Prof. Jordi Bures Amat

http://jordibures.wixsite.com/buresgroup

Professional Experience and Education

- 2024 - **ICREA Research Professor**
  ICIQ, Institute of Chemical Research of Catalonia.
- 2023 - 2024 **Full Professor of Organic Chemistry**
  Department of Chemistry, The University of Manchester.
- 2022 - 2023 **Reader in Organic Chemistry**
  Department of Chemistry, The University of Manchester.
- 2020 – 2022 **Senior Lecturer in Organic Chemistry**
  Department of Chemistry, The University of Manchester.
- 2016 – 2020 **Lecturer in Organic Chemistry**
  Department of Chemistry, The University of Manchester.
- 2013 – 2016 **Junior Research Fellow.** Department of Chemistry, Imperial College London. Teaching and independent research equivalent to an academic staff member.
- 2010 – 2013 **Research Associate.** Postdoctoral training with Prof. Donna Blackmond in kinetic studies of catalytic reactions at The Scripps Research Institute.
- 2009 – 2010 **Research Associate.** Contracted by CELLEX Foundation to work in the total synthesis of natural products for cancer therapy at the University of Barcelona.
- 2008 – 2009 **Teaching Assistant.** Department of Organic Chemistry, University of Barcelona. Teaching undergraduate organic chemistry courses.
- 2004 – 2009 **PhD in Organic Chemistry.** Department of Organic Chemistry, University of Barcelona. Supervised by Prof. Jaume Vilarrasa. Grade: *Summa cum laude*.
- 2003 – 2004 **MRes in Organic Chemistry.** Department of Organic Chemistry, University of Barcelona. Supervised by Prof. Jaume Vilarrasa.
- 1998 – 2003 **MSci** in Chemistry from the University of Barcelona.

Prizes

- **2024** Bristol Myers Squibb Lectureship (Scripps Research).
- **2021** FSE students' award for "*Excellence and Innovation in Teaching and Learning Practice*".
- **2020** RSC Hickinbottom Award (Royal Society of Chemistry).
- **2019** Jóvenes Investigadores de la Real Sociedad Española de Química (Young Researcher Award from the Spanish Royal Society of Chemistry).
- **2018** Thieme Chemistry Journals Award.

Publications (* Corresponding author)

42. Xiuxiu, Y.; Kuziola, J.; Béland, V. A.; Busch, J.; Leutzsch, M.; Burés, J.*; Cornella, J.* *Angewandte Chemie International Edition* **2023**, *doi.org/10.1002/anie.202306447*
"Bismuth-CatalyzedAmideReduction"
https://onlinelibrary.wiley.com/doi/10.1002/anie.202306447

41. Burés, J.*; Larrosa, I.* *Nature* **2023**, *613*, 689–695
"Organic reaction mechanism classification using machine learning"
https://www.nature.com/articles/s41586-022-05639-4
Highlighted in Nature's News & Views (*Nature* **2023**, *613*, 635–636)
Highlighted in Nature Computational Science (*Nat. Comput. Sci.* **2023**, *3*, 119)
Highlighted in the Science AAAS Blog "In The Pipeline"
Featured in Chemistry World
Spotlighted in Phys.org
Showcased in Synform

40. Alamillo-Ferrer, Hutchinson, G.; Burés, J.* *Nature Reviews Chemistry* **2023**, *7*, 26–34
"Mechanistic interpretation of orders in catalyst greater than one"
https://www.nature.com/articles/s41570-022-00447-w

39. Burés, J.*; Armstrong, A.*; Blackmond, D. G.* *Asymmetric Organocatalysis: New Strategies, Catalysis, and Opportunities, Volume 2*, John Wiley & Sons, Ltd. **2023**, 657–678
"A Tutorial on Kinetic-Assisted Mechanistic Analysis in Asymmetric Aminocatalysis"
https://onlinelibrary.wiley.com/doi/10.1002/9783527832217.ch20

38. Dumon, A. S.; Rzepa S. H.*; Alamillo-Ferrer, C.; Burés, J.; Procter, R.; Sheppard, T. D.; Whiting, A. *Physical Chemistry Chemical Physics* **2022**, *24*, 20409–20425
"A computational tool to accurately and quickly predict ^{19}F NMR chemical shifts of molecules with fluorine-carbon and fluorine-boron bonds"
https://pubs.rsc.org/en/content/articlelanding/2022/cp/d2cp02317b

37. Hutchinson, G.*; Alamillo-Ferrer, C.; Burés, J.* *Journal of Organic Chemistry* **2022**, *87*, 7968–7974
"Organocatalytic Enantioselective α-Bromination of Aldehydes with *N*-Bromosuccinimide"
https://pubs.acs.org/doi/10.1021/acs.joc.2c00600
Highlighted as one of the top 20 most read *JOC* articles in May 2022

36. Ali, C.; Blackmond, D. G.*; Burés, J.* *ACS Catal*ysis **2022**, *12*, 5776–5785
"Kinetic Rationalization of Nonlinear Effects in Asymmetric Catalytic Cascade Reactions under Curtin–Hammett Conditions"
https://pubs.acs.org/doi/10.1021/acscatal.2c00783

35. Hutchinson, G.; Alamillo-Ferrer, C.; Burés, J.* *Journal of the American Chemical Society* **2021**, *143*, 6805–6809
"Mechanistically Guided Design of an Efficient and Enantioselective Aminocatalytic α-Chlorination of Aldehydes"
https://pubs.acs.org/doi/10.1021/jacs.1c02997

34. Gesslbauer, S.; Hutchinson, G.; White, A. J. P.; Burés, J.*; Romain, C.* *ACS Catalysis* **2021**, *11*, 4084–4093
"Chirality-Induced Catalyst Aggregation: Insights into Catalyst Speciation and Activity Using Chiral Aluminum Catalysts in Cyclic Ester Ring-Opening Polymerization"
https://pubs.acs.org/doi/10.1021/acscatal.0c05245

33. Alamillo-Ferrer, C.; Nielsen, D.-T. C.; Salzano, A.; Companyó, X.; Di Sanza, R.; Spivey, A. C.; Rzepa, H. S.; Burés, J.* *Journal of Organic Chemistry* **2021**, *86*, 4326-4335
"Understanding the Diastereopreference of Intermediates in Aminocatalysis: Application to the Chiral Resolution of Lactols"
https://pubs.acs.org/doi/10.1021/acs.joc.0c02998

32. Hutchinson, G.; Welsh, C. D. M.; Burés, J.* *Journal of Organic Chemistry* **2021**, *86*, 2012-2016
"Use of Standard Addition to Quantify In Situ FTIR Reaction Data"
https://pubs.acs.org/doi/full/10.1021/acs.joc.0c02684

31. Seppänen, O.; Santeri, A.; Mikko, M.; Alamillo-Ferrer, C.; Burés, J.; Helaja, J.* *Chemical Communications* **2020**, *56*, 14697–14700

"Dual H-bond activation of NHC–Au(I)–Cl complexes with amide functionalized side-arms assisted by H-bond donor substrates or acid additives"
https://pubs.rsc.org/en/content/articlelanding/2020/cc/d0cc05999d
Highlighted as "Some Items of Interest to Process R&D Chemists and Engineers" published in 2021 (Org. Process Res. Dev. 2022, 26, 1–9)

30. Nielsen, D.-T. C.; White, A. J. P.; Sale, D.; Burés, J.; Spivey, A. C.* *Journal of Organic Chemistry* **2019**, *84*, 14965-14973
"Hydroarylation of Alkenes by Protonation/Friedel–Crafts Trapping: HFIP-Mediated Access to Per-aryl Quaternary Stereocenters"
https://pubs.acs.org/doi/abs/10.1021/acs.joc.9b02393

29. Martínez-Carrión, A.; Howlett, M. G.; Alamillo-Ferrer, C.; Clayton, A. D.; Bourne, R. A.; Codina, A.; Vidal-Ferran, A.*; Adams, R. W.*; Burés, J.* *Angewandte Chemie International Edition* **2019**, *58,* 10189-10193
"Kinetic Treatments for Catalyst Activation and Deactivation Processes"
https://onlinelibrary.wiley.com/doi/full/10.1002/anie.201903878

28. Nielsen, D.-T. C.; Burés, J.* *Chemical Science* **2019**, *10*, 348-353
"Visual kinetic analysis"
https://pubs.rsc.org/en/content/articlelanding/2019/sc/c8sc04698k
2019 Chemical Science HOT Article Collection
Themed collection: Editor's choice - Paolo Melchiorre

27. Nielsen, D.-T. C.; Mooji, W. J.; Sale, D.; Rzepa H. S.; Burés, J.; Spivey, A. C.* *Chemical Science* **2019**, *10,* 406-412
"Reversibility and reactivity in an acid catalyzed cyclocondensation to give furanochromanes – a reaction at the 'oxonium-Prins' vs. 'ortho-quinone methide cycloaddition' mechanistic nexus"
https://pubs.rsc.org/en/content/articlelanding/2018/sc/c8sc04302g
2018 Chemical Science HOT Article Collection

26. Somerville, R.; Hale, L. V. A.; Gómez-Bengoa, E.*; Burés, J.*; Martin, R.* *Journal of the American Chemical Society* **2018**, *140*, 8771-8780
"Intermediacy of Ni–Ni Species in sp2 C–O Bond Cleavage of Aryl Esters: Relevance in Catalytic C–Si Bond Formation"
https://pubs.acs.org/doi/abs/10.1021/jacs.8b04479

25. Aikonen, S.; Muuronen, M.; Wirtanen, T.; Heikkinen, S.; Musgreave, J.; Burés, J.*; Helaja, J.* *ACS Catalysis* **2018**, *8,* 960-967.
"Gold(I)-Catalyzed 1,3-*O*-Transposition of Ynones: Mechanism and Catalytic Acceleration with Electron-Rich Aldehydes"
https://pubs.acs.org/doi/10.1021/acscatal.7b04262

24. Colletto, C.; Burés, J.*; Larrosa, I.* *Chemical Communications* **2017**, *53,* 12890-12893.
"Reaction monitoring reveals poisoning mechanism of Pd2(dba)3and guides catalyst selection"
http://pubs.rsc.org/en/content/articlelanding/2017/cc/c7cc08018b

23. Companyó, X.; Burés J.* *Journal of the American Chemical Society* **2017**, *139*, 8432-8435
"Distribution of Catalytic Species as an Indicator to Overcome Reproducibility Problems"
http://pubs.acs.org/doi/abs/10.1021/jacs.7b05045
Selected for the JACS Young Investigators virtual issue 2018

22. Marais, L.; Burés, J.; Jordaan, H. L. J.; Mapolie, S.; Swarts, A.* J. *Organic & Biomolecular Chemistry* **2017***, 15,* 6926-6933.
"A bis(pyridyl)-*N*-alkylamine/Cu(I) catalyst system for aerobic alcohol oxidation"
http://pubs.rsc.org/en/content/articlelanding/2017/ob/c7ob01383c#!divAbstract
Themed issue: Mechanistic Aspects of Organic Synthesis

21. Burés J.* *Topics in Catalysis* **2017**, *60*, 631-633
"What is the order of a reaction?"
https://link.springer.com/article/10.1007/s11244-017-0735-y
Invited article to the special issue dedicated to Prof. Donna Blackmond (ACS Samorjai Award 2016)

20. Burés, J.* *Angewandte Chemie International Edition* **2016**, *55*, 16084-16087

"Variable Time Normalization Analysis: General Graphical Elucidation of Reaction Orders from Concentration Profiles"
http://onlinelibrary.wiley.com/doi/10.1002/anie.201609757/abstract
Higlighted as 'Hot Paper'
Featured in "Kinetics in the Real Word"

19. Whitaker, D.; Burés, J.*; Larrosa, I.* *Journal of the American Chemical Society* **2016**, *138*, 8384-8387
"Ag(I)-Catalyzed C–H Activation: The Role of the Ag(I) Salt in Pd/Ag-Mediated C–H Arylation of Electron-Deficient Arenes"
http://pubs.acs.org/doi/abs/10.1021/jacs.6b04726

18. Burés, J.* *Angewandte Chemie International Edition* **2016**, *55*, 2028-2031
"A Simple Graphical Method to Determine the Order in Catalyst"
http://onlinelibrary.wiley.com/doi/10.1002/anie.201508983/abstract
Featured in "Kinetics in the Real Word"

17. Günler, Z. I.; Companyó, X.; Alfonso, I.; Burés, J.*; Jimeno, C.*; Pericàs, M. A.* *Chemical Communications* **2016**, *52*, 6821-6824
"Deciphering the Roles of Multiple Additives in Organocatalyzed Michael Additions"
https://doi.org/10.1039/C6CC01026A

16. Burés, J.; Armstrong, A.; Blackmond, D. G.* *Accounts of Chemical Research* **2016**, *49*, 214-222
"Explaining Anomalies in Enamine Catalysis: "Downstream Species" and a New Paradigm for Stereocontrol"
http://pubs.acs.org/doi/abs/10.1021/acs.accounts.5b00394

15. Burés, J.; Dingwall, P.; Armstrong, A.; Blackmond, D. G.* *Angewandte Chemie International Edition* **2014**, *53*, 8700-8704
"Rationalization of an Unusual Solvent-Induced Inversion of Enantiomeric Excess in Organocatalytic Selenylation of Aldehydes"
http://onlinelibrary.wiley.com/doi/10.1002/anie.201404327/abstract
Featured in "Kinetics in the Real Word"

14. Isart, C.; Burés, J.; Vilarrasa, J.* *Journal of Mass Spectrometry* **2014**, *49*, 331-334
"Electrospray Ionization Mass Spectra of the Reactions of $NaAuBr_4$ and Related Aurates with Nucleophiles"
http://onlinelibrary.wiley.com/doi/10.1002/jms.3341/abstract

13. Burés, J.; Armstrong, A.; Blackmond, D. G.* *Pure and Applied Chemistry* **2013**, *85*, 1919-1934
"The Interplay of Thermodynamics and Kinetics in Dictating Organocatalytic Reactivity and Selectivity"
http://www.iupac.org/publications/pac/85/10/1919/

12. Burés, J.; Armstrong, A.; Blackmond, D. G.* *Journal of the American Chemical Society* **2012**, *134*, 6741-6750
"Curtin−Hammett Paradigm for Stereocontrol in Organocatalysis by Diarylprolinol Ether Catalysts"
http://pubs.acs.org/doi/abs/10.1021/ja300415t

11. Burés, J.; Armstrong, A.; Blackmond, D. G.* *Chemical Science* **2012**, *3*, 1273-1277
"Kinetic Correlation Between Aldehyde/Enamine Stereoisomers in Reactions between Aldehydes with α-Stereocenters and Chiral Pyrrolidine-Based Catalysts"
http://pubs.rsc.org/en/content/articlelanding/2012/sc/c2sc01082h

10. Sánchez, D.; Bastida, D.; Burés, J.; Isart, C.; Pineda, O.; Vilarrasa, J.* *Organic Letters* **2012**, *14*, 536-539
"Relative Tendency of Carbonyl Compounds To Form Enamines"
http://pubs.acs.org/doi/abs/10.1021/ol203157s

9. Hein, J. E.; Burés, J.; Lam, H.; Hughes, M.; Houk, K. N.; Armstrong, A.; Blackmond, D. G.* *Organic Letters* **2011**, *13*, 5644-5647
"Enamine Carboxylates as Stereodetermining Intermediates in Prolinate Catalysis"
http://pubs.acs.org/doi/abs/10.1021/ol2023533

8. Burés, J.; Armstrong, A.; Blackmond, D. G.* *Journal of the American Chemical Society* **2011**, *133*, 8822-8825
"Mechanistic Rationalization of Organocatalyzed Conjugate Addition of Linear Aldehydes to Nitro-olefins"
http://pubs.acs.org/doi/abs/10.1021/ja203660r

7. Isart, C.; Bastida, D.; Burés, J.*; Vilarrasa, J.* *Angewandte Chemie International Edition* **2011**, *50*, 3275-3279
"Gold(III) Complexes Catalyze Deoximations/Transoximations at Neutral pH"
http://onlinelibrary.wiley.com/doi/10.1002/anie.201007269/abstract

6. Thanos, A.; Burés, J.; Vilarrasa, J.* *Tetrahedron Letters* **2010**, *51*, 1863-1866
"Reaction of Dess–Martin Periodinane with 2-(Alkylselenyl)pyridines. Dehydration of Primary Alcohols under Extraordinarily Mild Conditions"
http://www.sciencedirect.com/science/article/pii/S004040391000184X

5. Burés, J.; Isart, C.; Vilarrasa, J.* *Organic Letters* **2009**, *11*, 4414-4417
"$AuBr_3$-Catalyzed Thiooxime-to-Carbonyl Conversion: From Chiral Aliphatic Nitro Compounds to Ketones without Racemization"
http://pubs.acs.org/doi/abs/10.1021/ol9017722

4. Burés, J.; Martín, M.; Urpí, F.; Vilarrasa, J.* *Journal of Organic Chemistry* **2009**, *74*, 2203-2206
"Catalytic Staudinger–Vilarrasa Reaction for the Direct Ligation of Carboxylic Acids and Azides"
http://pubs.acs.org/doi/abs/10.1021/jo802825e

3. Isart, C.; Burés, J.; Vilarrasa, J.* *Tetrahedron Letters* **2008**, *49*, 5414-5418
"Seebach's Oxazolidinone is a Good Catalyst for Aldol Reactions"
http://www.sciencedirect.com/science/article/pii/S004040390801277X

2. Burés, J.; Vilarrasa, J.* *Tetrahedron Letters* **2008**, *49*, 441-444
"Catalytic, PMe_3-Mediated Conversion of Secondary Nitroalkanes to Ketones: a Very Mild Nef-Type Process"
http://www.sciencedirect.com/science/article/pii/S0040403907023167

1. Burés, J.; Isart C.; Vilarrasa, J.* *Organic Letters* **2007**, *9*, 4635-4638
"Efficient Preparation of *N*-Phenylsulfenyl Ketimines from Oximes or Nitro Compounds without Racemization of α-Stereocenters"
http://pubs.acs.org/doi/abs/10.1021/ol702212n

Academic and Professional Qualifications

- Accreditation of Advanced Research AQU Catalunya – ID NMJ9P5CV3
- Fellow of The Higher Education Academy – Reference PR170741
- American Chemical Society (ACS) – Member Number 30845284
- Royal Society of Chemistry (RSC) – Member Number 489889
- Society of Chemical Industry (SCI) – Member Number 71154
- Spanish Royal Society of Chemistry (RSEQ) – Member Number 6645

Invited Conferences and Talks

- **27/06/2024** Invited lecture at the XXIX Bienal de Química Orgánica (Tenerife, Spain)
- **30/05/2024** Invited lecture at the Univeristy of Geneva (Switzerland)
- **11/04/2024** Plenary lecture at the VIII Conference of the Spanish Network of Asymmetric Catalysis (Hondarribia, Spain)
- **03/04/2024** Invited lecture at the 2024 Catalysis Science & Technology Symposium (London, UK)
- **13/03/2024** Invited lecture at the University of York (UK)
- **28/02/2024** Invited lecture at Pharmaron (Hoddesdon, UK)
- **19/01/2024** Scripps Research - Bristol Myers Squibb Lecture (La Jolla, USA)
- **11/12/2023** Invited lecture at Ludwig Maximilian University of Munich (Germany)
- **11/10/2023** Invited lecture at the 2023 MT BioPharma Roundtable (Basel, Switzerland)
- **18/09/2023** Invited lecture at the SMASH – Small Molecule NMR Conference (Baveno, Italy)
- **17/07/2023** Invited lecture at Pfizer (Sandwich, UK)
- **25/06/2023** Invited lecture at the Physical Organic Chemistry Gordon Research Conference (New Hampshire, USA)
- **23/11/2022** Invited lecture at the RSC – New Frontiers in Synthetic Chemistry (London, UK)
- **22/11/2022** Invited lecture at Queen Mary University of London (UK)
- **20/07/2022** Invited lecture at Max-Planck-Institute für Kohlenforschung (Mülheim, Germany)
- **22/04/2022** Invited lecture at the University of Barcelona (Spain)
- **16/03/2022** Invited lecture at the University of York (UK)
- **15/10/2021** Invited lecture at Kyoto University (Japan)
- **08/06/2021** Invited lecture at Bristol Myers Squibb (New Jersey, USA)
- **07/11/2019** Invited lecture at the University Jaume I (Castelló de la Plana, Spain)
- **05/11/2019** Invited lecture at the XVI Symposium of Young Investigators RSEQ-Sigma Aldrich-Merck (Valencia, Spain)
- **24/10/2019** Plenary lecture at the GlaxoSmithKline Emerging Academics Symposium (Stevenage, UK)
- **09/10/2019** Invited lecture at the 2019 MT BioPharma Roundtable (Beerse, Belgium)
- **04/10/2019** Invited lecture at the Stockholm University (Stockholm, Sweden)
- **22/05/2019** Invited lecture at Johnson Matthey (Cambridge, UK)

- **05/03/2019** Invited lecture at the RSC Symposium – New Approaches to Mitigating Catalyst Deactivation (London, UK)
- **27/02/2019** Invited lecture at the University of East Anglia (Norwich, UK)
- **28/11/2018** Invited lecture at the 6th Anglo-Japanese Conference on Asymmetric Catalysis (Fukuoka, Japan)
- **14/11/2018** Invited lecture at the SCI-RSC: Challenges in Catalysis for Pharmaceuticals & Fine Chemicals VI (London, UK)
- **09/07/2018** Invited Lecture Dial-a-Molecule Annual Meeting 2018 (London, UK)
- **09/05/2018** Staff Symposium at The University of Manchester (Manchester, UK)
- **10/01/2018** Invited lecture at AstraZeneca (Macclesfield, UK)
- **07/11/2017** Invited lecture at the meeting "From Spectral Data To Chemical Knowledge" at the University of Bath (UK)
- **20/10/2017** Invited lecture at the ICIQ (Tarragona, Spain)
- **28/04/2017** Invited lecture at the Young Chemists 2017 at Imperial College London (UK)
- **04/04/2017** Short talk at the Manchester-Shanghai-Hong Kong Trilateral meeting, SIOC (Shanghai, China)
- **14/03/2017** Invited lecture at Firmenich (Geneva, Switzerland)
- **22/02/2017** Invited short lecture at the University of Cologne (Germany)
- **21/02/2017** Invited lecture at Max-Planck-Institute für Kohlenforschung (Mülheim, Germany)
- **09/11/2016** Invited lecture at the University of Huddersfield (UK)
- **18/10/2016** Invited lecture at the Organic Process Research and Development conference organized by Scientific Update (Prague, Czech Republic)
- **15/09/2016** Short talk at the Gregynog Synthesis Workshop (Newton, UK)
- **28/04/2016** Invited lecture at Merck (New Jersey, USA)
- **14/03/2016** Talk at the ACS National Meeting & Exposition 2016 (San Diego, USA)
- **11/11/2015** Invited lecture at the University of Nottingham (UK)
- **04/08/2015** Invited lecture at Syngenta (Jealott's Hill, UK)
- **12/03/2014** Invited lecture at University College London (UK)
- **24/09/2014** Invited lecture at the University of Bath (UK)
- **11/09/2014** Short talk at the Gregynog Synthesis Workshop (Newton, UK)
- **21/05/2014** Invited lecture at Dr.Reddy's (Cambridge, UK)
- **10/07/2014** Short talk at the Dial-a-molecule Annual Meeting, University of Birmingham (UK)
- **20/03/2012** Invited lecture at Queen Mary University of London (UK)

Teaching and Learning

I have over 14 years of experience in teaching at three top-tier universities within the British and Spanish higher education systems: Imperial College London, The University of Manchester and the Universitat de Barcelona. During my time at these institutions, I have designed and delivered numerous courses at both undergraduate and postgraduate levels. In addition to my university teaching experience, I have provided specialized training courses to external postgraduates and senior researchers at other universities, as well as to researchers working in the chemical, agrochemical, and pharmaceutical industries.

Over these years, I have acquired the following accreditations:

- New Academic Programme (NAP) from the Faculty of Science and Engineering at the University of Manchester.
- Fellow of The Higher Education Academy; HEA reference: PR170741.
- "Acreditació de recerca avançada" required to become Full Professor ("catedràtic/a") in the Catalan Higher Education System; ID NMJ9P5CV3.

During my career I have taught all kinds of subjects related to organic chemistry and physical organic chemistry in a wide range of learning environments. For each case, I have used the most adequate delivery system, material and assessment method.

- **Subjects**: Organic Chemistry at different levels (Y1, Y2, and Y3 courses), Advanced Catalysis, Heterocyclic Chemistry, Practical Structure Determination of Organic Compounds, Enantioselective Catalysis, Kinetic in Catalysis, Modern Physical Organic Chemistry and Natural Products.
- **Learning environments**: lectures, tutorials, workshops, chemistry wet laboratories, computer laboratories, and problem classes.
- **Teaching resources**: presentations, videos for flipped learning, problem sets, computer-based problems, and hand-outs.
- **Assessment methods**: written scripts, essays, presentations, posters, computer-based assessments, and vivas to undergraduate, masters and PhD students.

I have received excellent evaluation of my lectures, demonstration laboratories and tutorials from the Department and the Faculty peer-review, as well as from the students. This recognition has resulted in the following achievements:

- 2021: students' award for "**Excellence and Innovation in Teaching and Learning Practice**" of the Faculty of Science and Engineering at The University of Manchester.
- 2021: students' nomination to the "**Lecturer of the Year**" of the Faculty of Science and Engineering at The University of Manchester.
- 2022: finalist of the "**Excellence in Online Education**" award by the Students Union of The University of Manchester.

Administrative Roles

- **2023-2024**: Organizer of the Gregynog Synthesis Workshop for Early Career Researchers in the UK.
- **2019-2024**: Welfare Lead of the Department of Chemistry at The University of Manchester (UoM).
- **2019-2024**: Chair of the Mitigation Circumstances Panel of the Department of Chemistry at UoM.
- **2018-2024**: Sustainability Champion of the Department of Chemistry at UoM.
- **2016-2024**: Personal tutor at UoM.
- **2017-2018**: Member of the wellbeing group of the Department of Chemistry at UoM.
- **2013-2016**: Personal tutor at Imperial College London.