

WORKSHOP

# International Application of Archaeological Science

An intensive one-week workshop for early career researchers.

Hosted by the Archaeology  
Department at the Max Planck  
Institute for the Science of  
Human History, Jena, Germany.

March 20 - 30, 2019

Max-Planck-Institut für  
Menschheitsgeschichte  
Max Planck Institute for the Science of Human History





## INTERNATIONAL APPLICATION OF ARCHAEOLOGICAL SCIENCE

**Max Planck Institute for the Science of Human History**

**Archaeology Department**

Jena, Germany

March 20 – 31, 2019

**The Department of Archaeology is focused on developing and applying the latest multidisciplinary methodologies in archaeology in order to transform our understanding of the human past. Combining traditional field research with cutting-edge laboratory analyses, it will investigate the ways in which culture, biology and ecology have intersected in the past, across the entire spatial and temporal spectrum of human history. By combining insights from both the humanities and natural sciences, the Department of Archaeology will seek to tell a more holistic story of the emergence, expansion, and diversification of our species and its social forms.**

### **International Application of Archaeological Science**

In response to the overwhelmingly positive feedback in March of 2018, the Department of Archaeology has decided to run the international training course for a second consecutive year. The course will be held at the department's research and laboratory facilities in Jena, Germany. The event runs from the 20-31 of March, 2019. The course will cover a variety of methods, including quantitative lithics analyses, Geographical Information Systems approaches, ancient proteomics, ZooMS, stable isotope analysis, both micro and macroscopic methods in archaeobotany, morphological identifications in archaeozoology, human osteology, chronological methods and models, and statistical analysis. It is designed for junior researchers with extensive archaeological experience wishing to implement new methodologies within their home countries and expand the knowledge base within their institutions. Course instructions will be in English and flights, visas, travel by train or bus to/from Jena, accommodation, and course materials are provided for the selected participants. All software used will be open access, enabling attendees to apply learned skills without constraint. Course instructors will focus on methods that can feasibly be implemented outside well-funded laboratories and will seek to teach proper sampling methods.



## Wednesday, March 20

Guests arrive and hosts help meet them at the train station

## Thursday, March 21

9:00-9:45: Registration and Coffee/tea (Library)

9:45-10:00: Welcoming Remarks (Room V14)

*Nicole Boivin*, Director of the Archaeology Department

10:00-11:00: Introductions and Short Research Presentations (from the 15 participants)

11:00-12:00: Introductions and Short Research Presentations (from the 15 participants)

\*Note: Introductions may run a bit over

\*\* Group Photo on the Front Lawn before anyone gets to eat – all participants and instructors and helpers.

12:00-13:00: Lunch (Library)

13:00-14:00: Sampling Strategies for the Archaeological Sciences (Room V14)

*Patrick Roberts* (Isotopes Group Leader)

*Ayushi Nayak* (Graduate Student and Researcher in the Isotopes Group)

14:00-15:00: Phytoliths and Starch granules in Archaeo-Microbotanical Research: Potential and Pitfalls (Room V14)

*Julio Mercader* (University of Calgary, visiting guest)

15:00-16:00: Coffee break and discussion (Room V03)



16:00-17:00: Highland urbanism and modular power networks in Medieval Central Asia  
(Room V03)

*Michael Frachetti* (Washington University in St. Louis)

18:00-19:00: Opening Dinner (Location Saigon Restaurant)

## **Friday, March 22**

9:00-10:00: Introduction to Isotopes (Room V03)

*Patrick Roberts* (Isotopes Group Leader)

*Anneke Janzen* (Postdoctoral Researcher in Isotopes Group Leader)

10:00-11:00: Introduction to Isotopes (Room V03)

*Patrick Roberts* (Isotopes Group Leader)

*Anneke Janzen* (Postdoctoral Researcher in Isotopes Group Leader)

11:00-12:00: Micropalaeontology in Geoarchaeology (concepts, proxies, methods, case studies) (Room V03)

*Peter Frenzel* (Professor in the Institute of Geosciences)

*Mauro Alivernini* (Graduate Student and Researcher in Geosciences)

*Olga Gildeeva* (Graduate Student and Researcher in Geosciences) – all visiting guests from Friedrich-Schiller-Universität, Jena

12:00-13:00: Lunch (Library)

13:00-14:00: Microscope Exercises: Demonstrating How to Analyze Material from Geoarchaeological Contexts

*Peter Frenzel* (Professor in the Institute of Geosciences)

*Mauro Alivernini* (Graduate Student and Researcher in Geosciences)



*Olga Gildeeva* (Graduate Student and Researcher in Geosciences) – all visiting guests from Friedrich-Schiller-Universität, Jena

14:00-15:00: Lab Tours and walk to the lab – Introduction to the Isotope Laboratory (Labs Building)

*Jana Zech* (Laboratory Director)

15:00-16:00: Lab Tours – Introduction to the Isotope Laboratory (Labs Building)

*Jana Zech* (Laboratory Director)

16:00-17:00: Lab Tours – Introduction to the Isotope Laboratory (Labs Building)

*Jana Zech* (Laboratory Director)

17:00-18:00: Lab Tours and walk back to the institute

*Jana Zech* (Laboratory Director)

### **Saturday, March 23**

9:00-10:00: Microbotanical Methods and Analyses (via Skype in Room V03)

*Alison Crowther* (Group Leader in Microfossil and Archaeobotany)

10:00-11:00: Introduction to Archaeobotanical Methods (Room V03)

*Robert Spengler* (Archaeobotany Group Leader)

11:00-11:30: Introduction to Archaeobotanical Methods (Room V03)

*Robert Spengler* (Archaeobotany Group Leader)

11:30-12:00: Demonstration of Bucket Flotation Method for Archaeobotanical Studies

*Traci Billings* (Graduate Student and Researcher in the Archaeobotany Group)

*Li Tang* (Graduate Student and Researcher in the Archaeobotany Group)



12:00-13:00: Lunch (Library)

13:00-14:00: Human Osteology, Methods and Practice (Room V03)

*Alicia Ventresca Miller* (Laboratory Researcher in Isotopes and Human Osteology)

14:00-15:00: Modern Approaches to Human Osteology (Room V03)

*Alicia Ventresca Miller* (Laboratory Researcher in Isotopes and Human Osteology)

15:00-16:00: Osteology and Pathology: Method and Practice

*Elissa Bullion* (Volkswagen Postdoctoral Fellow)

16:00-17:00: Osteology and Pathology: Method and Practice

*Elissa Bullion* (Volkswagen Postdoctoral Fellow)

## **Sunday, March 24**

Fieldtrip to the Halle Prehistory Museum and Wood Hedge: Please meet at the institute at  
9:00

Guided tour by *Bettina Stoll-Tucker*

11:00-12:00: Halle Museum Tour

*Bettina Stoll-Tucker*, Museum Director

12:00-13:30: Walk around the museum

13:30-14:30: Lunch (Location to be announced)

14:00-16:00 Trip to Wood Hedge (Goseck)



19:00: Return to Jena, Germany

### **Monday, March 25**

11:00-12:00: Weekly Departmental Lecture Series: A comparative study of the economy between Harappa and Erlitou

*Qian Wang* (Visiting Student Researcher)

12:00-13:00: Radiocarbon Calibration, Sampling, and Interpretation (Room V03)

*Ricardo Fernandes* (Laboratory Researcher in Isotopes)

13:00-14:00: Radiocarbon Calibration, Sampling, and Interpretation (Room V03)

*Ricardo Fernandes* (Laboratory Researcher in Isotopes)

15:00-16:00: Statistical Analyses in Archaeology

*Thomas Larsen* (Group Leader in Biomolecular Archaeology)

16:00-17:00: Statistical Analyses in Archaeology

*Thomas Larsen* (Group Leader in Biomolecular Archaeology)

### **Tuesday, March 26**

9:00-10:00: Methodological Approaches to Understanding Lithic Assemblages (Room V14)

*Steve Goldstein* (Group Leading in the Archaeology of Sustainable Economies)

*Shixia Yang* (Visiting Researcher and Specialists in North Asian Paleolithic)

10:00-11:00: Methodological Approaches to Understanding Lithic Assemblages (Room V14)

*Steve Goldstein* (Group Leading in the Archaeology of Sustainable Economies)

*Shixia Yang* (Visiting Researcher and Specialists in North Asian Paleolithic)



11:00-12:00: Methodological Approaches to Understanding Lithic Assemblages (Room V14)

*Steve Goldstein* (Group Leading in the Archaeology of Sustainable Economies)

*Shixia Yang* (Visiting Researcher and Specialists in North Asian Paleolithic)

12:00-13:00: Lunch (Library)

13:00-14:00: Basic Methods in Archaeomalacology (Room V03)

*Patrick Faulkner* (University of Sydney)

14:00-15:00: Applications and Innovations in ZooMS (Room V03)

*Kristine Richter* (Researcher in the ZooMS group)

15:00-16:00: Applications and Innovations in ZooMS (Room V03)

*Kristine Richter* (Researcher in the ZooMS group)

16:00-17:00: Applications and Innovations in ZooMS (Room V03)

*Kristine Richter* (Researcher in the ZooMS group)

### **Wednesday, March 27**

9:00-10:00: Modern Approaches in Zooarchaeology (Room V03)

*William Taylor* (Postdoctoral Researcher and Field Director)

10:00-11:00: Modern Approaches in Zooarchaeology (Room V03)

*William Taylor* (Postdoctoral Researcher and Field Director)

11:00-12:00: Modern Approaches in Zooarchaeology (Room V03)





*William Taylor* (Postdoctoral Researcher and Field Director)

12:00-13:00: Lunch (Library)

13:00-14:00: Coffee Break (Room V03)

14:00-15:00: Analysis and Interpretations of Ancient Proteomics (Room V03)

*Shevan Wilkin* (Researcher and Graduate Student in the Proteomics Group)

*Madeleine Bleasdale* (Researcher and Graduate Student in the Proteomics Group)

15:00-16:00: Analysis and Interpretations of Ancient Proteomics (Room V03)

*Shevan Wilkin* (Researcher and Graduate Student in the Proteomics Group)

*Madeleine Bleasdale* (Researcher and Graduate Student in the Proteomics Group)

16:00-17:00: Analysis and Interpretations of Ancient Proteomics (Room V03)

*Shevan Wilkin* (Researcher and Graduate Student in the Proteomics Group)

*Madeleine Bleasdale* (Researcher and Graduate Student in the Proteomics Group)

## **Thursday, March 28**

9:00-10:00: Archaeological Applications of GIS and Computer Software (Room V03)

*Nils Vanwezer* (Researcher and Graduate Student in Paleolithic Archaeology)

*Ulrike Thüring* (Researcher and Technician for the Archaeology Laboratory)

10:00-11:00: Archaeological Applications of GIS and Computer Software (Room V03)

*Nils Vanwezer* (Researcher and Graduate Student in Paleolithic Archaeology)

*Ulrike Thüring* (Researcher and Technician for the Archaeology Laboratory)

11:00-12:00: Geoarchaeology: Methods and Approaches (Room V03)



*Steve Goldstein* (Group Leading in the Archaeology of Sustainable Economies)

12:00-13:00: Lunch (To be Announced)

13:00-14:00: Laboratory Methods in Archaeobotany (Labs Building)

*Stefanie Schirmer* (Researcher and Technician in the Archaeobotany Group)

*Robert Spengler* (Group Leader in Archaeobotany)

14:00-15:00: Laboratory Methods in Archaeobotany (Labs Building)

*Stefanie Schirmer* (Researcher and Technician in the Archaeobotany Group)

*Robert Spengler* (Group Leader in Archaeobotany)

15:00-16:00: Laboratory Methods in Archaeobotany (Labs Building)

*Stefanie Schirmer* (Researcher and Technician in the Archaeobotany Group)

*Robert Spengler* (Group Leader in Archaeobotany)

16:00-17:00: Microfaunal Analyses and Interpretations (Room V03)

*Noel Amano* (Postdoctoral Researcher in Paleolithic Archaeology)

17:00-18:00: Microfaunal Analyses and Interpretations (Room V03)

*Noel Amano* (Postdoctoral Researcher in Paleolithic Archaeology)

## **Friday, March 29**

10:00-11:00: Professional Development: Raising your profile (Room V03)

*Ayushi Nayak* (Graduate Student and Researcher in the Isotopes Group)

11:00-12:00: Professional Development: Raising your profile (Room V03)

*Ayushi Nayak* (Graduate Student and Researcher in the Isotopes Group)



12:00-13:00: Lunch (Library)

13:00-14:00: Sampling Ethics (Room V03)

*Ayushi Nayak* (Graduate Student and Researcher in the Isotopes Group)

14:00-15:00: Isotopes Follow-up and Discussion

*Patrick Roberts* (Isotopes Group Leader)

15:00-15:30: Isotopes Follow-up and Discussion

*Patrick Roberts* (Isotopes Group Leader)

15:30-16:00: Closing Comments

*Michael Petraglia* (Professor of Human Evolution and Prehistory)

18:00-19:00: Closing Dinner (Location Zur Noll Restaurant)

### **Saturday, March 30**

Field Trip to the Weimar Museum; please meet at the Institute by 10:00

Tour will be held in the late Morning by Tim Schuler

10:30-11:00: Weimar Museum Tour *Tim Schuler*, Museum Director

11:00-13:30: Walk around the museum

13:30-14:30: Lunch (Location to be announced)

14:30-16:00 Walk around Weimar



16:00: Return to Jena

## Sunday, March 31

Participants depart from Jena

### Contacts for comments or queries:

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