

**WiscSIMS Workshop- High Resolution Proxies of Paleoclimate  
Madison Wisconsin June 23-26, 2013**

**Sun. June 23, 2013**

4:00-6:00 PM Open House at WiscSIMS Lab (Weeks Hall, 1215 W. Dayton St.)  
Upload talks and set-up posters

6:00-9:00 PM Welcoming reception in Weeks Hall Courtyard & WiscSIMS Open House

**Mon. June 24 Room A140, Weeks Hall**

8:00-9:00AM **Continental Breakfast**, Upload talks and set-up posters

9:00-9:30 **John Valley** Welcome and Intro

9:30-10:30 **Noriko Kita (Tutorial)**: SIMS Basics

10:30 **Reinhard Kozdon (WiscSIMS- Live)**: watch an analysis-  $\delta^{18}\text{O}$

10:45 **Break**

11:00-noon **John Valley (Tutorial)**: Accuracy vs. Precision

noon **Lunch** & group picture

1:30-1:45 **Matthew Huber, James Zachos & Reinhard Kozdon**  
(WiscSIMS- Live): Cenozoic Forams, first data

1:45-2:15 **Howard Spero (Keynote)**, Lael Vetter, Claudia Mora, Reinhard Kozdon  
and John Valley "Resolving Micron Scale  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$  Heterogeneity  
in Cultured Planktic Foraminifera"

2:15-2:45 **James Zachos (Keynote)**: "Seasonal variability in sea surface  
temperature, salinity, and carbonate chemistry during Greenhouse  
Extremes"

2:45-3:00 **Break**

3:00 **Wolfgang Müller**, David Evans, Damiano Della Lunga  
"UV-LA-(MC-)ICPMS – Principles and Applications to  
Ice Cores and Foraminifera"

3:20 **Reinhard Kozdon**, Clay Kelly, John Valley, Seafloor Diagenesis  
Attenuates the Carbon Isotope Excursion Marking the PETM

3:40 **Ben Linzmeier**, Kozdon, R., Peters, S.E., and Valley, J.W.,  
"Sub-daily depth migration behavior in *Nautilus macromphalus* revealed  
by  $\delta^{18}\text{O}$  variation in shell measured by ion microprobe"

4:00-4:15 **Ian Orland, Hai Cheng, & Kouki Kitajima (WiscSIMS- Live)**: Chinese  
Speleothem, Asian Monsoon, first data

4:15-6:00 **Posters**

## POSTERS

**Richard Casteel** and Jay Banner, "Evaluation of oxygen isotopes of a speleothem as a high resolution temperature proxy"

**Ashley Burkett**, Anthony Rathburn, Elena Pérez, Jonathan Martin, Lisa Levin, "The stable isotopic composition of *Cibicides wuellerstorfi* (elevated epibenthic foraminifera) from methane seeps in the Pacific"

**Melissa Cross**, David McGee, Wallace Broecker, Jay Quade, and R. Lawrence Edwards, "Developing a high-resolution speleothem record of Great Basin climate and hydrological change for times that correlate with Marine Oxygen Isotope Stages 5 to 7."

**Reinhard Kozdon**, Ian Orland, John Valley, "Preparation of Carbonates for SIMS: Sample selection, mount preparation, imaging, and pre-selection of suitable domains for analysis"

**Ishfaq Ahmad Mir**, "Comparison of late Quaternary productivity variation in two contrasting basins of northern Indian Ocean using geochemical proxies."

**D. Nakashima**, N. T. Kita, and T. Ushikubo, "Techniques for ion microprobe analyses of tiny particles: Sample mounts using indium and combination of FIB marking and  $^{16}\text{O}^-$  ion imaging"

**Ian Orland**, Yuval Bursytn, Miryam Bar-Matthews, Reinhard Kozdon, Avner Ayalon, Alan Matthews, John W. Valley, "A high-resolution geochemical record of seasonal climate in a modern Soreq Cave speleothem"

**Jody Wycech**, D. Clay Kelly, Reinhard Kozdon, "*In Situ* Measurement of Intra-Shell  $\delta^{18}\text{O}$  and Mg/Ca Variability in the Planktic Foraminifer *Globigerinoides sacculifer*: A Case Study from the Pliocene Warm Period"

**Jay Zambito** and Kathy Benison, "Extremely high temperatures and paleoclimate trends recorded in Permian ephemeral lake halite"

**Tue. June 25**

8:30 AM **Continental Breakfast**

9:00- 9:15 **Matthew Huber, James Zachos and Reinhard Kozdon:** "What did we learn about Cenozoic forams yesterday?"

9:15-9:30 **Ian Orland, Hai Cheng and Kouki Kitajima:** "What did we learn about the Asian Monsoon yesterday?"

9:30-10:30 **Ian Orland (tutorial):** "Approaches to Speleothem analysis"

10:30 **Break**

10:45-11:15 **Jay Banner (Keynote)** and Nathan Miller: "Integrating Speleothem Proxies from Temperate Regions: Prospects from Monitoring and Imaging Studies"

11:15-11:45 **M. Bar-Matthews (Keynote),** A. Ayalon, Y. Burstyn, I. Orland, A. Matthews, J. Valley: "Significance of High Resolution Proxies in Speleothems for Terrestrial Climate Reconstruction"

11:45-12:05 **Julie Retrum,** L. González, R. Edwards, S. Tincher, H. Cheng, F. Urbani: "A Holocene Stalagmite Paleoclimate Record from Northern Venezuela: A Record of Caribbean Climate Change"

12:05 **Lunch**

1:05-1:25 **Jessica Oster,** Katharine Maher, Kouki Kitajima, John Valley and Bruce Rogers: "Holocene changes in moisture source and aridity in coastal California recorded by  $\delta^{18}\text{O}$  and U isotopes of opal speleothems"

1:25-1:45 **Sarah Truebe,** Julia Cole, Toby Ault, Ali Kimbrough, Gideon Henderson, Stephan Hlohowskyj: "Heterogeneity in speleothem records of North American monsoon rainfall"

1:45-2:05 **Birgit Plessen,** Brigitte Richert, Sebastian Breitenbach: "Trace element analysis of speleothems using micro-XRF scanning"

2:05-2:25 **D. Keenan-Jones,** A. Foubert, G. Fried, M. Sivaguru, D. Motta, M. Garcia, R. Shosted, M. Perillo, J. Waldsmith, H. Wang and B. Fouke: "High-Resolution Records of Ancient Rainfall, Turbulent Open Channel Flow and Microbial Communities from Travertine Deposits in Roman Aqueducts"

2:25-2:45 **Ola Kwiecien,** Sebastian Breitenbach, Mona Stockhecke, Thomas Litt: "Lake Van carbonates – fascinating and challenging"

2:45-3:00 **Break**

3:00-3:20 **Ilya Bindeman:** "Snowball or Slushball glaciations 2.4Ga? Resolving microanalytical evidence in subglacially hydrothermally-altered (down to  $-27.3\text{‰}$   $\delta^{18}\text{O}$ ) rocks and coeval supergene materials"

3:20-3:50 **John Eiler (Keynote):** "Reconstructing the trace element composition of ancient seawater through SIMS studies of biogenic carbonates"

3:50-4:10 **Shannon Davis-Foust:** "Freshwater drum otoliths: the past, present, and future"

4:10-4:30 **Craig Kestelle,** Thomas Helser, John Valley, and Ian Orland: "Fish age validation using stable oxygen isotopes ( $\delta^{18}\text{O}$ ) signatures in otoliths:"

- Comparison of secondary ion mass spectrometry and micromilling/  
continuous flow isotope ratio mass spectrometry”
- 4:30-4:50 **R. Gannon**, C. Charles, T. Guilderson: “Imaging the 20<sup>th</sup> century tropical Indian Ocean thermocline through a sclerosponge archive”
- 4:50-5:10 **Anne O’Leary**, Michael Bender, Jaroslaw Stolarski, Jess Adkins, Kate Dennis, Daniel Schrag: “Secondary Ion Mass Spectrometry as a tool for measuring primary geochemistry and characterizing vital effects in fossil corals”
- 5:10-5:30 **Hussein Sayani**, Kim Cobb, Anne Cohen, Brian Monteleone: “Extracting robust Sr/Ca estimates from coral using SIMS”
- 5:30 Break for dinner
- 6:30 **Social hour** at Memorial Union, 2<sup>nd</sup> floor balcony
- 7:30 **Conference dinner** (Memorial Union, 2nd floor)

### Wed. June 26

- 8:30 Continental Breakfast
- 9 :00-10:00 **Reinhard Kozdon (Tutorial)**: “Analysis of Biogenic Carbonates”
- 10:00-10:30 **Matthew Huber (Keynote)**: “The Future of Past Climate”
- 10:30 Coffee Break
- 10:45 **Feng He**, Jeremy Shakun, Peter Clark, Anders Carlson, Zhengyu Liu, Bette Otto-Bliesner, John Kutzbach’ “Testing mechanisms of the last deglaciation with transient climate simulations and high-resolution proxy data”
- 11:05 **Karen Russ**, Larissa Back, Zhengyu Liu, Kuniaki Inoue, Jiaxu Zhang, and Bette Otto-Bliesner, “The Hydrological Cycle Response to Rapid versus Slow Global Warming“
- 11:25 **Andrew Walters**, Stephen Meyers, Alan Carroll, “Cyclostratigraphic evaluation of repetitive sedimentary microfacies from the Green River Formation via X-ray fluorescence scanning: Evidence for annual, El Niño, and sun-spot cycles?”
- 11:45 **Bryan McLean**, “An Isotopic Role for Fossil Small Mammals in Paleoecology and Paleoclimatology“
- 12:05 **Margaret Schoeninger** and Melanie Beasley, “Paleoenvironment and seasonal variation in rainfall at Allia Bay, Kenya 3.97 MA“
- 12:25 Lunch