

## Press release

### Chicken bones and snail shells help archaeologists to date more precisely

**Combined methods of analysis enable chronological classification of archaeological finds down to the time of year – Archaeological team from Münster and Tel Aviv uses leftovers of seasonal food to date Hasmonean campaign in 2nd century BC – Achim Lichtenberger: “Spring was the time of destruction”**

**Münster, 18 August 2022 (exc)** According to new research, the combined analysis of animal and plant remains, as well as written evidence, is leading to more precise dating of archaeological finds. “We can now often determine not only the year, but also the season. This allows us to reconstruct the events that produced the finds much more precisely”, says archaeologist Prof. Dr. Achim Lichtenberger from the Cluster of Excellence “Religion and Politics” at the University of Münster. “The destruction of the Greek town Tell Izt̄abba in present-day Israel by a military campaign waged by the Hasmoneans, a Judean ruling dynasty in the 2nd and 1st centuries BC, has so far been dated to between 111 and 107 BC”, says Lichtenberger. “More recent research dates it to 108/107 BC, based on coin finds and the siege of the city of Samaria at the same time. Now, using our multi-proxy approach that makes use of several analytical methods, we can for the first time date the events with certainty to the spring of 107 BC”.

“We came across chicken leg bones in the dwellings destroyed by the Hasmoneans. Analyzing them revealed residues containing marrow that served to produce eggshells during the laying season in spring. This indicates that the chickens were slaughtered in spring”, explain Achim Lichtenberger and his colleague Prof. Oren Tal from the University of Tel Aviv. “We also discovered the shells of field snails, which were often eaten at this time of year”. Botanical examinations of the remnants of flowers on the floors of the dwellings reveal that these plants flowered in spring. Analysis of the objects is always accompanied by analysis of written evidence: “The contemporary Hebrew scroll of Megillat Ta’anit about the Hasmonean conquest, also known as the Scripture of the Fast, reports the expulsion of the inhabitants in the Hebrew month of Sivan, which corresponds to our May/June”.

#### **“Only the multiplicity of analytical methods makes precise statements possible”**

“From an archaeological point of view, this makes spring the season of destruction”, says Lichtenberger, which underlines previous findings on Hellenistic warfare, as military offensives usually took place in spring and early summer. “The individual data taken on their own would not justify determining such a clear chronology”, emphasizes Lichtenberger, who, together with his colleague Oren Tal and an interdisciplinary team comprising natural scientists, is leading a [research project](#) on the archaeology of the Hellenistic settlement Tell Izt̄abba, in ancient Nysa-

Scythopolis, an ancient conurbation in the ancient Near East. “Only by taking an overall view of the results from all analytical methods can we provide more precise information about the time of the destruction of Tell Iztabba, and thus about the course of the Hasmonean campaign”. The finds must therefore be interpreted in the light of the seasons. (apo/sca)

**Images:** Prof. Dr. Achim Lichtenberger (Foto: WWU), Excavation Tell Iztabba (Foto: German-Israeli Tell Iztabba Excavation Project)

**Reference:** Achim Lichtenberger, Henk Mienis, Andrea Orendi, Miriam Pines, Oz Ritter, Oren Tal: “For everything there is a season: more than a year of destruction at Seleucid Tell Iztabba (Israel)”. In: *Antiquity* 2022 Vol. 0 (0): pp. 1-8. <https://doi.org/10.15184/aqy.2022.92>

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**The Cluster of Excellence “Religion and Politics”**

The Cluster of Excellence “Religion and Politics. Dynamics of Tradition and Innovation” has been investigating since 2007 the complex relationship between religion and politics across eras and cultures. The 140 researchers from 20 disciplines in the humanities and social sciences focus in the funding phase (2019 to 2025) on the “dynamics of tradition and innovation”. They analyze in transepocheal studies ranging from antiquity to the present day the conditions and factors that make religion an engine of political and social change, with their focus being above all on the paradox that religions often develop their innovative potential precisely by drawing on their traditions. The focus of interest is on Europe and the Mediterranean region, as well as on their entanglements with the Near East, Africa, North and Latin America. The research network is the largest of its kind in Germany; and, of the Clusters of Excellence, one of the oldest and the only one to deal with the issue of religion. It will receive funding of 31 million euros from 2019 to 2025.