the book in English and also update it resulting in a second edition.

This has now been accomplished (2008 - « Stratigraphy. Terminology and Practice », J. REY & S. GALEOTTI (Eds.), Technip Édit. - B.R.G.M. - TOTAL, 176 p.

The book, written by 33 stratigraphic experts, presents the various processes available for the location in time of all rock bodies in outcrops and subsurface : sedimentary, metamorphic, plutonic and eruptive. The terminology and the practices for each method are illustrated with concrete exemples in separate chapters.

The « Fondations and perspectives of stratigraphy » (J. REY) are exposed in Chapter 1.

Then, the succession of the chapters follows the progression of the stratigraphic process, from the descriptive to the interpretative, from the methods of the geometric stratigraphy, to the chronological stratigraphy and chronometric stratigraphy :

- Chapter 2 : « Lithostratigraphy ; from lithologic units to genetic stratigraphy » (L. COUREL (coord.), J. REY, P. COTILLON, J. DUMAY, P. MAURIAUD, P. RABILLER, J.-F. RAYNAUD & G. RUSCIADELLI).
- Chapter 3 : « Chemostratigraphy » (M. RENARD, J.-C. CORBIN, V. DAUX, L. EMMANUEL, F. BAUDIN & F. TAMBURINI).
- Chapter 4 : « Magnetostratigraphy » (B. GALBRUN (coord.), N. K. BELKAALOUI & L. LANCI).
- Chapter 5 : « Biostratigraphy ; from taxon to biozones and biozonal schemes » (J. THIERRY & S. GALEOTTI)
- Chapter 6 : « Isotope Geochronology » (N. CLAUER & A. COCHERIE).
- Chapter 7 : « Specific Stratigraphies » (P. LEBRET, R. CAPDEVILLA, M. CAMPY, M. ISAMBERT, J.-P. LAUTRIDOU, J.-J. MACAIRE, F. MENILLET, R. MEYER, & A. DE GOËR DE HERVÉ).

The two final chapters are dedicated to « Chronostratigraphic units and correlations » (Chapter 8 - from chronostratigraphic units to Earth history ; J. REY (coord.), L. COUREL, J. THIERRY, J.-F. RAYNAUD & S. GALEOTTI) which combine the contributions of various methods (integrated stratigraphy), and a new chapter which presents the last version of the Geological Time Scale (Chapter 9 - The « Geological Time Scale - GTS 2004 » ; F.M. GRADSTEIN, J. OGG & G. OGG).

Finally, the definition of most of the stratigraphic terms can be found in a glossary while selected references, classified following each chapter, are listed at the end of the book.

This new book edition is an important addition to the limited literature on stratigraphy, an indispensable discipline which deals with time for all the geological sciences. The book is

addressed to all professional geologists from the university and industrial sectors, including teachers, students, researches and petroleum companies graduate engineers who would like to enlarge and deepen their knowledge on the vocabulary, the concepts, the methods and the practical applications of the different approaches of stratigraphy at the beginning of the 21th century.

9. MESSAGE FROM THE ISSC SECRETARY

Dear ISSC Members and Friends,

I am pleased to announce that I have been invited by the Chairman elect of ISSC Prof. Brian Pratt from the University of Saskatchewan, Saskatoon (Canada) to stay on as the Secretary of ISSC while he is chair.

This reminds me that I was appointed by M.B. Cita as the ISSC Secretary in 2002. At that time I was a research fellow at the Department of Earth Sciences of the University of Milano on soft money. I stayed on as the ISSC Secretary and attented the 32° IGC in Florence while I was a research fellow at the Smithsonian Natural Museum of Natural History (Washington, DC) in 2004.

Since 2005 I am Researcher and Assistant Professor in Micropaleontology at the Department of Earth Sciences of the University of Milano with a permanent position. I have to acknowledge the general support provided to me by my Institution to carry out the duties of ISSC Secretary.

Besides my bureaucratic duties as ISSC Secretary, I have always been devoted to ISSC in updating the ISSC website (now hosted by the University of Milano webpage), and in preparing the 13 ISSC Newsletters distributed so far and available on line.

I am honored to hold the position under the chairmanship of Brian Pratt and please accept my apologies for not being able to attend the Congress in Oslo because of other scientific committments in August. However, you are warmly invited to send me your comments/reports on the meetings you will attend at the 33° IGC. I plan to include them in the next ISSC Newsletter that will likely be distributed in October 2008.

I wish you a pleasant summer and productive meetings for those who will be in Oslo in August.

Best regards,
Dr. Maria Rose Petrizzo
ISSC Secretary