

# Anthoula Chrysa Papageorgiou



Assistant Professor

LABORATORY OF PHYSICAL CHEMISTRY, DEPARTMENT OF CHEMISTRY,  
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## EDUCATION

2000	Bachelor in Physics, Queen Mary & Westfield College, University of London
2002	Certificate of Postgraduate Study in Materials Science, University of Cambridge
2004	Masters in Processes & Advanced Materials Technology, Aristotle University of Thessaloniki
2007	PhD in Physical Chemistry, University College London, University of London
2019	Habilitation in Experimental Physics, Technical University of Munich

## SCIENTIFIC CAREER

since 2022	Assistant Professor of Physical Chemistry, NKUA
since 2020	Privatdozentin, Technical University of Munich
2010-2020	Group leader with teaching duties, Marie Curie Intra-European Fellow & Postdoctoral Research Associate, Technical University of Munich
2007-2010	Postdoctoral Research Associate, University of Cambridge
2004-2007	Doctoral Research Associate, University College London, University of London

## RESEARCH FIELD: *Surface and interface chemistry*

Our research targets the down-to-the-atom understanding of surfaces and surface reactions for catalytic, electronic and/or magnetic applications. We investigate molecular and supramolecular chemical reactions occurring on surfaces and interfaces in ultra-high vacuum. Our ongoing studies focus on the properties of single metal atoms hosted by porphyrins on solid surfaces, functionalisation with metal carbenes, coordination networks and nanoscale templating of planar catalytic surfaces. A key component of our investigations is the atomic force and scanning tunnelling microscopy real space visualisation of reactants, intermediates and products. This is combined with an array of spectroscopic analyses (including X-ray/UV spectroscopies and desorption spectroscopy) to provide unparalleled mechanistic insights.

## TEACHING

### UNDERGRADUATE COURSES

- 'Physical Chemistry' (compulsory), lectures and laboratories, Department of Pharmacy, NKUA (2023-)
- 'Physical Chemistry II' (compulsory), laboratories, Department of Chemistry, NKUA (2022-)
- 'Scanning tunnelling microscopy & molecular imaging' (elective), advanced lab course, Physics Department, Technical University of Munich (2014-)

## GRADUATE COURSES

- 'Fundamentals of surface and nanoscale science' (elective), lectures and/or tutorials, Physics Department, Technical University of Munich (2013-2020)
- 'Nanoscience using scanning probe microscopy' (elective), lectures and tutorials, Physics Department, Technical University of Munich (2019-)

## DISTINCTIONS / SCHOLARSHIPS

- **2021** Admittance in TUM Catalysis Research Centre as Associated Researcher.
- **2010** Two year Marie Curie Intra-European Fellowship for career development.
- **2008** Postdoctoral fellowship of Robinson College, Cambridge (United Kingdom).
- **2005** First prize for research proposal in Surface Science Summer School (United Kingdom).
- **2004** Three-year funding granted through the EU STRP Project NANOCHEMSENS for PhD in University College London (United Kingdom).
- **2000** Scholarship granted by the U.K. Engineering and Physical Sciences Research Council for postgraduate study in materials modelling in the University of Cambridge (United Kingdom).

## RESEARCH GRANTS AS PRINCIPLE INVESTIGATOR

- [Surface-Based Self-Assembly of 3-D Spintronic Coordination Nano-Architectures](#), German Research Foundation, 432 665 €, 2016-present
- [Nanoscience with Surface Metal Carbenes](#) (Intra-European-Fellowship for Career Development), EU (7th framework programme), 162 242 €, 2011-2013
- 4 beamtimes of 15 shifts at the I09 beamline, Diamond Light Source, UK (~ 4 × 90 000 €), 2018, 2020, 2022, 2023.

## REVIEWER OF SCIENTIFIC JOURNALS

Nat. Chem., Nat. Commun., ACS Nano, J. Phys. Lett., J. Phys. Chem. C, Langmuir, Angew. Chem. Int. Edit., Chem. – Eur. J., Cryst. Res. Technol., New J. Phys., Chem. Sci., Chem. Commun., Phys. Chem. Chem. Phys., Surf. Sci., Opt. Mater., Appl. Surf. Sci., Int. J. Mol. Sci., and e-J. Surf. Sci. Nanotechnol.

## ADDITIONAL INFORMATION

- Authored articles in peer-reviewed scientific journals: 53
- Presentations at conferences: 77
- Supervision of doctoral projects: 8
- Supervision of graduate student projects: 5
- Supervision of undergraduate student projects: 4
- PI in 6 research programmes
- Participation in 13 research programmes

## SELECTED PUBLICATIONS (CORRESPONDING AUTHOR)

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, B. Schoof, J. Wang, X. Li, A. Walz, A. Huettig, H. Schlichting, F. Rosu, V. Gabelica, V. Maurizot, J. Reichert, A. C. Papageorgiou, I. Huc and J. V. Barth  
[‘Structural adaptations of electrosprayed aromatic oligoamide foldamers on Aq\(111\)’](#)  
**Chem. Commun.** 58 (2022) 8938, [Inside front cover](#)

3. W. Ran, A. Walz, K. Stoiber, P. Knecht, H. Xu, A. C. Papageorgiou, A. Huettig, D. Cortizo-Lacalle, J. P. Mora-Fuentes, A. Mateo-Alonso, H. Schlichting, J. Reichert, J. V. Barth  
[‘Depositing molecular graphene nanoribbons on Ag\(111\) by electrospray - controlled ion beam deposition: Self-assembly and on-surface transformations’](#)  
**Angew. Chem. Int. Edit.** 61 (2022) e202111816
4. 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
5. 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**
6. 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
7. 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**
8. P. Knecht, N. Suryadevara, B. Zhang, J. Reichert, M. Ruben, J. V. Barth, S. Klyatskaya, A. C. Papageorgiou  
[‘The self-assembly and metal adatom coordination of a linear bis-tetrazole ligand on Ag\(111\)’](#)  
**Chem. Commun.** 54 (2018) 12495
9. A. C. Papageorgiou, L. Jiang, S. C. Oh, B. Zhang, Ö. Sağlam, Y. Guo, J. Reichert, A. B. Marco, D. Cortizo-Lacalle, A. Mateo-Alonso, and J. V. Barth  
[‘Tuning the ease of formation of on-surface metal-adatom coordination polymers featuring diketones’](#)  
**Nanoscale** 10 (2018) 9561
10. 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

