

Dr. Julien Christian Vantourout

CNRS Researcher – ICBMS – Université Lyon 1

Email: julien.vantourout@univ-lyon1.fr – Phone: +33 6 41 52 82 46 – ORCID: 0000-0002-0602-069X

EDUCATION AND RESEARCH POSITION

- Since 12/2020:** CNRS Researcher, ICBMS, Université Lyon 1, France
Synthesis, Chemistry, Organometallic and Redox laboratory (SCORE)
- 01/2019 – 11/2020:** Staff Scientist, Department of Chemistry, Scripps Research, CA, USA
Research Advisor: Prof. Phil S. Baran
- 04/2018 – 12/2018:** Postdoctoral Research
Scripps Research, CA, USA
Research Advisor: Prof. Phil S. Baran
- 09/2014 – 03/2018:** PhD, Organic and Synthetic Chemistry
GlaxoSmithKline-University of Strathclyde, UK
Research Advisors: Dr. Allan J. B. Watson, Dr. Albert Isidro-Llobet
- 09/2011 – 06/2014:** MSc, Organic and Synthetic Chemistry
University of Lyon I, France
Research Advisor: Prof. Olivier Baudoin

PROFESSIONAL AND ACADEMIC EXPERIENCE**CNRS Researcher, ICBMS (December 2020 to present, SCORE Lab)**

- ♦ Development of electrochemical transformations using standardized equipment.
- ♦ Development of Manganese- and Nickel-mediated processes.
- ♦ Mechanistic studies using NMR, cyclic voltammetry, IR, and organometallic complexes.

Staff Scientist, Scripps Research (January 2019 to November 2020, Prof. Phil S Baran laboratory)

- ♦ Development of a redox-neutral P(V) platform for oligonucleotide synthesis.
- ♦ Supervision and coordination of more than 10 projects for Industrial Collaborations (LEO Pharma, Merck, BMS, Pfizer, Vividion, Minakem, Syngenta, IFF) – Student Supervision – Project management, meeting, and manuscript preparation.

Postdoctoral Associate, Scripps Research (April 2018 to December 2018, Prof. Phil S Baran laboratory)

- ♦ Invention of a P(V)-based reagent for programmable, traceless, diastereoselective Phosphorus–Sulfur Incorporation and application to bioconjugation.
- ♦ Electrochemical amination of aryl halides – Mechanistic investigation – Catalysts and ligands synthesis – Application to the functionalization of peptides, sugars, and oligonucleotides.
- ♦ Development of a method using Redox-active esters as formally nucleophilic coupling partners with other carboxylic derivatives to produce ketones – Mechanistic investigation.

PhD Student, GSK-University of Strathclyde (September 2014 to March 2018, Dr. Allan J. B. Watson laboratory)

- ♦ Development of a general catalytic procedure to overcome the long-standing and previously unsolved amine and organoboron limitations of the Chan-Lam amination – Mechanistic investigation and applications to medicinal chemistry and natural product synthesis.
- ♦ High throughput screening and optimization of the Chan-Lam coupling of aryl boronic acid and aryl boronic acid pinacol esters with highly valuable secondary sulfonamides – Application to process chemistry.

Master Student, University of Lyon (January 2014 to August 2014, Prof. Olivier Baudoin laboratory)

- ♦ Development of a palladium(0)-catalyzed C(sp³)-H alkenylation reaction for the synthesis of strained lactams – Application to alkaloid natural product synthesis.

CURRENT AND PAST SCIENTIFIC COLLABORATIONS

Academic

Since 2022: Prof. K. Engle, Scripps Research, USA.

Project: Electro-Catalytic Alkene (Hetero)Annulation

Since 2021: Prof. Q. Michaudel, University of Texas A&M, USA.

Project: Synthesis of Azo Compounds via 'Electroclick' Chemistry: A Green Approach Toward Therapeutics and Stimuli-Responsive Polymers.

Since 2021: Dr. E. Lacote, LHCEP, University of Lyon 1, France.

Project: Electrochemical N-N bond formation to access valuable energetic compounds.

2020-2021: Dr. Thierry Billard, University of Lyon 1, France.

Project: Electrochemical trifluoromethylselenolation of alkyl halides.

Industrial

Since 2022: Johnson & Johnson, USA.

Project: Electrochemical HTE system.

Since 2022: Minakem, France.

Project: Electrochemical cyclopropane ring formation from dialkyl bromides.

SUMMARY of SCIENTIFIC ACHIEVEMENTS

42 publications (h-index = 21, number of citations = 2021) – 1 book chapter – 2 patents

Science (2)

ACS. Cent. Sci. (2)

PNAS (2)

Nature (1)

Eur. J. Org. Chem (1)

Elsevier (1)

Nat. Chem. (1)

Angew. Chem. Int. Ed. (4)

Org. Lett. (3)

J. Am. Chem. Soc. (8)

ACS Catal. (2)

J. Org. Chem. (2)

Org. Process Res. Dev. (3)

Asian J. Org. Chem. (1)

Acc. Chem. Res. (1)

MedChemComm (1)

Chem. Rev. (1)

Bioconjug. Chem. (1)

Isr. J. Chem. (1)

Org. Synth. (1)

Tetrahedron Lett. (1)

Adv. Synth. Catal (1)

Org. Biomol. Chem. (1)

ChemRxiv (2)

12 oral communications and 7 posters

Reviewing activity for several journals including *J. Am. Soc. Chem.* (IF 15.4); *Angew. Chem. Int. Ed.* (IF 15.3); *ACS Catal.* (IF 12.4); *Org. Lett.* (IF 6.1); *J. Org. Chem.* (IF 4.4).

RESEARCH ARTICLES

1. T. Kerackian, D; Bouyssi, G. Pilet, M. Médebielle, N. Monteiro, **J. C Vantourout*** and A. Amgoune. Nickel-Catalyzed Electro-Reductive Cross-Coupling of Aliphatic Amides with Alkyl Halides as a Strategy for Dialkyl Ketone Synthesis: Scope and Mechanistic Investigations. *ACS Catal.* **2022**, *12*, 19, 12315–12325.
2. S. Gnaim, A. Bauer, H-J. Zhang, L. Chen, C. Gannet, C. A. Malapit, D. Hill, D. Vogt, T. Tang, R. Daley, W. Hao, M. Quertenmont, W. D. Beck, E. Kandahari, **J. C. Vantourout**, P-G. Echeverria, H. Abruna, D. Blackmond, S. Minter, S. Reisman, M. S. Sigman and P. S. Baran. Cobalt-Electrocatalytic Hydrogen Atom Transfer for Functionalization of Unsaturated C–C Bonds. *Nature* **2022**, *In press*
3. Y. Kawamata, K. A. Ryu, G. Hermann, A. Sandahl, **J. C. Vantourout**, A. Olow, L-T. Adams, E. Rivera-Chao, L. Roberts, R. Oslund, O. Fadeyl and P. S. Baran. Electroaffinity Labeling: A New Platform for Chemoproteomic-based Target Identification. **2022**, *ChemRxiv*.
4. S. Charvet, M. Médebielle, and **J. C Vantourout***. Mn-Mediated Alpha-Radical Addition of Carbonyls to Olefins: Systematic Study, Scope, and Electrocatalysis. *J. Org. Chem.* **2022**, *9*, 5690–5702.
5. K. Grollier, C. Ghiazza, A. Tlili, T. Billard, M. Médebielle, and **J. C Vantourout***. Electrochemical trifluoromethylselenolation of alkyl halides. *Eur. J. Org. Chem.* **2022**.
6. D. Louvel, A. Souibgui, A. Taponard, J. Rouillon, M. ben Mosbah, Y. Moussaoui, G. Pilet, L. Khrouz, C. Monnereau, **J. C Vantourout** and A. Tlili. Tailoring the Reactivity of the Langlois Reagent and Styrenes with Cyanoarenes Organophotocatalysts under Visible-Light. *Adv. Synth. Catal.* **2021**, *363*, 1–11.
7. K. W. Knouse, Y. Huang, S. Qiu, **J. C Vantourout[†]**, W. Hao[†], N. M. Padial[†], B. Zheng, J. Lopez, R. Narayan, R. Olson, D. G. Blackmond, M. D. Eastgate, M. A. Schmidt and P. S. Baran. A P(V)-platform for oligonucleotide synthesis. *Science*. **2021**, *373*, 1265–1270.
8. T-G. Chen, L. Mele, O. Jentzer, D. Delbrayelle, P-E. Echeverria, **J. C Vantourout** and P. S. Baran. Convergent synthesis of (*R*)-Silodosin *via* decarboxylative cross-coupling. *Tetrahedron Lett.* **2021**, *79*, 153290.
9. M. Ociepa, K. W. Knouse, D. He, **J. C. Vantourout**, D. T. Flood, N. M. Padial, J. S. Chen, B. B. Sanchez, E. J. Sturgell, B. Zheng, S. Qiu, M. A. Schmidt, M. D. Eastgate and P. S. Baran. *Org. Lett* **2021**, *23*, 9337–9342.
10. J-X. Zhao, Y-X. Chang, C. He, B. J. Burke, M. R. Collins, M. Del Bel, J. Elleraas, G. M. Gallego, T. P. Montgomery, J. J. Mousseau, S. K. Nair, M. A. Perry, J. E. Spangler, **J. C Vantourout** and P. S. Baran. 1,2-Difunctionalized bicyclo[1.1.1]pentanes: Long-sought-after mimetics for ortho/meta-substituted arenes. *Proc. Natl. Acad. Sci.* **2021**, *118*, e2108881118.
11. Y. Gao, D. E. Hill, W. Hao, B. J. McNicholas, **J. C Vantourout**, R. G. Hadt, S. E. Reisman, D. G. Blackmond and P. S. Baran. Electrochemical Nozaki–Hiyama–Kishi coupling: Scope, applications, and mechanism. *J. Am. Chem. Soc.* **2021**, *143*, 9478–9488.

12. P. Maity, A. S. Anandamurthy, V. Shekarappa, R. Vaidyanathan, B. Zheng, J. Zhu, M. A. Schmidt, R. J. Fox, K. W. Knouse, **J. C Vantourout**, P. S. Baran and M. D. Eastgate. Synthesis of a phosphorous sulfur incorporating reagent for the enantioselective synthesis of thiophosphates. *Org. Synth.* **2021**, *98*, 97–116.
13. S. Gnaim, Y. Takahira, H. R. Wilke, Z. Yao, J. Li, D. Delbrayelle, P-E. Echeverria, **J. C Vantourout** and P. S. Baran. Electrochemically driven desaturation of carbonyl compounds. *Nat. Chem.* **2021**, *13*, 367–372.
14. **J. C Vantourout**, A. M. Mason, J. Yuen, G. L. Simpson, G. Evindar, L. Kuai, M. Hobbs, E. Edgar, S. Needle, C-w. Chung, S. Pal, D. A. Holt, L. S. Kallander, J. Prendergast, K. Rivera, D. G. Washburn, M. R. Harpel, C. Arico-Muendel and A. Isidro-Llobet. *In vivo* half-Life extension of BMP1/TLL metalloproteinase inhibitors using small-molecule human serum albumin binders. *Bioconjugate Chem.* **2021**, *32*, 279–289.
15. N. L. Bell, C. Xu, J. W. B. Fyfe, **J. C Vantourout**, J. Brals, S. Chabbra, B. E. Bode, D. B. Cordes, A. M. Z. Slawin, T. M. McGuire and A. J. B. Watson. Cu(OTf)₂-mediated cross-coupling of nitriles and *N*-heterocycles with arylboronic acids to generate nitrilium and pyridinium products. *Angew. Chem. Int. Ed.* **2021**, *60*, 7935–7940.
16. P. Hu, B. K. Peters, C. A. Malapit, **J. C Vantourout**, P. Wang, J. Li, L. Mele, P-G. Echeverria, S. D. Minter and P. S. Baran. Electroreductive olefin-ketone coupling. *J. Am. Chem. Soc.* **2020**, *142*, 20979–20986.
17. T. Sheng, H-J. Zhang, M. Shang, C. He, **J. C Vantourout** and P. S. Baran. Electrochemical decarboxylative *N*-alkylation of heterocycles. *Org. Lett.* **2020**, *22*, 7594–7598.
18. L. Chen, L. M. Barton, **J. C Vantourout**, Y. Xu, C. Chu, E. C. Johnson, J. J. Sabatini and P. S. Baran. Electrochemical cyclobutane synthesis in flow: Scale-up of a promising melt-castable energetic intermediate. *Org. Process Res. Dev.* **2021**, *25*, 2639–2645.
19. **J. C Vantourout**, S. R. Adusumalli, K. W. Knouse, D. T. Flood, A. Ramirez, N. M. Padial, A. Israte, K. Maziarz, J. N. deGruyter, R. R. Merchant, J. X. Qiao, M. A. Schmidt, M. J. Deery, M. D. Eastgate, P. E. Dawson, G. J. L. Bernardes and P. S. Baran. Serine-selective bioconjugation. *J. Am. Chem. Soc.* **2020**, *142*, 17236–17242.
20. D. T. Flood, K. W. Knouse, **J. C. Vantourout**, B. B. Sanchez, E. J. Sturgell, J. S. Chen, Phil S. Baran and P. E. Dawson. Synthetic elaboration of native DNA by RASS (SENDR). *ACS Cent. Sci.* **2020**, *6*, 1789–1799.
21. D. Xu, N. Rivas-Bascón, K. W. Knouse, N. M. Padial, B. Zheng, **J. C. Vantourout**, M. A. Schmidt, M. D. Eastgate and P. S. Baran. Enantiodivergent formation of C–P bonds: Synthesis of P-chiral phosphines and methyl-phosphonate oligonucleotides. *J. Am. Chem. Soc.* **2020**, *42*, 5785–5792.
22. D. T. Flood, X. Zhang, X. Fu, Z. Zhao, S. Asai, B. B. Sanchez, E. Sturgill, **J. C. Vantourout**, P. Richardson, M. E. Flanagan, D. W. Piotrowski, Q. Lin, M-H Tsai, J. Wan, Y. Chang, Z. Wang, J. S. Chen, P. S. Baran,

- and P. E. Dawson. RASS-enabled S/P–C and S–N bond formation for DEL synthesis. *Angew. Chem. Int. Ed. Engl.* **2020**, *132*, 7447–7453.
23. M. J. West, B. Thomson, **J. C. Vantourout**, and A. J. B. Watson. Discovery, scope, and limitations of an *N*-dealkylation/*N*-arylation of secondary sulfonamides under Chan–Lam conditions. *Asian J. Org. Chem.* **2019**, *8*, 1–5.
24. D. T. Flood, S. Asai, X. Zhang, J. Wang, L. Yoon, Z. C. Adams, B. C. Dillingham, B. B. Sanchez, **J. C. Vantourout**, M. E. Flanagan, D. W. Piotrowski, P. Richardson, S. A. Green, R. A. Shenvi, J. S. Chen, P. S. Baran and P. E. Dawson. Expanding reactivity in DNA-encoded library synthesis via reversible binding of DNA to an inert quaternary ammonium support. *J. Am. Chem. Soc.* **2019**, *141*, 9998–10006.
25. S. Ni, N. M. Padial, C. Kingston, **J. C. Vantourout**, D. C. Schmitt, J. T. Edwards, M. Kruszyk, R. R. Merchant, P. K. Mykhailiuk, B. Sanchez, S. Yang, M. Perry, G. M. Gallego, J. J. Mousseau, M. R. Collins, R. J. Cherney, P. S. Lebed, J. S. Chen, T. Qin and P. S. Baran. A radical approach to anionic chemistry: Synthesis of ketones, alcohols, and amines. *J. Am. Chem. Soc.* **2019**, *141*, 6726–6739.
26. Y. Kawamata, **J. C. Vantourout**, D. P. Hickey, P. Bai, L. Chen, Q. Hou, W. Qiao, K. Barman, M. A. Edwards, A. F. Garrido-Castro, J. N. deGruyter, H. Nakamura, K. Knouse, C. Qin, K. J. Clay, D. Bao, C. Li, J. T. Starr, C. Garcia-Irizarry, N. Sach, H. S. White, M. Neurock, S. D. Minter and P. S. Baran. Electrochemically driven, Ni-catalyzed aryl amination: Scope, mechanism, and applications. *J. Am. Chem. Soc.* **2019**, *141*, 6392–6402.
27. M. Shang, K. S. Feu, **J. C. Vantourout**, L. M. Barton, H. L. Osswald, N. Kato, K. Gagaring, C. W. McNamara, G. Chen, L. Hu, S. Ni, P. Fernández-Canelas, M. Chen, R. R. Merchant, T. Qin, S. Schreiber, B. Melillo, J.-Q. Yu and P. S. Baran, Modular, stereocontrolled C_β–H/C_α–C activation of alkyl carboxylic acids. *Proc. Natl. Acad. Sci.* **2019**, *116*, 8721–8727.
28. M. M. Nagiec, J. R. Duvall, A. P. Skepner, E. A. Howe, J. Bastien, E. Comer, J.-C. Marie, S. E. Johnston, J. Negri, M. Eichhorn, **J. C. Vantourout**, C. Clish, K. Musunuru, M. Foley, J. R. Perez, M. A. J. Palmer. Novel tricyclic glycal-based TRIB1 inducers that reprogram LDL metabolism in hepatic cells. *Med. Chem. Commun.* **2018**, *9*, 1831–1842.
29. K. W. Knouse, J. N. deGruyter, M. A. Schmidt, B. Zheng, **J. C. Vantourout**, C. Kingston, S. E. Mercer, I. M. Macdonald, R. E. Olson, Y. Zhu, C. Hang, J. Zhu, C. Yuan, Q. Wang, P. Park, M. D. Eastgate, and P. S. Baran Unlocking P(V): Reagents for chiral phosphorothioate synthesis. *Science* **2018**, *361*, 1234–1238.
30. **J. C. Vantourout**, L. Li, E. Bendito-Moll, S. Chhabra, K. Arrington, B. E. Bode, A. Isidro-Llobet, J. A. Kowalski, M. G. Nilson, K. M. P. Wheelhouse, J. L. Woodard, S. Xie, D. C. Leitch, and A. J. B. Watson Mechanistic insight enables practical, scalable, room temperature Chan-Lam *N*-arylation of *N*-aryl sulfonamides. *ACS Catal.* **2018**, *8*, 9560–9566.
31. C. Li, Y. Kawamata, H. Nakamura, **J. C. Vantourout**, Z. Liu, Q. Hou, D. Bao, J. T. Starr, J. Chen, M. Yan, and P. S. Baran. Electrochemically enabled, Ni-catalyzed amination. *Angew. Chem. Int. Ed.* **2017**, *42*, 13088–13093.

32. **J. C. Vantourout**, H. N. Miras, A. Isidro-Llobet, S. Sproules, and A. J. B. Watson. Spectroscopic studies of the Chan-Lam amination: A mechanism-inspired solution to boronic ester reactivity. *J. Am. Chem. Soc.* **2017**, *139*, 4769–4779.
33. **J. C. Vantourout**, R. P. Law, A. Isidro-Llobet, S. J. Atkinson, and A. J. B. Watson. Chan-Evans-Lam amination of boronic acid pinacol (BPin) esters: Overcoming the aryl amine problem. *J. Org. Chem.* **2016**, *81*, 3942–3950.
34. **J. C. Vantourout**[†], P. M. Holstein[†], D. Dailier[†], J. Shaya, A. Millet and O. Baudoin. Synthesis of strained γ -lactams by palladium(0)-catalyzed C(sp³)-H alkenylation and application to alkaloid synthesis. *Angew. Chem. Int. Ed. Engl.* **2016**, *55*, 2805–2809.
35. C. W. Muir, **J. C. Vantourout**, A. Isidro-Llobet, S. J. F. Mmcdonald and A. J. B. Watson. One-pot homologation of boronic acids: A platform for diversity-oriented synthesis. *Org. Lett.* **2015**, *17*, 6030–6033.

REVIEWS, PERSPECTIVES AND BOOK CHAPTERS
--

1. **J. C. Vantourout*** and S. B. Bell. Electrogenerated thianthrenium conjugate enables (Z)-selective allylic amination. *Trends in Chem.* **2022**, *In press*.
2. A. G. Wills, S. Charvet, C. Battilocchio, C. C. Scarborough, K. M. P. Wheelhouse, D. L. Poole, N. Carson and **J. C. Vantourout***. High-Throughput Electrochemistry: State of the Art, challenges, and perspective. *Org. Process Res. Dev.* **2021**, *25*, 2587–2600.
3. **J. C. Vantourout***. From bench to plant: An opportunity for transition metal paired electrocatalysis. *Org. Process Res. Dev.* **2021**, *25*, 2581–2586.
4. **J. C. Vantourout**[†], K. W. Knouse[†], D. T. Flood[†], M. A. Schmidt, I. M. Mcdonald, M. D. Eastgate, and Phil. S. Baran. Nature Chose Phosphates and Chemists Should Too: How Emerging P(V) Methods Can Augment Existing Strategies. *ACS Cent. Sci.* **2021**, *7*, 1473–1485.
5. S. Gnaim, **J. C. Vantourout**, F. Serpier, P-E. Echeverria and P. S. Baran. Carbonyl desaturation: Where does catalysis stand? *ACS Catal.* **2021**, *11*, 883–892.
6. **J. C. Vantourout**[†], D. T. Flood[†], C. Kingston[†], P. E. Dawson, and P. S. Baran. DNA encoded libraries: A visitor's guide. *Isr. J. Chem.* **2020**, *60*, 268–280.
7. C. Kingston, M. D. Palkowitz, Y. Takahira, **J. C. Vantourout**, B. K. Peters, Y. Kawamata, and P. S. Baran. A survival guide for the “electro-curious”. *Acc. Chem. Res.* **2020**, *53*, 72–83.
8. M. West, J. Fyfe, **J. C. Vantourout** and A. J. B. Watson. Mechanistic development and recent applications of the Chan–Lam amination. *Chem. Rev.* **2019**, *119*, 12491–12523.
9. **J. C. Vantourout**, A. Isidro-Llobet, and A. J. B. Watson Conventional and bio-inspired syntheses of monoterpene indole alkaloids in *Studies in Natural Products Chemistry*, vol 55: Atta-ur-Rahman, Ed., Elsevier, **2018**, Chapter 1.

GRANTS AND FELLOWSHIPS

- 2022: “Jeune Chercheur and Jeune Chercheuse” ANR grant (220,000 euros)
MANIAC – Manganese-catalyzed Intermolecular Alkene Carbofunctionalization
- 2022: “Thomas Jefferson” Fund (20,000 euros)
Synthesis of Azo Compounds via 'Electroclick' Chemistry: in collaboration with Prof. Quentin Michaudel.
- 2022: “International Emerging Action” CNRS grant (14,000 euros)
e-CATHA project (Electro-Catalytic Alkene (Hetero)Annulation) in collaboration with Prof. Keary Engle.
- 2021: “Amorçage Europe” grant (as part of ERC application process, 20,200 euros)
MERCi project (Manganese Electrochemical Reactions for Continuous Innovation)
- 2020: NIH Supplement grant for laboratory equipment (as part of GM-118176, \$209,389)
Purchase of a Waters AutoPurification that vastly improved laboratory efficiency by extricating researchers from the tedious daily exercise of highly polar compound isolation such as oligonucleotides.
- 2018: Marie Skłodowska-Curie Individual Global Fellowship (EU project 843161; Grade: 96.8%; Ranking: 6 out of 870 applications; \$277,000 for 3 years; Success rate: 8.9%)
The ElectroCatFlow project has been designed to access high valent nickel species by combining electro- and flow chemistry.

SUPERVISION and CO-SUPERVISION OF STUDENTS

As independent researcher

- 2022: Camille Rubel, Visiting PhD Student, Scripps Research Institute, USA.
Project: Electro-Catalytic Alkene (Hetero)Annulation.
- 2022: Camille Beluze and Albane Lafont, Master1 Student from CPE Lyon, Lyon, France.
Project: New synthesis of Bilastine.
- 2022: Valentin Fiancette, Master Student, Lyon, France.
Project: New synthesis of Bilastine.
- Since 2021: Sylvain Charvet, PhD Student, Lyon, France.
Project: Development of electrochemical Ni-catalyzed C-H arylation processes.
Collaborators: Prof. Amgoune and Dr. Médebielle
- 2020 – 2021: Taline Kerahkian, PhD Student, Lyon, France.
Project: Nickel-Catalyzed Electro-Reductive Cross-Coupling of Amides with Alkyl Halides.
Collaborators: Prof. Amgoune and Dr. Médebielle
- 2021: Kevin Grollier, PhD Student, Lyon, France.
Project: Electrochemical trifluoromethylselenolation of alkyl halides.

Collaborators: Dr. Médebielle, Dr. Billard and Dr. Anis Tlili

2021: Sylvain Charvet, Master 2 Student, Lyon, France.

Project: Electrochemical Mn-mediated radical addition of carbonyl to olefin.

2021: Laura Levy and Cindy Nguyen, Master1 Student from CPE Lyon, Lyon, France.

Project: New synthesis of Bilastine.

As Staff Scientist (Prof. Baran lab)

2019 – 2020: David He, Highschool Student, San Diego, CA.

Project: Selective phosphorylation of alcohol enabled by P(V)-based reagents

2018 – 2019: Dongmin Xu, PhD Student, Scripps Research, La Jolla, CA.

Project: Synthesis of Chiral phosphines and MPO using PI reagent.

2018 – 2019: Jess Gu, PhD Student, Scripps Research, La Jolla, CA.

Project: Synthesis of Vitamin D.

2019: Rohan Narayan, BSc in Chemistry, University of Delaware, Newark, DE.

Project: Development of a racemic version of PSI reagent.

2018: Katarzyna Magdalena Maziarz, BSc in Chemistry, Mount Holyoke College, South Hadley, MA.

Project: Application of P(V)-based reagent to bioconjugation.

As PhD student (Prof. Watson lab)

2016 – 2017: Enrique Bendito-Moll, MSc in Chemistry, Industrial placement at GSK, Stevenage, UK.

Project: Development of a general set of conditions for the Chan-Lam *N*-arylation of *N*-aryl sulfonamides.

2016 – 2017: Eilidh Sood, MSc in Chemistry, University of St. Andrews, St. Andrews, UK.

Project: Copper-catalyzed alkyl-aryl halide transfer reaction.

TEACHING and TRAINING ACTIVITIES

2022: Chemistry Organic Project, CPE Lyon, Lyon (12 hours).

2022: Chemistry lab practical, INSA, Lyon (21 hours).

2020 – 2022: Chemistry tutorials for Master and PhD students from ICBMS (1h30 per week).

2015 – 2018: Chemistry courses and tutorials for GSK apprentice and industrial placement students (1h per week).

ORAL COMMUNICATIONS

August 2022: Ni-Catalyzed Electro-Reductive Cross-Coupling of Aliphatic Amides with Alkyl Halides as a Strategy for Dialkyl Ketone Synthesis
Carry-le-Rouet, France

July 2022: Standardized Electrochemistry: A Robust Platform to Quickly and Efficiently Optimize Redox Processes
JOC, Paris, France (Selected to present)

- April 2022:** Standardized Electrochemistry: A Robust Platform to Quickly and Efficiently Optimize Redox Processes
Montpellier, France (Invited to present)
- November 2021:** Electrochemical Mn-mediated radical addition of carbonyl to olefin.
Oncodesign – Les Ulysses, France (Invited to present)
- November 2021:** Electrochemical Mn-mediated radical addition of carbonyl to olefin.
Minakem – Beuvry la Foret, France (Invited to present)
- February 2021:** Department Lecture – Research presentation.
ICBMS – Lyon, France (Invited to present)
- December 2020:** Research program presentation.
Edelris – Lyon, France (Invited to present)
- September 2019:** PhD and Postdoctoral Research presentation.
ICBMS – University of Lyon I, Lyon, France (Invited to present)
- November 2017:** Studies of the Chan-Lam amination: Solving the chemotype reactivity issues.
Young Chemist in Industry conference, Macclesfield, UK (Selected to present)
- September 2017:** Studies of the Chan-Lam amination: Solving the chemotype reactivity issues.
GSK, Philadelphia, USA (Invited to present)
- September 2017:** Development of specific “Alubinders” as a platform for half-life extension.
19th RSC Medicinal Chemistry conference, Cambridge, UK (Invited to present)
- August 2016:** Mechanistic investigations of the Chan-Lam reaction: Solving the BPin problem.
252nd ACS National Meeting, Philadelphia, USA

POSTER COMMUNICATIONS

- April 2018:** Studies of the Chan-Lam amination: Solving the chemotype reactivity issues.
Alpine Medicinal Chemistry conference, St Anton, Austria (Selected to present)
- March 2018:** Spectroscopic and mechanistic studies of the Chan-Lam amination.
RSC Twitter Poster session
- December 2016:** Spectroscopic and mechanistic studies of the Chan-Lam amination.
RSC Organic Division Poster, London, UK
- July 2016:** A mechanism-inspired solution to the Cu-catalyzed BPin amination problem.
GSK – University of Strathclyde symposium, Stevenage, UK
- March 2016:** Chan-Lam amination of boronic acid esters: Overcoming the aryl amine issue.
5th UK – Japanese symposium on Asymmetric Catalysis, Manchester, UK
- June 2015:** Homologation of boronic acids: A platform for Diversity-Oriented Synthesis.
11th WestChem symposium, Glasgow, UK

June 2013: Use of fluorous tags and small molecule-immobilization for target identification.
Broad Institute symposium, Boston, USA

AWARDS

2022: Robert Robinson Award in Synthetic Organic Chemistry from the RSC Organic Division Horizon Prize, UK.

2022: Marc Julia "Emerging Academic" Award from the Division Chimie Organique, France.

2021: Green Chemistry Challenge Award from the Environmental Protection Agency, USA.

2018: Marie Sklodowska-Curie Individual Global Fellowship.

2018: 1st Alpine Conference on Synthetic Chemistry Poster Prize, St Anton, Austria.

2017: SCI Young Chemist in Industry prize winner, Macclesfield, UK.

2017: ACS Axiom prize for the most read publication in the Journal of Organic Chemistry.

2016: 6th GSK-University of Strathclyde Symposium Poster Prize, Stevenage, UK.

2016: Most Outstanding Industrial PhD Student Award, Stevenage, UK.

2015: Finalist of the 2nd RSC-SCI national retrosynthesis competition, London, UK.

2014: Runner up prize (16.2/20) – Master of organic chemistry, Lyon, France.

REFEREEING FOR ACADEMIC JOURNALS

- ◆ Journal of the American Chemical Society (IF 2018: 14.695)
- ◆ Angewandte (IF 2018: 12.257)
- ◆ ACS Catalysis (IF 2018: 12.221)
- ◆ Advance Synthesis and Catalysis (IF 2018: 4.745)
- ◆ Organic Letters (IF 2018: 6.555)
- ◆ Journal of Organic Chemistry (IF 2018: 4.745)
- ◆ European Journal of Organic Chemistry (IF 2018: 4.745)

ORGANISATION OF SCIENTIFIC MEETINGS

Since 01/2022: Organization of the Chemistry department seminars, ICBMS, Lyon.

Team members: Dr. Jacolot, Dr. Merad and Dr. Tlili.

2022: Creation of the Web site of the Institute, ICBMS, Lyon.

Team members: Dr. Tran and Dr. Perrin