

DR. DRIES DAEMS

20.07.1990 • daems.dries@gmail.com • +32496495738

RESEARCH INTERESTS

- Social complexity
- Urbanization
- Agent-based modelling
- Digital Archaeology
- Pottery studies
- Human-environment interactions

EDUCATION

- 2014-2018** Ph.D. in Archaeology (University of Leuven) Obtained: 15 May 2018
Dissertation title: *Dynamics of social complexity: Community formation beyond the origin of polis during the Iron Age, Achaemenid, and Hellenistic periods. The case of Düzen Tepe, Sagalassos and southwest Anatolia.*
Supervisor: Prof. dr. Jeroen Poblome (University of Leuven)
Jury: Em. prof. dr. Sander van der Leeuw (Arizona State University)
Em. prof. dr. John Bintliff (Honorary Prof. University of Edinburgh)
Prof. dr. Christopher Ratté (University of Michigan)
Prof. dr. Philip Van Peer (University of Leuven)
Prof. dr. Katelijn Vandorpe (University of Leuven)
- 2011-2012** MA in Archaeology (University of Leuven)
Thesis title: Elite Identity in Late Roman Britain. Material Manifestation and Societal Capacity (Supervisor: Prof. dr. Jeroen Poblome)
- 2008-2011** BA in Archaeology (University of Leuven)
Title: League Coins in Ancient Greece. A Critical Reflection on the *Herakles Drakonopnigon* series (Supervisor: Prof. dr. Johan Van Heesch).

EMPLOYMENT

- 2019 – Current** Scientific collaborator (0,5 FTE) with Sagalassos Project on C1 Project “*The role of change in long-term regional development. Approaching the dynamic metabolism of social-ecological systems in the Sagalassos/Ağlasun region.*”
Role: Interdisciplinary integration of theoretical frameworks for studying change and complexity in human-environment interactions
- 2019 – Current** Coordinator of Microproject Innovative Digital Learning (0.25 FTE): “Modelling and Simulation in Archaeology”
Role: Main coordinator and lecturer
- 2018 – Current** Substitute Lecturer at University of Leuven (0.10 FTE)
- 2018-2019** Postdoctoral researcher at Suna & İnan Kiraç Research Centre for Mediterranean Civilizations (Koç University, Antalya) on “*Polis formation and synoikismos in southwest Anatolia*”.
- 2014-2018** Ph.D. Researcher with Sagalassos Project at University of Leuven

TEACHING EXPERIENCE

- 2019-2020** Classical Archaeology (MA) at University of Leuven (Substitute Lecturer)
Workshop at Computer Applications & Quantitative Methods in Archaeology – Netherlands/Flanders Chapter Meeting
“Agent-based modelling: Are computer simulations useful for archaeologists?”
- 2018-2019** Themes in Classical Archaeology (2/3 BA) at University of Leuven (Substitute Lecturer)
Guest lecture at Middle Eastern Technical University (Ankara) as part of Ph.D. course “Current Approaches in Archaeology”
Topic: Digital archaeology and model thinking: social complexity in southwest Anatolia.
Workshop at Middle Eastern Technical University (Ankara)
“Digital archaeology and model thinking: Hands-on examples, best practices and tutorials in data science, agent-based modelling, and network analysis.”
- 2017-2018** Archaeological Theory, Methods and Practice I (1BA) at University of Leuven (Assistant Lecturer)
Archaeological Theory, Methods and Practice II (2BA) at University of Leuven (Assistant Lecturer)
Field school (1 BA) at University of Leuven (Assistant Lecturer)
- 2015-2016** Archaeological Theory, Methods and Practice I (1BA) at University of Leuven (Assistant Lecturer)
Field school (1 BA) at University of Leuven (Assistant Lecturer)

FELLOWSHIPS, GRANTS AND BURSARIES

- 2020-2024** Scientific Research Network Grant
Funded by Research Foundation Flanders
Project title: Network for Agent-based modelling of Social-ecological systems in Archaeology (NASA)
Amount: €62,500
- 2020** Microproject Innovative Digital Learning
Funded by: University of Leuven
Project title: Modelling and Simulation in Archaeology
Amount: € 10,000
- 2019** Idealabs Grant for Interdisciplinary Research Groups (Extension)
Funded by Academic Foundation Leuven
Project title: Sustainability and Resilience in Past & Present Populations
Amount: €1,250

Travel grant for participation in “Winter Workshop on Complex Systems 2020” at Gruyère (Switzerland)
Amount: F200

Bursary for Complex Systems Summer School, Santa Fe Institute
Funded by: Academic Foundation Leuven
Amount: €1,200

Bursary for conference participation at CAA 2019 (Krakow)
 Funded by: CAA International
 Amount: €480

2018-2019 Postdoc Fellowship for Visiting Scholars
 Funded by Tübitak: Scientific and Technological Research Council of Turkey
 Amount: 30,000 Turkish Lira

2017-2019 Idealabs Grant for Interdisciplinary Research Groups
 Funded by Academic Foundation Leuven
 Project title: Sustainability and Resilience in Past & Present Populations
 Amount: €2,000

2014-2018 Ph.D. Fellowship
 Funded by Research Foundation Flanders
 Project title: Dynamics of social complexity: Community formation beyond the origin of *polis*.
 Amount: Fully funded fellowship (€100,000)

COMPETENCIES AND SKILLS

Technical skills	Languages
<ul style="list-style-type: none"> • Agent-based modelling: Netlogo^{***} • GIS: QGIS^{***} and ArcGis^{**} • Statistical analysis: R^{***}, Python^{**}, Matlab[*], Excel^{***} • Network science: Visone^{**}, Gephi^{**} • Database management: Neo4j[*], Access^{***}, SQL[*] • Text processing: LaTeX^{**}, Markdown^{***}, Word^{***} 	<ul style="list-style-type: none"> • Dutch: Mother tongue • English: Excellent • French: Good • German: Basic • Turkish: Notions • Greek and Latin: Reading

PUBLICATIONS

Daems, D. (Forthcoming) *Social Complexity and Complex Systems in Archaeology*. Routledge (to be published end 2020/early 2021).

Daems, D. (In Press) Social Complexity and Complexity Economics. Studying Socio-Economic Systems at Düzen Tepe and Sagalassos (SW Turkey). *Collection Latomus*. Conference Proceedings of "Complexity: A New Framework To Interpret Ancient Economy Data", Sagalassos, September 2015.

Daems, D. (Accepted) Between cities and kings. Polis formation in southwest Anatolia during the Hellenistic period. In: Diosono and Maschek (eds.) *Beyond Hybridity and Code-Switching: Material Approaches to Cultural Concurrences in the Late Hellenistic Mediterranean*.

Daems, D., Vandam, R., Cleymans, S., Broothaerts, N., Boogers, B., Matsuo, H., Mirhanoğlu, A. (Accepted) The social metabolism of past societies. A new approach to environmental changes and societal responses in the territory of Sagalassos (SW Turkey). In: Erdkamp, P., Verboven, K. and Manning, J. (eds.) *Climate and Society in Ancient Worlds. Diversity in Collapse and Resilience*. Palgrave Studies in Ancient Economies. Palgrave.

Daems, D. and P. Talloen (In review) Moving in together? Synoikismos and polis formation through push-pull dynamics in Sagalassos and southwest Anatolia. *Hesperia*

- Daems, D.** (2020) A Review and Roadmap of Online Learning Platforms and Tutorials in Digital Archaeology. *Advances in Archaeological Practice* 8(1): pp. 87–92.
- Daems, D.** (2019) Building communities. Presenting a model of community formation and organizational complexity in southwestern Anatolia. *Journal of Anthropological Archaeology* 56, 101110.
- Daems, D.** (2019) On Complex Archaeologies: Conceptualising Social Complexity and its Potential for Archaeology, *Adaptive Behavior*.
- Brughmans, T., Hanson, J., Mandich, M., Romanowska, I., Rubio-Campillo, X., Carrignon, S., Collins-Elliott, S., Crawford, K., **Daems, D.**, ... Ritondale, M. (2019) Formal Modelling Approaches to Complexity Science in Roman Studies: a Manifesto. *Theoretical Roman Archaeology Journal*.
- Poblome, J. and D. **Daems** (2019) Once upon a Sagalassos: a story about origins and emergence'. In: Poblome, Torun, Talloen, and Waelkens (eds.) *Meanwhile in the Mountains : Sagalassos*, 59–69. Istanbul: Yapı Kredi Yayınları.
- Daems, D.**, van Der Enden, M., Talloen, P., Poblome, J. (2019) The mid Hellenistic Pottery Repertoire made at Sagalassos, SW Anatolia. *Conference proceedings of the second conference of the International Association for Research on Pottery of the Hellenistic Period (IARPOTHP)*, Lyon, November 2015.
- Daems D.** en P. Bes (2019) Materiële Cultuur of Cultuur van het Materiële? Terugblik en Visie op Materiaalstudie binnen het Sagalassos Project. *Tijdschrift voor Mediterrane Archeologie*, 60.
- Broothaerts, N., Van Loo, M., Vandam, R., Cleymans, S., **Daems, D.**, Poblome, J., & Verstraeten, G. (2019). Human-environment interactions during the past 4000 years in Sagalassos and South-Western Turkey. In *INQUA 2019*. Dublin.
- Kiekens, A., Rongé, J., Van Eynde, S., Cleymans, S., **Daems, D.**, De Ridder, B., Despeghel, J., Moonen, P., Ovaere, M. and Smeets, N. (2019) How to move towards a common understanding of progress? A transdisciplinary exercise involving 10 young researchers. *Transdisciplinary Insights*. Leuven.
- Poblome, J., Vandam, R., **Daems, D.**, Willett, P. T., & Zenger, Y. (2019). The 2017 Sagalassos survey research. In *T.C. Kültür ve Turizm Bakanlığı Vol. 2* (pp. 355-376). Ankara: T.C. Kültür ve Turizm Bakanlığı.
- Daems, D.** (2018) A matter of formalities. A basic measure of social complexity in the past. *Instrumenta*. Conference proceedings of International Workshop on Quantification in Classical Archaeology: objects, methodologies and aims. Barcelona, February 2017.
- Daems D.**, Poblome J. (2017). The Pottery of Late Achaemenid Sagalassos: an overview. *HEROM. Journal on Hellenistic and Roman Material Culture*, 6 (1), 49-62.
- Daems D.**, Braekmans D., Poblome J. (2017). Late Achaemenid and Early Hellenistic Pisidian Material Culture from Düzen Tepe (SW Anatolia). *HEROM. Journal on Hellenistic and Roman Material Culture*, 6 (1), 11-47.
- Monsieur P., **Daems D.**, Poblome J. (2017). Hellenistic and Italic amphorae from Sagalassos. *HEROM. Journal on Hellenistic and Roman Material Culture*, 6 (1), 97-118.

- Cleymans S., **Daems** D., De Cupere B., Marinova E., Poblome J. (2017). A Taste of Time. Foodways and Cultural Practices in Late Achaemenid-Early Hellenistic Düzen Tepe (SW Anatolia). *HEROM. Journal on Hellenistic and Roman Material Culture*, 6 (1), 63-95.
- Poblome, J., Vandam, R., Broisch, M., Talloen, P., & **Daems**, D. (2017). The 2016 Sagalassos Survey Activities. *Araştırma Sonuçları Toplantısı*, 35(2), 59-83.
- Daems** D., Poblome J. (2016). Adaptive Cycles in Communities and Landscapes: The Case of Sagalassos and Düzen Tepe During the Classical/Hellenistic Period. *Archaeological Review from Cambridge*, 31 (2), 91-107.
- Daems** D. (2016). Sociale complexiteit in Sagalassos en Düzen Tepe tijdens de Klassieke en Hellenistische periode. *Tijdschrift voor Mediterrane Archeologie*, 55, 61-67.
- Talloen P., **Daems** D., Beaujean B., Poblome J. (2015). The 2014 control excavations on the Upper Agora of Sagalassos. *ANMED*, 13, 99-107.

OUTREACH

- 2020** Finalist 'Falling Walls Lab Leuven' (Finals 28 September 2020)
Guest Lecture at Rozenberg (3rd - 4th year secondary school)
Title: Archaeology and studying life in the ancient world.
- 2018** Guest Lecture at Rozenberg (3rd - 4th year secondary school)
Title: Life in the ancient world.
- 2016** Guest lecture at Saint-Dymphna College (6th year secondary school)
Title talk: Sagalassos. The story of an ancient city.
Guest lecture for Association of Historians in Geel
Title talk: Sagalassos. The story of an ancient city.
- 2015** Guest lecture at Saint-Dymphna College (6th year secondary school)
Title talk: Sagalassos. The story of an ancient city.

FIELDWORK

- 2014 – Current** Pottery specialist with Sagalassos Archaeological Research Project
Material studies on Iron Age, Achaemenid & Hellenistic pottery of Sagalassos and the study region
- 2014-2015** Site assistant: excavations at Upper Agora and Rock Sanctuary

CONFERENCE AND SEMINAR ORGANISATION

- 2014-Current** Organizing committee of the monthly "Leuven Archaeological Research Seminars" at University of Leuven.
- 2019** Organising committee of "Computer applications & Quantitative Methods in Archaeology Conference (Netherlands-Flanders Chapter)" at Leuven, 23-25 October 2019.
- 2016** Main organiser of *Synoikismos* seminar "Complexity and social-ecological systems" at University of Leuven, 18 February 2016.

CONFERENCE PARTICIPATION AND INVITED TALKS

- 2020 Procurement of raw materials. Pathways to the Late Neolithic of Central and Western Anatolia. Adam Mickiewicz University, Poznan (Poland)
Conference paper: *Resourceful communities: Strategies of resource exploitation in the area of Sagalassos.*
- 2019 4th IARPotHP Conference: Manufacturers and Markets. The Contributions of Hellenistic Pottery to Economies Large and Small (Athens)
Conference paper: *The Hellenistic Pottery from Sagalassos: A General Framework of Typo-Chronology, Production, Consumption and Distribution.*
- Computer applications & Quantitative Methods in Archaeology Conference (Netherlands/Flanders Local Chapter, Leuven)
Conference paper: *Modelling the origin of polis in Anatolia. From conceptual to computational approaches.*
- Theoretical Archaeology Group Conference (London)
Conference paper: *Conceptual modelling of social complexity trajectories and inequality in urban networks.*
- Computer applications & Quantitative Methods in Archaeology Conference (Krakow)
Conference paper: *Modelling the origin of polis in Anatolia. From conceptual to computational approaches.*
- 2018 Conference on Complex Systems (Thessaloniki)
Conference paper: *Materialising complexity. A conceptual model of material culture, social complexity and mechanisms of change.*
- 24th Annual Meeting of the European Association of Archaeologists (Barcelona)
Conference paper: *Carrying Capacity. A superseded concept or window of opportunities?*
- 19th International Congress of Classical Archaeology (Köln/Bonn)
Conference paper: *Tracing organisation of labour and material production at Sagalassos.*
- Theoretical Roman Archaeology Conference (Edinburgh)
Conference paper: *Attracting cities: The role of urban attraction poles in a model of community formation and social complexity dynamics.*
- 2017 Conference on Complex Systems (Cancun)
Invited conference paper: *Complexity Matters. Uncovering mechanisms of social complexity in the past.*
- Barcelona Quantification Workshop
Workshop paper: *Counting sherds is complex business. Quantifying micro dynamics in social complexity through material culture.*
- 2016 Conference on Complex Systems (Amsterdam)
Conference paper: *Dynamics of Social Organisation. Use of social practices and adaptive cycles to study past societies.*
- 2015 Second Conference of IARPotHP (Lyon)
Conference paper: *Classical and Hellenistic Sagalassos. The ceramic evidence.*

IMS workshop (Göttingen)

Workshop paper: *Origin of polis 2.0. A case from SW Anatolia. What can survey data from Sagalassos and environs tell us?*

MANAGEMENT AND ADMINISTRATIVE POSITIONS

- 2020-2024** Academic Coordinator of NASA: Network for Agent-based modelling of Social-ecological systems in Archaeology.
- 2014-Current** Administration of Sagalassos Archaeological Research Project
Tasks: General administration & organization archaeological campaigns

Depot manager at Sagalassos excavations (Ağlasun, Turkey)

Archive manager of digital and physical archives of the Sagalassos Project (University of Leuven)
- 2018-Current** Program Committee, Department of Archaeology (University of Leuven)
- 2018-2019** Member of sub-faculty council and AP fraction council at Faculty of Arts (University of Leuven)
- 2017-2018** Head representative of Assisting Personnel of Research Unit Archaeology, Art history and Musicology at sub-faculty council and AP fraction council at Faculty of Arts (University of Leuven)

COURSES, WORKSHOPS AND SUMMER SCHOOLS

- 2020** Winter Workshop on Complex Systems (Lausanne)
Academic Presentation and Seminar Skills for Junior Researchers (University of Leuven)
- 2019** Complex Systems Summer School (Santa Fe Institute, Santa Fe)
Modelling and Simulation in Archaeology (SPOC, Leiden University)
Introduction to Complexity (MOOC, Santa Fe Institute)
Fractals and Scaling (MOOC, Santa Fe Institute)
- 2018** Digital Archaeology Summer School (Barcelona)
Introduction to Model Thinking (MOOC, University of Michigan)
Academic Writing (University of Leuven)
- 2017** Introduction to Python for Data Science (DataCamp)
Introduction to Agent-Based Modelling (MOOC, Santa Fe Institute)
Workshop Agent-Based Modelling with NetLogo (CAA Atlanta)
Fundamental statistical methods with R (Leuven Statistics Centre)
LaTeX Introduction (University of Leuven)
- 2016** Introduction to R (Leuven Statistics Research Centre)
Essential Tools for R (Leuven Statistics Research Centre)
- 2015** Fundamental Statistical Methods (Leuven Statistics Research Centre)
Matlab Part 1: Introduction (Leuven Statistics Research Centre)
Matlab Part 2: Programming (Leuven Statistics Research Centre)
- 2014** Programming for Everybody: Python (MOOC, University of Michigan)

PROFESSIONAL AFFILIATIONS

- Network for Agent-based modelling of Social-ecological systems in Archaeology
- Complex Systems Society
- Young Researchers of the Complex Systems Society
- Pages (Past Global Changes) Early Career Network
- CAA International (Computer Applications & Quantitative Methods in Archaeology)
- European Association of Archaeologists
- The International Association for Classical Archaeology
- International Association for Research on Pottery of the Hellenistic Period

REFERENCES

Prof. dr. Jeroen Poblome (University of Leuven): jeroen.poblome@kuleuven.be

Prof. dr. Sander van der Leeuw (Arizona State University): vanderle@asu.edu

Em. Prof. dr. John Bintliff: johnbintliff@gmail.com

Dr. Iza Romanowska (Barcelona Supercomputer Centre): iza.romanowska@bsc.es