

SYMPOSIUM PROGRAMME

Monday, September 8, 2008

8:30 – 8:35 **Opening address:**
Nenad Jasprica, Director of the Institute for Marine and Coastal Research, University of Dubrovnik, and Symposium Chair

8:35 – 8:50 **Welcome address:**
Mateo Milković, Rector, University of Dubrovnik
Dragan Primorac, Minister of Science, Education, and Sports, Republic of Croatia

Special Plenary Address

8:50 – 9:35 Revealing the molecular secrets of diatoms through whole genome sequence analysis
C. Bowler

LECTURE SERIES 1: PALEOECOLOGY AND BIOSTRATIGRAPHY (FRESHWATER AND MARINE)

Chairpersons: **Holger Cremer and Horst Lange-Bertalot**

9:40 – 10:00 What can diatoms from late-glacial sequences tell us about past environments?
V. Jones

10:00 – 10:20 Diatom-based paleolimnological reconstruction of European settlement impact on lakes in New York and New Jersey, USA
M. D. Enache, D. F. Charles, T. J. Belton and C. W. Callinan

10:20 – 10:40 Diatoms in Ugandan crater lakes as a tool to reconstruct past lake nutrient dynamics in east Africa
C. Cocquyt, D. Verschuren, H. Eggermont and P.-D. Plisnier

10:40 – 11:00 Trial reconstruction of paleoecology for the Lake Kurilskoye (south Kamchatka) based on fossilized benthic diatoms
E. V. Lepskaya and E. Litovchenko

11:00 – 11:20 Coffee

- 11:20 – 11:40 Fossil diatom flora from the marine paleogene stratigraphic key section of northeast Kamchatka, Russia
A. Gladenkov
- 11:40 – 12:00 The Holocene nutrient and oxygen variability in Sacrower See (NE Germany)
E. Kirilova, O. Heiri, D. Enters, H. Cremer, A. F. Lotter, B. Zolitschka, and T. Hübener
- 12:00 – 12:20 Aral sea paleosalinity changes indicated by diatom analysis
A. Blahova, T. Grygar, K. Novotna, J. Vesela, D. Nourgaliev, and H. Oberhänsli
- 12:20 – 12:40 Differential preservation of sedimentary diatoms in two contrasted saline lakes in Egypt and North America
R. Flower and D. B. Ryves
- 12:40 – 14:00 Lunch
- 14:00 – 15:20 **Poster Sessions 1, 2, 3**
- Chairpersons: Regine Jahn and Irena Kaczmarska**
- 15:20 – 15:40 Paleoenvironmental changes affected by the diversity explosion and extinction events of the fossil *Chaetoceros* resting spore assemblage across the e/o boundary
I. Suto
- 15:40 – 16:00 Fishing for diatoms: fish gut analysis reveals past diatom assemblages
I. Lavoie and S. Campeau
- 16:00 – 16:20 Taxonomy, paleoecology and biostratigraphic potential of diatoms from the Upper Cretaceous of Devon Island, Nunavut, Arctic Canada
J. Witkowski, D. M. Harwood, K. Chin and J. D. Bloch
- 16:20 – 16:40 Diatom-environment relationships in alpine lakes and their application to climate reconstruction
K. Huber, K. Weckström and R. Schmidt
- 16:40 – 17:00 Microfluidic simulation of a colonial diatom chain reveals pumping behaviour
J. Srajer and I. C. Gebeshuber

17:00 – 17:20 Coffee

**LECTURE SERIES 2: METHODOLOGY, BIOTECHNOLOGY AND
ASTROBIOLOGY**

Chairpersons: Damir Viličić and Marina Aboal

17:20 – 17:40 Extremophiles and astrobiology
J. Seckbach

17:40 – 18:00 Bridging basic and applied science in diatom research
R. J. Stevenson

18:00 – 18:20 The freshwater African *Surirellaceae* types of B. J. Chohnoky and M. Giffen: a pilot project for the typification of South African diatom species
J. Taylor, C. Cocquyt, W. Harding, C. Archibald and L. Van Rensburg

18:20 – 18:40 Automatic detection, identification, and classification of plankton using a continuous imaging particle analyzer (FLOWCAM)
H. Nelson, S. Ellis and N. J. Poulton

18:00 – 19:00 **Roundtable 1: Use of diatoms in forensic science**
Moderators: **S. Uitdehaag and H. Van Dam** (Room 2)

20:30 **Cocktail reception** hosted by **Dubravka Šuica**, Mayor of Dubrovnik, in the Atrium of the Sponza (Old City)

Tuesday, September 9, 2008

LECTURE SERIES 3: ECOLOGY OF MARINE AND ESTUARINE DIATOMS

- Chairpersons:** Michel Poulin and Andrzej Witkowski
- 9:00 – 9:20 Ecological and specific biological characteristics of the Adriatic Sea
D. Viličić
- 9:20 – 9:40 The relationship between biodiversity, productivity, and disturbance in intertidal benthic diatom communities
K. Sabbe, B. Vanellander, N. Van Oostende, E. Verleyen, A. De Wever and W. Vyverman
- 9:40 – 10:00 Benthic diatom communities in contrasting sandy and muddy shores: a spatiotemporal study in two intertidal flats of the Tagus estuary, Portugal
L. Ribeiro, V. Brotas and Y. Rincé
- 10:00 – 10:20 Planktonic diatoms of the Neva Bay (the Neva River estuary); seasonal dynamics, spatial distribution and controlling factors
I. Trifonova and O. Pavlova
- 10:20 – 10:40 Three unstudied species of tycho planktonic/epipsammic diatoms from the tropical Mexican Pacific
D. U. Hernández-Becerril, S. A. Barón-Campis and H. Ortiz-Lira
- 10:40 – 11:00 Coffee
- 11:00 – 11:20 Resting stages in ship ballast water – survivorship of stowaways
G. Klein, I. Kaczmarska and J. M. Ehrman
- 11:20 – 11:40 Assessment of technogenic pollution impact on diversity of benthic diatom taxocene in Balaklava Bay (SW Crimea, Black Sea)
A. Petrov and E. Nevrova
- 11:40 – 12:00 Regional diversity of the genus *Pseudo-nitzschia* in the North Sea
E. Bresnan, A. Kraberg, S. Fraser, S. Janish and K. Wiltshire
- 12:00 – 12:20 Diatom viruses infectious to genera *Rhizosolenia* and *Chaetoceros*
Y. Tomaru, Y. Shirai, Y. Takao, H. Suzuki, T. Nagumo and K. Nagasaki

12:20 – 12:40 The Tree of Life project
D. G. Mann

12:40 - 14:00 Lunch

14:00 – 15:20 **Poster Sessions 4, 5**

LECTURE SERIES 4: ECOLOGY OF FRESHWATER DIATOMS

Chairpersons: **Aloisie Poulíčková and Zlatko Levkov**

15:20 – 15:40 Impact of decreased sulphur and nitrogen deposition and climatic change on chemistry and diatom assemblages in Dutch moorland pools
H. van Dam and A. Mertens

15:40 – 16:00 Dynamics of pelagic diatoms in Lake Geneva from 1974 to 2007
J. C. Druart and F. Rimet

16:00 – 16:20 Effect of environmental and chemical properties on diatoms of Asartepe Dam Lake (Ankara)
T. Atici and O. Obali

16:20 – 16:40 Coffee

16:40 – 17:00 Diatoms in springs of the Alps: ecology and taxonomy
M. Cantonati, N. Angeli, E. Bertuzzi, H. Lange-Bertalot, D. Spitale and A. Scalfi

17:00 – 17:20 Diatoms in the Danube-Tisa-Danube hydrosystem in Banat region (Serbia)
K. Nemes, M. Matavuly, M. Bokorov and Z. Lozanov-Crvenković

17:20 – 17:40 Spatial dynamics and autecological characteristics of diatom communities along regulated the Volga River system (Russia)
L. Korneva

17:40 - 18:00 Species interaction - Lake Baikal's planktonic diatom community
D. Jewson and N. Granin

18:00 – 19:00

Workshop: DNA barcoding

Moderators: **K. M. Evans and D. G. Mann**

18:00 – 19:00

Meeting for phycologists from the Nordic and Baltic countries:
"Nordic Network for Benthic Algae in Freshwater (NORBAF)".

Moderator: **M. Kahlert** (Room 2)

20:30

Dinner at Konavoski Dvori Country Club

Wednesday, September 10, 2008

9:00 Mid-symposium excursions

Thursday, September 11, 2008

**LECTURE SERIES 5: TAXONOMY, MORPHOLOGY AND
ULTRASTRUCTURE OF DIATOMS**

Chairpersons: Wiebe H. C. F. Kooistra and Koen Sabbe

- 9:00 – 9:20 A revision of placentuloid species of *Cocconeis* Ehrenberg (Cocconeidaceae, Achnanthes, Bacillariophyta)
O. E. Romero and M. De Stefano
- 9:20 – 9:40 Optical properties in diatoms: microalgae with a natural photonic crystal structure
M. De Stefano, L. Moretti, P. Maddalena, I. Rea, I. Rendina and L. De Stefano
- 9:40 – 10:00 An Asian biodiversity hotspot: taxonomy and morphology of the diatom genus *Hannaea* (Bacillariophyceae) in the Baikal rift zone
R. J. Bixby, M. B. Edlund and N. Soninkhishig
- 10:00 – 10:20 Microscopical studies on designated material of *Cyclotella operculata* (Kützing) Brébisson (Centrales, Bacillariophyceae)
H. Chang-Schneider and T.-P. Chang
- 10:20 – 10:40 25 years' devotion to *Sellaphora*: was it worth it?
D. G. Mann, K. M. Evans, V. Chepurnov and P. Vanormelingen
- 10:40 – 11:00 Coffee
- 11:00 – 11:20 What, exactly, is congruence? 'Araphid' diatom classification and multiple datasets
D. M. Williams
- 11:20 – 11:40 Homology and the cyclostephanoid diatoms, is there congruence among molecular, morphological, and stratigraphic data?
M. L. Julius, M. Saito-Kato and Y. Tanimura

- 11:40 – 12:00 Species-specific silicification rates using a new fluorescent probe (PDMPO) in the Sub-Antarctic and Polar Front Zones (of the Southern Ocean)
K. Leblanc, V. Cornet-Barthaux, B. Queguiner and L. Armand
- 12:00 – 12:20 What's in a name? – or, how should we integrate new taxa and results of phylogenetic analyses into traditional diatom taxonomy?
E. J. Cox
- 12:20 – 12:40 Uniparental auxosporulation in pennate diatoms
A. Pouličková and D. G. Mann
- 12:40 – 13:00 The biennial tempo of sexuality in the marine diatom *Pseudo-nitzschia multistriata* in Gulf of Naples (Italy)
D. D' Alelio, M. Ribera d'Alcalà, L. Dubroca, D. Sarno, A. Zingone and M. Montresor
- 13:00 – 14:20 Lunch
- 14:20 – 15:40 **Poster Sessions 6, 7, 8**

LECTURE SERIES 6: BIODIVERSITY AND BIOGEOGRAPHY

- Chairpersons:** **David M. Williams and David U. Hernández-Becerril**
- 15:40 – 16:00 Benthic diatom community of Lake Wivenhoe, Queensland, Australia
D. Gale, A. Grinham and J. Udy
- 16:00 – 16:20 A preliminary assessment of the diversity of epilithic diatoms (Bacillariophyceae) from Bolivian cloud forests, South America
E. A. Morales, P. Kociolek and E. Fernández
- 16:20 – 16:40 Comparison of benthic diatoms diversity in three regions of the south-western Crimea (Black Sea)
E. Nevrova and A. Petrov
- 16:40 – 17:00 Epipellic diatom communities in two polluted sites of Zayandehrood River, Iran.
T. Nejadsattari, Z. Movahedi and A. Saeed
- 17:00 – 17:20 Coffee

- 17:20 – 17:40 Species radiation of the genus *Muelleria* (Frenguelli) Frenguelli in the Southern Hemisphere
B. Van De Vijver and S. A. Spaulding
- 17:40 – 18:00 Determining base-line diatom data in the Okavango delta, Botswana: exploring their relationships to geography, habitat, hydrology and chemistry
A. W. Mackay, S. Woodward, P. Wolski, M. Todd, R. Mazebedi and T. Davidson
- 18:00 – 18:20 Diatoms in small farmland pools (Belgium)
L. Denys, S. Declerck, T. De Bie, D. Ercken and J. Van Wichelen
- 18:20 – 18:40 Vertical distribution of pelagic diatoms in the deep oligotrophic Lake Teletskoye (south-west Siberia, Russia)
E. Y. Mitrofanova
- 18:00 – 19:00 **Roundtable 2: Functional morphology and diatom nanotechnology**
Moderator: **M. De Stefano** (Room 2)
- 20:00 **City tour and dinner at Mimoza restaurant**

Friday, September 12, 2008

LECTURE SERIES 7: GENETIC VARIABILITY, PHYLOGENY, MOLECULAR DATA AND EVOLUTION

- Chairpersons:** Pieter Vanormelingen and Christine Cocquyt
- 9:00 – 9:20 Diatom taxonomy – morphological versus molecular data
R. Jahn
- 9:20 – 9:40 A comparison of two chloroplast genes and the nuclear small subunit gene in estimating the diatom phylogeny
E. C. Theriot, M. Ashworth, R. K. Jansen, T. Nakov, E. C. Ruck and C. Zhengqui
- 9:40 – 10:00 Morphological, molecular genetic and reproductive studies of the *Nitzschia palea* species complex
R. Trobajo, E. Clavero, V. A. Chepurnov, K. Sabbe, D. G. Mann, S. Ishihara and E. J. Cox
- 10:00 – 10:20 Pursuit of a natural classification of diatoms: do not compare apples with oranges
L. K. Medlin
- 10:20 – 10:40 Coffee
- 10:40 – 11:00 Gene regulation in the marine diatom *Thalassiosira pseudonana* upon exposure to polycyclic aromatic hydrocarbons
S. K. Bopp and T. Lettieri
- 11:00 – 11:20 Highly restricted gene flow between populations of freshwater diatoms: implications for speciation
K. M. Evans, S. Nagai, V. A. Chepurnov, P. Vanormelingen and D. G. Mann
- 11:20 – 11:40 Molecular and morphological evolution of species-rich diatom families
W. H. C. F. Kooistra and M. Montresor

LECTURE SERIES 8: EU DIATOMICS

- Chairperson:** **Linda K. Medlin**
- 11:50 – 12:10 Understanding sea-ice diatom physiology – a molecular approach
N. Hoch, A. Krell, L. Medlin and K. Valentin
- 12:10 – 12:30 Unravelling the molecular basis of the diatom life cycle
M. Huysman, C. Martens, A. De Martino, J. Gillard, V. Devos, M. Vuylsteke, L. De Veylder, D. Inzé, C. Bowler, K. Sabbe and W. Vyverman
- 12:30 – 12:50 Plasticity and robustness of diatom pattern formation
M. Vartanian, M. Quinet, S. Douady and P. J. Lopez
- 12:50 – 14:00 Lunch

LECTURE SERIES 9: APPLICATION OF DIATOMS IN WATER QUALITY ASSESSMENT

- Chairpersons:** **Marco Cantonati and Bart Van de Vijver**
- 14:00 – 14:20 The value of historic diatom assemblages as biological quality elements to benchmark sites of good ecological status in some South African rivers
C. Archibald, C. Morris, J. Bolton and B. Harding
- 14:20 – 14:40 Diatoms in America's Great Rivers: periphyton versus phytoplankton indicators
A. R. Kireta, E. D. Reavie and G. V. Sgro
- 14:40 – 15:00 Assessment of streams and rivers in six western US states
S. A. Spaulding, T. Johnson and K. Hermann
- 15:00 – 15:20 First Nordic-Baltic diatom intercalibration exercise 2007 - use of diatoms for stream monitoring
M. Kahlert
- 15:20 – 15:40 Diatoms in the assessment of water quality in running waters: comparison with macroinvertebrate methods using an Estonian example
S. Vilbaste and K. Käiro
- 15:40 – 16:00 Coffee

- 16:00 – 16:20 Linking diatom community structure to pesticide input as evaluated through a spatial contamination potential (PHYTOPIXAL): a case study in the Neste system (south-west France)
S. Morin, M. Bottin, N. Mazzella, F. Macary, M. Coste and F. Delmas
- 16:20 – 16:40 A critique of diatom-based monitoring for the water framework directive
M. Kelly
- 16:40 – 17:00 Modern diatom diversity in Mongolia: using diatoms to track recent water quality trends in the Valley of the Great Lakes
M. B. Edlund, A. L. C. Shinneman, J. Almendinger and N. Soninkhishig
- 17:00 – 17:20 Assessment of Nam Chun Stream using a index of biotic integrity (IBI) and qualitative habitat evaluation index (QHEI) in Korea
A. S. Jung, S. H. Jang, H. S. Ryu, J. J. Lee and J. H. Lee
- 17:20 – 17:40 Evaluation of European diatom trophic indices
A. Besse-Lototskaya, P. F. M. Verdonschot, M. Coste and B. Van De Vijver
- 17:40 - 20:00 **ISDR General Meeting**
- 21:00 **Symposium banquet at Gradska Kavana (Old City)**