

Schedule of the Summer School on Speleothem Science (S4)

(Updated on 27th June 2013)

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| <i>Saturday (July 29th)</i> | Arrival | | | |
| <i>Sunday (July 28th)</i> | 7:45 | Meeting Point at the Neckarmünzplatz | | |
| | 8:00 | Departure at the Neckarmünzplatz (on time) | | |
| | 10:30-16:00 | Field trip to the “Herbstlabyrinth” cave system | | |
| | 18:30 | Arrival in Heidelberg | | |
| | 19:00 | Registration & Icebreaker at the IWH (incl. Dinner) | | |
| <i>Monday (July 29th)</i> | The Lectures will be held in the Heuscheuer Room: Heuscheuer I | | | |
| Geochemistry of Speleothems | 8:00-8.50 | Registration | | |
| | 9:00-9:45 | Welcome Lecture | <i>Augusto Mangini with Michael Deininger</i> | |
| | 9:45-10:30 | Petrography of speleothems | <i>Silvia Frisia</i> | |
| | 10:30-10:45 | Discussion | | |
| | 10:45-11:00 | Break | | |
| | 11:00-11:45 | Geochemistry of trace elements provided by speleothems | <i>Ian Fairchild</i> | |
| | 11:45-12:00 | Discussion | | |
| | 12:00-14:00 | Lunch at the Marstall Mensa | | |
| | The Lectures will be held in the Neue Universität Room: HS 15 (3rd Floor) | | | |
| | 14:00-14:45 | Monitoring - key parameter, methods, sampling, equipment, developments | <i>Dave Matthey</i> | |
| | 14:45-15:00 | Discussion | | |
| | 15:00-15:45 | Metals in speleothems - ICP-MS vs Synchrotron | <i>Andrea Borsato</i> | |
| 15:45-16:00 | Discussion | | | |

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| | 16:15-17:00 | Coffee Break at the IWH | |
| | 17:00-18:00 | Poster Session (IWH) | |
| Tuesday (July 30th) | The Lectures will be held in the Neue Universität Room: HS 15 (3rd Floor) | | |
| Isotopes in Speleothems | 9:00-9:45 | Processes – from the root to the cave (C-Isotopes) | <i>Jens Fohlmeister</i> |
| | 9:45-10:00 | Discussion | |
| | 10:00-10:45 | Processes – from the ocean to the cave (O-Isotopes) | <i>Matthew Lachniet</i> |
| | 10:45-11:00 | Discussion | |
| | 11:00-11:15 | Break | |
| | 11:15-12:00 | Clumped Isotopes – a new tool for speleothem research | <i>Alan Matthews</i> |
| | 12:00-14:00 | Lunch at the Marstall Mensa | |
| | 14:00-14:45 | Processes inside the cave | <i>Wolfgang Dreybrodt</i> |
| | 14:45-15:00 | Discussion | |
| | 15:00-15:45 | Stable Isotopes (sample preparation, standards, resolution, precision, developments) | <i>Christoph Spötl</i> |
| | 15:45-16:00 | Discussion | |
| | 16:15-16:45 | Coffee Break at the IWH | |
| | 16:45-17:30 | Workshop (IWH) | |
| | 17:30-18:30 | Poster Session (IWH) | |
| Wednesday (July 31) | The Lectures will be held in the Neue Universität Room: HS 15 (3rd Floor) | | |
| Techniques in Speleothem Research | 9:00-9:45 | Fluid Inclusions of speleothems I – H and O isotopes and noble gasses temperatures | <i>Werner Aeschbach-Hertig</i> |
| | 9:45-10:00 | Discussion | |
| | 10:00-10:45 | Fluid Inclusions of speleothems II – fluid-gaseous homogenisation temperatures | <i>Yves Krüger</i> |
| | 10:45-11:00 | Discussion | |
| | 11:00-11:15 | Break | |
| | 11:15-12:00 | SIMS and other high resolution | <i>Mira</i> |

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| | techniques in speleothem research | <i>Bar-Matthews</i> |
| 11:30-12:00 | Discussion | |
| 12:00-14:00 | Lunch at the Marstall Mensa | |
| 14:00-14:45 | U-series dating | <i>Dirk Hoffmann</i> |
| 14:45-15:00 | Discussion | |
| 15:00-15:45 | Age models | <i>Denis Scholz</i> |
| 15:45-16:00 | Discussion | |
| 16:15-16:45 | Coffee Break at the IWH | |
| 16:45-17:30 | Workshop (IWH) | |
| 17:30-18:30 | Poster Session (IWH) | |

Thursday (August 1st)

**The Lectures will be held in the Neue Universität
Room: HS 15 (3rd Floor)**

Time-Series Analysis

(Lecturer: Manfred Mudelsee, Miguel Bermejo)

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| 9:00-9:30 | Basics 1/3: Introduction (Climate Time Series Analysis) |
| 9:30-9:35 | Short Discussion/Break |
| 9:35-10:05 | Basics 2/3: Persistence Models |
| 10:05-10:10 | Short Discussion/Break |
| 10:10-10:40 | Basics 3/3: Bootstrap Confidence Intervals |
| 10:40-10:45 | Short Discussion/Break |
| 10:45-11:15 | Methods 1/2: Regression I |
| 11:15-11:20 | Short Discussion/Break |
| 11:20-11:50 | Methods 2/2: Correlation |
| 11:50-12:00 | Discussion/Break |
| 12:00-14:00 | Lunch at the Marstall Mensa |
| 14:00-15:00 | Computer Tutorial 1/3: Regression I (parametric) |
| 15:00-15:15 | Discussion/Break |
| 15:15-16:15 | Computer Tutorial 2/3: Regression I (nonparametric) |
| 16:15-16:30 | Discussion/Break |
| 16:30-17:30 | Computer Tutorial 3/3: Correlation |
| 17:30-18:00 | Discussion |

19:00

Summer-School Dinner

Friday (August 2nd)

**Frontiers of palaeo
climate research**

| The Lectures will be held in the Neue Universität Room: HS 15 (3rd Floor) | | |
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| 9:00-9:45 | Frontiers of Speleothem Research | <i>Frank McDermott</i> |
| 9:45-10:00 | Discussion | |
| 10:00-10:45 | Speleothems in the context with other Palaeo-Climate archives | <i>Norbert Frank</i> |
| 10:45-11:00 | Discussion | |
| 11:00-11:15 | Break | |
| 11:15-12:00 | Speleothems and Climate Models – Challenges and Opportunities | <i>Dominik Fleitmann</i> |
| 12:00-14:00 | Lunch at the Marstall Mensa | |
| 14:00-14:45 | The potential of climate change for explanation in archaeology | <i>Thomas Meier</i> |
| 14:45-15:00 | Discussion | |
| 15:00-15:45 | Frontiers of Palaeo-Climate Research | <i>Thorsten Kiefer</i> |
| 15:45-16:00 | Discussion | |
| 17:00-18:00 | Technical Discussion – How to Continue? & Farewell (IWH) | Plenum |

Saturday (August 3rd)

Departure