



**EXPLO**  
EXPLORING THE DYNAMICS AND CAUSES OF PREHISTORIC  
LAND USE CHANGE IN THE CRADLE OF EUROPEAN FARMING



# Prehistoric lakeshore settlements in South-East Europe: archaeological, palaeoecological and bioarchaeological investigations within the EXPLO project.

## Mid-term Conference

5-6 July 2022, Research Dissemination Center (KEDEA), Aristotle University of Thessaloniki, Greece

## ABSTRACTS

Organization: Aristotle University of Thessaloniki  
School of History and Archaeology

Laboratory for Interdisciplinary Research in Archaeology (LIRA)

Funding: The EXPLO project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement No. 810586)



## **Farmers of the Bronze Age – Exploring land use dynamics and agricultural practices using legacy data and land-use modelling**

Marco Hostettler<sup>1</sup>

<sup>1</sup>Institute of Archaeological Sciences, University of Bern, Bern, Switzerland

The site of Kastanas, a small tell located at the Axios river near the shore of the ancient Thermaic Gulf, is used as a case study to assess land use dynamics and agricultural practice through analysis of botanical legacy data and land-use modelling. With a stratigraphy spanning from the Early Bronze to the Iron Age and hundreds of botanical samples from different contexts (first published in 1983), it offers a unique possibility to reconstruct a sequence of probable agricultural practices. This allows insights into the subsistence economy of this specific microregion in the Bronze and Iron Ages, as the tell is one of a group of similar sites located closely to each other. This case study is part of a supra-regional analysis to diachronically evaluate past land-use activities and to connect them to environmental dynamics. The results will contribute to understand the resilience and vulnerabilities of the respective agrarian societies of the Bronze Age in Northern Greece and the Southern Balkans.



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## PROGRAMME

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Tuesday, 5 July 2022

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## WELCOMING ADDRESS

**Chair: Prof. Em. Kostas Kotsakis**

School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece

09:30-09:50 Prof. Konstantinos Bikos, Dean of the Faculty of Philosophy  
Aristotle University of Thessaloniki, Thessaloniki, Greece

Prof. Eleni Manakidou, Chair of the School of History and Archaeology  
Aristotle University of Thessaloniki, Thessaloniki, Greece

**Opening of the Conference: Prof. Eleni Manakidou**

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## SESSION 1. THE EXPLO PROJECT: OVERVIEWS

**Chair: Prof. Em. Stelios Andreou**

School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece

09:50-10:00 **Overview of the University of Bern archaeological project**  
Albert Hafner<sup>1,2</sup>

<sup>1</sup>Institute of Archaeological Sciences, University of Bern, Bern, Switzerland

<sup>2</sup>Oeschger Centre for Climate Change Research, University of Bern, Bern, Switzerland

10:00-10:10 **Overview of the University of Bern palaeoecological project**  
Willy Tinner<sup>1,2</sup>

<sup>1</sup>Institute of Plant Sciences, University of Bern, Bern, Switzerland

<sup>2</sup>Oeschger Centre for Climate Change Research, University of Bern, Bern, Switzerland

10:10-10:20 **Overview of the University of Oxford project**  
Amy Bogaard<sup>1</sup>

<sup>1</sup>School of Archaeology, University of Oxford, Oxford, United Kingdom

10:20-10:30 **Overview of the Aristotle University of Thessaloniki project**  
Kostas Kotsakis<sup>1</sup>

<sup>1</sup>School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece

10:30-11:00 *Coffee break*

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## SESSION 2. DENDROCHRONOLOGY: METHODS AND RESULTS

**Chair: Assistant Prof. Maria Ntinou**

School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece

11:00-11:30 **Dendrochronology: Turning Prehistory into History? An outline of the methodological basics of building and dating tree-ring chronologies from wood sampled from wetland sites**

John Francuz<sup>1</sup>

<sup>1</sup>Institute of Archaeological Sciences, University of Bern, Bern, Switzerland

- 11:30-12:00 **Prehistoric dendrochronology in the southern Balkans: state-of-the-art and prospects**  
Andrej Maczkowski<sup>1,2</sup>  
<sup>1</sup>Institute of Archaeological Sciences, University of Bern, Bern, Switzerland  
<sup>2</sup>Oeschger Centre for Climate Change Research, University of Bern, Bern, Switzerland
- 12:00-12:30 **The dendroarchaeology of the prehistoric waterlogged site Ploča - Mičov Grad, Lake Ohrid, North Macedonia**  
Matthias Bolliger<sup>1,2</sup>  
<sup>1</sup>Institute of Archaeological Sciences, University of Bern, Bern, Switzerland  
<sup>2</sup>Oeschger Centre for Climate Change Research, University of Bern, Bern, Switzerland
- 12:30-14:00 *Lunch break*
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### SESSION 3. MATERIAL CULTURE

**Chair: Dr Maria Pappa**

Ephorate of Antiquities of Thessaloniki Region, Hellenic Ministry of Culture and Sports, Thessaloniki, Greece

- 14:00-14:30 **Phases and architecture of Dispilio: results and challenges**  
Tryfon Giagkoulis<sup>1</sup>, Filippos Stefanou<sup>1</sup> and Kostas Kotsakis<sup>1</sup>  
<sup>1</sup>School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece
- 14:30-15:00 **Site stratigraphy and key stratigraphic markers at the Neolithic wetland settlement of Dispilio. Our progress to date within the project of EXPLO**  
Stella Kyrillidou<sup>1</sup>, Ioanna Siamidou<sup>1,2</sup>, Ioannis Oikonomou<sup>3</sup>, Rena Veropoulidou<sup>1,4</sup> and Kostas Kotsakis<sup>1</sup>  
<sup>1</sup>School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece  
<sup>2</sup>Department of Prehistory, Protohistory and Near Eastern Archaeology, Heidelberg University, Heidelberg, Germany  
<sup>3</sup>Institute of Archaeology, Hebrew University of Jerusalem, Jerusalem, Israel  
<sup>4</sup>Museum of Byzantine Culture, Hellenic Ministry of Culture and Sports, Thessaloniki, Greece
- 15:00-15:30 **Reassembling continuity and change in Neolithic Dispilio**  
Evangelia Voulgari<sup>1</sup>, Marina Sofronidou<sup>2</sup>, Niki Saridaki<sup>1</sup>, Ioanna Siamidou<sup>1,3</sup>, Eleni Tsiola<sup>1,4</sup>, Nikos Katsikaridis<sup>1</sup> and Kostas Kotsakis<sup>1</sup>  
<sup>1</sup>School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece  
<sup>2</sup>Ephorate of Antiquities of Drama, Hellenic Ministry of Culture and Sports, Drama, Greece  
<sup>3</sup>Department of Prehistory, Protohistory and Near Eastern Archaeology, Heidelberg University, Heidelberg, Germany  
<sup>4</sup>School of History and Archaeology, University of Ioannina, Ioannina, Greece

- 15:30-16:00      **Dispilio pottery in its regional context: affinities and potential contacts**  
Marina Sofronidou<sup>1</sup>, Evangelia Voulgari<sup>2</sup>, Anastasia Dimoula<sup>2</sup>, Niki Saridaki<sup>2</sup> and Kostas Kotsakis<sup>2</sup>  
<sup>1</sup>Ephorate of Antiquities of Drama, Hellenic Ministry of Culture and Sports, Drama, Greece  
<sup>2</sup>School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece
- 16:00-16:30      *Coffee break*
- Chair: Prof. Em. Nikos Efstratiou**  
School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece
- 16:30-17:00      **The stone and bone industries from Neolithic Dispilio: preliminary typological and technological observations**  
Tasos Bekiaris<sup>1</sup>, Angeliki Kita<sup>1</sup>, Eleni Koutsopoulou<sup>1,2</sup>, Bogdana Milić<sup>3</sup> and Georgia Stratouli<sup>4</sup>  
<sup>1</sup>School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece  
<sup>2</sup>Institute of Archaeological Sciences, University of Bern, Bern, Switzerland  
<sup>3</sup>Mila y Fontanals Institute on Humanities research, Spanish National Research Council, Barcelona, Spain  
<sup>4</sup>Ephorate of Antiquities of Kilikis, Hellenic Ministry of Culture and Sports, Kilikis, Greece
- 17:00-17:30      **Archaeological Fieldwork at Lake Ohrid**  
Johannes Reich<sup>1</sup>  
<sup>1</sup>Institute of Archaeological Sciences, University of Bern, Bern, Switzerland
- 17:30-18:00      **Farmers of the Bronze Age – Exploring land use dynamics and agricultural practices using legacy data and land-use modelling**  
Marco Hostettler<sup>1</sup>  
<sup>1</sup>Institute of Archaeological Sciences, University of Bern, Bern, Switzerland
- 18:00              *Reception*

Wednesday, 6 July 2022

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#### **SESSION 4. PALAEOECOLOGY AND BIOARCHAEOLOGY**

**Chair: Dr Rena Veropoulidou**

Museum of Byzantine Culture, Hellenic Ministry of Culture and Sports, Thessaloniki, Greece  
School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece

- 09:00-09:30      **Reconstructing Holocene climate dynamics in Northern Greece using biomarker proxies in lake sediments**  
Antoine Thévenaz<sup>1,2</sup>, César Morales-Molino<sup>1,2</sup>, Erika Gobet<sup>1,2</sup>, Céline Martin<sup>3</sup>, Cindy De Jonge<sup>4</sup>, Oliver Rach<sup>5</sup>, Dirk Sachse<sup>5</sup> and Willy Tinner<sup>1,2</sup>  
<sup>1</sup>Institute of Plant Sciences, University of Bern, Bern, Switzerland  
<sup>2</sup>Oeschger Centre for Climate Change Research, University of Bern, Bern, Switzerland  
<sup>3</sup>Surface Waters Research & Management, Eawag, Dübendorf, Switzerland  
<sup>4</sup>Swiss Federal Institute for Technology, Zurich, Switzerland  
<sup>5</sup>German Research Centre for Geosciences, Potsdam, Germany

- 09:30-10:00 **From sea to summit: the impact of climate and land-use change on vegetation at different altitudes and along two Neolithisation routes**  
 Kathrin Ganz<sup>1,2</sup>, César Morales-Molino<sup>1,2</sup>, Erika Gobet<sup>1,2</sup>, Luc Hächler<sup>2,3</sup>, Dmytro Kiosak<sup>4</sup>, Nadezhda Kotova<sup>5</sup>, Jacqueline van Leeuwen<sup>1,2</sup>, Sergey Makhortykh<sup>6</sup>, Sarah Ogi<sup>1,2</sup>, Emmanuel Schaad<sup>1,2</sup>, Christoph Schwörer<sup>1,2</sup>, Paul Zander<sup>2,3</sup>, Martin Grosjean<sup>2,3</sup> and Willy Tinner<sup>1,2</sup>  
<sup>1</sup>Institute of Plant Sciences, University of Bern, Bern, Switzerland  
<sup>2</sup>Oeschger Centre for Climate Change Research, University of Bern, Bern, Switzerland  
<sup>3</sup>Institute of Geography, University of Bern, Bern, Switzerland  
<sup>4</sup>Department of Asian and North African Studies, Ca' Foscari University of Venice, Venice, Italy  
<sup>5</sup>Department of Archaeology of Eneolithic and Bronze Age, Institute of Archaeology, National Academy of Sciences of Ukraine, Kyiv, Ukraine  
<sup>6</sup>Department of Early Iron Age Archaeology, Institute of Archaeology, National Academy of Sciences of Ukraine, Kyiv, Ukraine
- 10:00-10:30 **Insights into the impacts of climate and land use on the vegetation of the Four Lakes region in Northern Greece**  
 Lieveke van Vugt<sup>1,2</sup>, César Morales-Molino<sup>1,2</sup>, Erika Gobet<sup>1,2</sup>, Martin Grosjean<sup>2,3</sup>, Antonietta Knetge<sup>1</sup>, Jaqueline F.N. van Leeuwen<sup>1,2</sup>, André F. Lotter<sup>1,2</sup>, Hendrik Vogel<sup>2,4</sup>, Albert Hafner<sup>2,5</sup> and Willy Tinner<sup>1,2</sup>  
<sup>1</sup>Institute of Plant Sciences, University of Bern, Bern, Switzerland  
<sup>2</sup>Oeschger Centre for Climate Change Research, University of Bern, Bern, Switzerland  
<sup>3</sup>Institute of Geography, University of Bern, Bern, Switzerland  
<sup>4</sup>Institute of Geological Sciences, University of Bern, Bern, Switzerland  
<sup>5</sup>Institute of Archaeological Sciences, University of Bern, Bern, Switzerland
- 10:30-11:00 *Coffee break*
- Chair: Associate Prof. Sevi Triantafyllou**  
 School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece
- 11:00-11:30 **First results on 50,000 years of vegetation history at Limni Orestías Kastorias**  
 Lieveke van Vugt<sup>1,2</sup>, Erika Gobet<sup>1,2</sup>, Kathrin Ganz<sup>1,2</sup>, Gian-Luca Grünenfelder<sup>1</sup>, Hendrik Vogel<sup>2,3</sup> and Willy Tinner<sup>1,2</sup>  
<sup>1</sup>Institute of Plant Sciences, University of Bern, Bern, Switzerland  
<sup>2</sup>Oeschger Centre for Climate Change Research, University of Bern, Bern, Switzerland  
<sup>3</sup>Institute of Geological Sciences, University of Bern, Bern, Switzerland
- 11:30-12:00 **The zooarchaeology of Dispilio, Lake Orestias, Kastorias**  
 Valasia Isaakidou<sup>1</sup>, Paul Halstead<sup>2</sup>, Rena Veropoulidou<sup>3,4</sup>, Roula Chronaki<sup>4</sup>, Dafni Androulaki<sup>4</sup> and Amy Bogaard<sup>1</sup>  
<sup>1</sup>School of Archaeology, University of Oxford, Oxford, United Kingdom  
<sup>2</sup>Department of Archaeology, University of Sheffield, Sheffield, United Kingdom  
<sup>3</sup>Museum of Byzantine Culture, Hellenic Ministry of Culture and Sports, Thessaloniki, Greece  
<sup>4</sup>School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece
- 12:00-12:30 **The archaeobotany of Dispilio, Lake Orestias, Kastorias**  
 Müge Ergun<sup>1</sup>, Eugenia Gkatzogia<sup>2</sup>, Maria Ntinou<sup>2</sup>, Mike Charles<sup>1</sup> and Amy Bogaard<sup>1</sup>  
<sup>1</sup>School of Archaeology, University of Oxford, Oxford, United Kingdom  
<sup>2</sup>School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece
- 12:30-14:00 *Lunch break*

**Chair: Prof. Tania Valamoti**

School of History and Archaeology, Aristotle University of Thessaloniki, Thessaloniki, Greece

- 14:00-14:30      **Vegetation dynamics and land-use change at the Neolithic lakeshore settlement site of Ploča Mičov Grad, Lake Ohrid**  
Erika Gobet<sup>1,2</sup>, Sarah Brechbühl<sup>1</sup>, Lieveke van Vugt<sup>1,2</sup>, César Morales-Molino<sup>1,2</sup>, Joseph Volery<sup>1</sup>, André F. Lotter<sup>1,2</sup>, Ariane Ballmer<sup>2,3</sup>, Sandra O. Brugger<sup>1,2</sup>, Albert Hafner<sup>2,3</sup> and Willy Tinner<sup>1,2</sup>  
<sup>1</sup>Institute of Plant Sciences, University of Bern, Bern, Switzerland  
<sup>2</sup>Oeschger Centre for Climate Change Research, University of Bern, Bern, Switzerland  
<sup>3</sup>Institute of Archaeological Sciences, University of Bern, Bern, Switzerland
- 14:30-15:00      **The archaeobotany of Progradec, Lin 3, Lake Ohrid**  
Rachel Ballantyne<sup>1</sup>, Michael Charles<sup>1</sup> and Amy Bogaard<sup>1</sup>  
<sup>1</sup>School of Archaeology, University of Oxford, Oxford, United Kingdom
- 15:00-15:30      **The archaeobotany of Ploča Mičov Grad, Lake Ohrid**  
Amy Holguin<sup>1</sup>, Michael Charles<sup>1</sup>, Müge Ergun<sup>1</sup> and Amy Bogaard<sup>1</sup>  
<sup>1</sup>School of Archaeology, University of Oxford, Oxford, United Kingdom
- 15:30-16:00      Discussion
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**Please note:**

The 30 minutes slots include 20 minutes for the presentations and 10 minutes for questions.

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**Poster design:** Tasos Bekiaris

**Photo credits:** Poster's main photo by Marco Hostettler, EXPLO Project Official Website and Dispilio Excavations Archive

**Workshop's Venue:**

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**Research Dissemination Center (KEDEA)**  
Tritis Septemvriou Str. - University Campus  
546 36 THESSALONIKI – GREECE

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2,7,14,58 (Bus Stop: University of Macedonia)

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