

# Anthoula Chrysa Papageorgiou

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## POSITIONS

since Sep. 2022	Assistant Professor of Physical Chemistry	Department of Chemistry National and Kapodistrian University of Athens
since Nov. 2021	Associated researcher	Catalysis Research Center Technical University of Munich
since Aug. 2020	Privatdozentin (group leader)	Chair of Surface and Interface Physics Department of Physics Technical University of Munich

## PREVIOUS POSITIONS

June 2013–Aug. 2020	PI with teaching duties	Chair of Surface and Interface Physics (Prof. J. V. Barth)
June 2011–May 2013	Marie Curie Intra-European Fellow	Technical University of Munich
Oct. 2010–May 2011	Postdoctoral Research Associate	
Oct. 2007–Sep. 2010	Postdoctoral Research Associate	Surface Science & Catalysis Group (Prof. R. M. Lambert) University of Cambridge
May 2004–Sep. 2007	Doctoral Research Associate	Nanoscience Group (Prof. G. Thornton) University College London

## ACADEMIC QUALIFICATIONS

2019	Habilitation in EXPERIMENTAL PHYSICS	Technical University of Munich
<i>Thesis: 'Advancing surface functionalisation through atomistic understanding and chemical design'</i> <i>Mentoring committee: Prof. J. V. Barth (Chair of Physics of Surfaces and Interfaces), Prof. U. Heiz (Chair of Physical Chemistry), Prof. M. Stutzmann (Experimental Semiconductor Physics, Walter Schottky Institute, Center for Nanotechnology and Nanomaterials)</i>		
2007	Doctorate (PhD) in PHYSICAL CHEMISTRY	University College London, University of London
<i>Thesis: 'Surface studies of titania related nanostructures' supervised by Prof. G. Thornton, Nanoscience Group, Department of Chemistry</i>		
2004	Masters in PROCESSES & ADVANCED MATERIALS TECHNOLOGY	Aristotle University of Thessaloniki
<i>Thesis: 'Coatings by CVD (chemical vapour deposition) variants on ferrous alloys: application and characterisation' supervised by Prof. D. N. Tsipas, Physical Metallurgy Laboratory</i>		
2002	Certificate of Postgraduate Study (CPGS) in MATERIALS SCIENCE	University of Cambridge
<i>Thesis: 'Quantum simulations for defects in GaN and related alloys' supervised by Prof. P. D. Bristowe, Atomistic Simulation Group</i>		
2000	Bachelor (BSc) in PHYSICS	Queen Mary & Westfield College, University of London

## RESEARCH INTERESTS

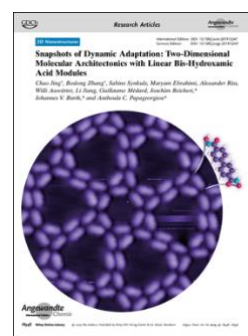
I am interested in fundamental, down-to-the-atom understanding of surface processes and properties. With scanning probe microscopy, synchrotron radiation studies as well as other surface science analysis techniques, we explore experimentally molecular and supramolecular chemical reactions occurring on surfaces under ultra-high vacuum. We target mechanistic elucidation of on-surface reactions, discovery and development of atomically precise functional materials and establishing principles of form-function relationships in the context of surface nanostructures.

On-going projects focus on modular assembly with functional building blocks such as carbenes, hydroxamic acids, catecholates, and porphyrins. In particular, we investigate the bottom-up assembly of functional metal-organic networks from the single molecule ligation to the 3D network, organic chemistry on solid surfaces, molecular dynamics confined in 2D nanopores, and supramolecular self-assembly on surfaces.

## REPRESENTATIVE PUBLICATIONS

Publications feature regularly in top international scientific journals such as *Angew. Chem. Int. Edit.*, *JACS*, *ACS Nano*, *PNAS*, *Nano Lett.* and *Chem. Sci.*

1. P. Knecht, D. Meier, J. Reichert, D. A. Duncan, M. Schwarz, J. Kühle, T.-L. Lee, P. S. Deimel, P. Feulner, F. Allegretti, W. Auwärter, G. Médard, A. P. Seitsonen, J. V. Barth, A. C. Papageorgiou *'N-heterocyclic carbenes: molecular porters of surface mounted Ru porphyrins'* **Angew. Chem. Int. Edit.** 61 (2022) e202211877
2. D. Meier, A. Adak, P. Knecht, J. Reichert, S. Mondal, N. Suryadevara, K. S. Kumar, K. Eguchi, M. K. Muntwiler, F. Allegretti, M. Ruben, J. V. Barth, S. Narasimhan, A. C. Papageorgiou *'Rotation in an enantiospecific self-assembled array of molecular raffle wheels'* **Angew. Chem. Int. Edit.** 60 (2021) 26932
3. P. Knecht, J. Reichert, P. S. Deimel, P. Feulner, F. Haag, F. Allegretti, M. Garnica, M. Schwarz, W. Auwärter, P. T. P. Ryan, T.-L. Lee, D. A. Duncan, A. P. Seitsonen, J. V. Barth, A. C. Papageorgiou *'Conformational control of chemical reactivity for surface-confined Ru-porphyrins'* **Angew. Chem. Int. Edit.** 60 (2021) 16561  
**Featured in the Diamond Light Source 2021/22 Annual Review to highlight beamline I09**
4. P. Knecht, B. Zhang, J. Reichert, D. A. Duncan, M. Schwarz, F. Haag, P. T. P. Ryan, T.-L. Lee, P. S. Deimel, P. Feulner, F. Allegretti, W. Auwärter, G. Médard, A. P. Seitsonen, J. V. Barth, A. C. Papageorgiou *'Assembly and manipulation of a prototypical N-heterocyclic carbene with a metalloporphyrin pedestal on a solid surface'* **J. Am. Chem. Soc.** 143 (2021) 4433
5. C. Jing, B. Zhang, S. Synkule, M. Ebrahimi, A. Riss, W. Auwärter, L. Jiang, G. Médard, J. Reichert, J. V. Barth, A. C. Papageorgiou *'Snapshots of dynamic adaptation: Two-dimensional molecular architectonics with linear bis-hydroxamic acid modules'* **Angew. Chem. Int. Edit.** 58 (2019) 18948  
**Frontispiece of research articles; Technical University of Munich press release**
6. L. Jiang, B. Zhang, G. Médard, A. P. Seitsonen, F. Haag, F. Allegretti, J. Reichert, B. Kuster, J. V. Barth, A. C. Papageorgiou *'N-Heterocyclic carbenes on the close packed coinage metal surfaces: Bis-carbene metal adatom bonding scheme of monolayer films on Au, Ag and Cu'* **Chem. Sci.** 8 (2017) 8301



## TEACHING ACTIVITIES

**Research projects supervision.** PhD (8); MSc (5); BSc (4); Internship (1)

### Lectures.

- 'Fundamentals of surface and nanoscale science' TUM Physics, Masters course (2013-2020)
- 'Nanoscience using scanning probe microscopy' TUM Physics, Masters course (2019-2022)

### Laboratory courses.

- 'Physical Chemistry II', NKUA Chemistry, Third year course (2022-)
- 'Tunnelling Microscopy & Molecular Imaging', TUM Physics, Bachelor/Masters course (2014-2022)

### Tutoring.

- 'Fundamentals of surface and nanoscale science' TUM Physics, Masters course (2013-2020)
- 'Nanoscience using scanning probe microscopy' TUM Physics, Masters course (2019-2022)
- University of Cambridge Chemistry, First year courses (2008-2009)