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• PROFESSIONAL EXPERIENCES

- 2012 – present **CNRS Junior Researcher** (CNRS: French National Scientific Research Center) in the “Fluorinated Biomolecules Synthesis” team headed by Prof. X. Pannecoucke. UMR 6014-CNRS-COBRA, Rouen University and INSA, Rouen, **France**.
- 2011 – 2012 *Industrial postdoctoral fellow (18 months)* in the group of **Prof. Dr. Joost N. H. Reek** in collaboration with the Eastman company, van’t Hoff Institute for Molecular Sciences, Amsterdam, **Netherlands**.
- 2009 – 2011 *Postdoctoral fellow (18 months)* in the group of **Prof. Dr. Frank Glorius**, Westfälische Wilhelms-Universität Münster, **Germany**.

• EDUCATION

- 2018 *Habilitation* (Habilitation à Diriger des Recherches), Rouen University, France.
- 2009 *PhD in Synthetic Organic Chemistry*
Organic Chemistry Department, J. Fourier University, Grenoble, France.
Group of **Dr. Andrew E. Greene** as mentor (PhD Supervisor: Dr. C. Morin)
- 2006 *Research Master with honours* in Organic, Bioorganic and Environmental Chemistry, B. Pascal University, Clermont-Ferrand, France.
- 2006 *Chemical Engineering Degree* at the National Graduate School of Chemistry and Chemical Engineering (ENSCCF) in Clermont-Ferrand, France.

• AWARDS and DISTINCTIONS

- 2018 Bronze medal of the CNRS (Young Investigator Award)
- 2017 ERC Starting Grant
- 2016 Excellence research award (PEDR)
- 2014 Royal Society of Chemistry poster prize at the [2nd International Symposium on C–H Activation](#).
- 2006 MESR grant for Ph.D. studies

• ACADEMIC RECORD

45 Publications in peer reviewed international journals (ie. 6 *ACIE*, 2 *JACS*) & **2 patents**
6 Oral communications (international conferences and symposium)
10 Invited lectures (National and international institutes)
24 Poster presentations (international conferences and national congresses)

• TEACHING ACTIVITIES

- 2013 – present **Practical courses** (30h/year), Inorganic Chemistry (B.Sc. Students), Rouen INSA, **France**.
2017 – 2018 **Lecture** (6h/year), Health & safety (PhD Students), Doctoral school, Rouen, **France**.
Lecture (2h/year), Health & safety (Master 1 Students), Rouen University, Rouen, **France**.
2016 – 2017 **Lecture** (3h/year), Health & safety (PhD Students), Doctoral school, Rouen, **France**.
2013 – 2015 **Lecture** (6h/year), Organic Chemistry (B.Sc. Students), Rouen University, **France**.
2013 – 2014 **Tutorials** (16h), Organic Chemistry (B.Sc. Students), Rouen University, **France**.
2012 – 2013 **Courses** (20h), hygiene, safety & security, Princess Nora University (PNU), **Saudi Arabia**.
2009 – 2010 **Practical courses** in Organic Chemistry (B.Sc. Students), Münster University, **Germany**.
2006 – 2009 **Teaching assistantship (Monitorat)**, 64 h/year in General and Organic Chemistry (B.Sc. Students), J. Fourier University, Grenoble, **France**.

• TEACHING ACTIVITIES

Fluorine chemistry
C-H activation
Catalysis and methodology
Organometallic chemistry

• ORGANISATION OF SCIENTIFIC MEETINGS and OPEN HOUSE DAY

- 2017 31st January, Hyderabad, India. Involvement to an Open Day House organized by the Hyderabad IICT (CSIR- Indian Institute of Chemical Technology) to promote science and French-Indo relationships.
- 2015 11-12th May, Rouen, France. Member of the organizing committee (treasurer) of the symposium “Journée Nord-Ouest Européennes des Jeunes Chercheurs (124 participants) by the Normandy division of the French Chemical Society (SCF) dedicated to Early Stage Researchers.
- 2013 28-29th May, Rouen, France. Member of the organizing committee of a workshop between Kaiserslautern University and Rouen INSA (40 participants) to promote scientific collaborations and to strengthen already existing connections.

• INSTITUTIONAL RESPONSIBILITIES

- Since 2016 **Institute correspondent** for Europe calls
Since 2015 **Safety assistant**, UMR 6014-CNRS-COBRA, Rouen University and INSA, Rouen, France.
2015 **Committee member** as expert for the recruitment of an engineer assistant CNRS.
Since 2014 Elected member of the “Commission Consultative de Spécialistes d’Etablissement,” Rouen

• MEMBERSHIPS OF RESEARCH NETWORKS and SCIENTIFIC SOCIETIES

- Since 2016 **Member of COST Action CA15106**. The research network “*C-H Activation for Organic Synthesis*” action aims at reinforcing the European C-H activation community via meetings and scientific collaborations. I am one of the two French Management Committee members and one of the three Short Term Scientific Mission managers. <http://cost-chaos.org/>
- Since 2013 **Member of the GIS-Fluor**, a CNRS research network aiming at promoting organofluorine chemistry in France. <http://www.reseau-fluor.fr/index.php/en/>
- Since 2006 **Member of the SCF** and deputy treasurer of the Normandy division since 2013.

PUBLICATIONS

- [45] E. Carbonnel, X. Pannecoucke, T. Besset, P. Jubault, T. Poisson, *Chem. Commun.* **2018**, 54, 2491.
“*An Electrophilic Reagent for the Synthesis of OCHFMe-Containing Molecules.*”
- [44] A. Patra, F. Gelat, X. Pannecoucke, T. Poisson, **T. Besset**, A.T. Biju, *Org. Lett.* **2018**, 20, 1086.
“*Synthesis of 4-Difluoromethylquinolines by NHC-Catalyzed Umpolung of Imines.*”
- [43] M. V. Ivanova, **T. Besset**, X. Pannecoucke, T. Poisson,* *Synthesis* **2018**, 50, 778.
“*Palladium-Catalyzed Synthesis of Aryl and Heteroaryl difluoromethylated Phosphonates.*”
- [42] M. V. Ivanova, A. Bayle, **T. Besset**, X. Pannecoucke, T. Poisson,* *Chem. Eur. J.* **2017**, 23, 17318.
“*Copper-Mediated Introduction of the CF₂PO(OEt)₂ Motif: Scope and Limitations.*”
- [41] Q. Zhao, T. Poisson, X. Pannecoucke, **T. Besset**, *Synthesis* **2017**, DOI: 10.1055/s-0036-1590878.
“*The Transient Directing Group Strategy: A New Trend in Transition-Metal-Catalyzed C–H Bond Functionalization.*”
- [40] Q. Zhao, T. Poisson, X. Pannecoucke, J.-P. Bouillon, **T. Besset**, *Org. Lett.* **2017**, 5106.
“*Pd-Catalyzed Diastereoselective Trifluoromethylthiolation of Functionalized Acrylamides.*”
- [39] E. Carbonnel, **T. Besset**, T. Poisson, D. Labar, X. Pannecoucke, P. Jubault, *Chem. Commun.* **2017**, 53, 5706.
“*¹⁸F-Fluoroform: a ¹⁸F-trifluoromethylating agent for the synthesis of SCF₂¹⁸F-aromatic derivatives.*”
- [38] Q. Zhao, V. Tognetti, L. Joubert, **T. Besset**, X. Pannecoucke, J.-P. Bouillon,* T. Poisson,* *Org. Lett.* **2017**, 19, 2106.
“*Palladium-Catalyzed Synthesis of 3-Trifluoromethyl Substituted 1,3-Butadienes by Means of Directed C-H Bond Functionalization.*”
- [37] M. V. Ivanova, A. Bayle, **T. Besset**, X. Pannecoucke, T. Poisson,* *Eur. J. Org. Chem.* **2017**, 2475.
“*Copper Mediated (Diethyl phosphono)difluoromethylthiolation of α -Bromo-Ketones.*”
- [36] M. V. Ivanova, A. Bayle, **T. Besset**, X. Pannecoucke, T. Poisson, *Angew. Chem. Int. Ed.* **2016**, 55, 14141.
“*Copper Salt-Controlled Divergent Reactivity of [Cu]CF₂PO(OEt)₂ with α -Diazocarbonyl Derivatives.*”
- [35] H.-Y. Xiong, X. Pannecoucke, **T. Besset**, *Angew. Chem. Int. Ed.* **2016**, 55, 13490.
“*A New Electrophilic Reagent for the Direct Introduction of the SCF₂PO(OEt)₂ Group onto Molecules.*”
- [34] H.-Y. Xiong, X. Pannecoucke, **T. Besset**, *Chem. Eur. J.* **2016**, 22, 16734.
“*Recent Advances in the Synthesis of SCF₂H- and SCF₂FG-containing Molecules.*”

- [33] H.-Y. Xiong, D. Cahard, X. Pannecoucke, **T. Besset**, *Eur. J. Org. Chem.* **2016**, 3625.
“*Pd-Catalyzed Directed Chlorination of Unactivated C(sp³)-H Bonds at Room Temperature.*”
- [32] **T. Besset**, P. Jubault, X. Pannecoucke, T. Poisson, *Org. Chem. Front.* **2016**, 3, 1004.
“*New Entries Toward the Synthesis of OCF₃-Containing Molecules.*”
- [31] M. V. Ivanova, A. Bayle, **T. Besset**, X. Pannecoucke, T. Poisson, *Chem. Eur. J.* **2016**, 22, 10284.
“*New Prospects Toward the Synthesis of Difluoromethylated Phosphate Mimics.*”
- [30] H.-Y. Xiong, X. Pannecoucke, **T. Besset**, *Org. Chem. Front.* **2016**, 3, 620.
“*Oxidative Trifluoromethylthiolation and Thiocyanation of Amines: a General Approach to N–S Bond Formation.*”
- [29] Q. Zhao, **T. Besset**, T. Poisson, J.-P. Bouillon, X. Pannecoucke, *Eur. J. Org. Chem.* **2016**, 76.
“*Palladium-Catalyzed Synthesis of α -(Trifluoromethyl)styrenes by Means of Directed C–H Bond Functionalization.*”
- [28] M. I. Ivanova, A. Bayle, **T. Besset**, T. Poisson, X. Pannecoucke, *Angew. Chem., Int. Ed.* **2015**, 54, 13406.
“*Copper-Mediated Formation of Aryl, Heteroaryl, Vinyl and Alkynyl Difluoromethylphosphonates: A Mild and General Approach to Fluorinated Phosphate Mimics.*”
- [27] **T. Besset**, T. Poisson, X. Pannecoucke, *J. Fluorine Chem.* **2015**, 178, 225.
“*1,4-Addition of the CF₃ group, perfluoroalkyl groups and functionalized difluoromethylated moieties: An overview.*” (Review)
- [26] M.-C. Belhomme, **T. Besset**, T. Poisson, X. Pannecoucke, *Chem. Eur. J.* **2015**, 21, 12836.
“*Recent Progress Toward the Introduction of Functionalized Difluoromethylated building blocks.*” (Review)
- [25] H.-Y. Xiong, **T. Besset**, D. Cahard, X. Pannecoucke, *J. Org. Chem.* **2015**, 80, 4204.
“*Palladium(II)-Catalyzed Directed Trifluoromethylthiolation of Unactivated C(sp³)-H Bonds.*”
- [24] **T. Besset**, T. Poisson, X. Pannecoucke, *Eur. J. Org. Chem.* **2015**, 2765.
“*Direct Vicinal Difunctionalization of Alkynes: An Efficient Approach Towards the Synthesis of Highly Functionalized Fluorinated Alkenes.*” (Review)
- [23] **T. Besset**, T. Poisson, X. Pannecoucke, *Chem. Eur. J.* **2014**, 20, 16830.
“*Recent Progress in Direct Introduction of Fluorinated Groups on Alkenes and Alkynes by means of C H Bond Functionalization.*” (Review)
- [22] **T. Besset**, T. Poisson, X. Pannecoucke, *Eur. J. Org. Chem.* **2014**, 7220.
“*Access to Difluoromethylated Alkynes through the Castro-Stephens Reaction.*”
- [21] **T. Besset**, D. Cahard, X. Pannecoucke, *J. Org. Chem.* **2014**, 79, 413.

“Regio- and Diastereoselective Direct Cu-Mediated Trifluoromethylation of Functionalized Alkenes.”

- [20] M.-C. Belhomme, D. Dru, H.-Y. Xiong, D. Cahard, **T. Besset**, T. Poisson, X. Pannecoucke, *Synthesis* **2014**, 1859.
“Copper Mediated Direct Functionalization of Unsaturated C–C Bonds using BrCF₂CO₂Et: a Straightforward Access to Highly Valuable Difluoroacetylated Alkenes.” (Special Topic Issue on “Copper Chemistry” ed. Prof. E. M. Carreira)
- [19] V. Bizet, **T. Besset**, J. A. Ma, D. Cahard, *Curr. Top. Med. Chem.* **2014**, *14*, 901.
“Recent Progress in Asymmetric Fluorination and Trifluoromethylation Reactions.” (Review)
- [18] C. S. Fuchs, M. Hollauf, M. Meissner, R. C. Simon, **T. Besset**, J. N. H. Reek, W. Riethorst, F. Zepeck, W. Kroutil, *Adv. Synth. Catal.* **2014**, *356*, 2257.
“Dynamic Kinetic Resolution of 2-Phenylpropanal Derivatives to Yield β -Chiral Primary Amines via Bioamination.”
- [17] T. Ferrary, E. David, G. Milanole, **T. Besset**, P. Jubault, X. Pannecoucke, *Org. Lett.* **2013**, *15*, 5598.
“A straightforward and highly diastereoselective access to functionalized monofluorinated cyclopropanes via a Michael Initiated Ring Closure reaction.”
- [16] **T. Besset**, R. Gramage-Doria, J. N. H. Reek, *Angew. Chem. Int. Ed.* **2013**, *52*, 8795. “Remotely Controlled Iridium-Catalyzed Asymmetric Hydrogenation of Terminal 1,1-Diaryl Alkenes.” (Highlight)
- [15] **T. Besset**, R. Gramage-Doria, J. N. H. Reek, *Curr. Org. Chem.* **2013**, *17*, 1489. “Transition-Metal Encapsulation within Supramolecular Diphosphine Capsules.”
Special issue on "Nanoreactors and molecular prisons" (Review)
- [14] D. Anselmo, R. Gramage-Doria, T. Besset, M. V. Escárcega-Bobadilla, G. Salassa, E. C. Escudero-Adán, M. Martínez Belmonte, E. Martin, J. N. H. Reek, A. W. Kleij, *Dalton Trans.* **2013**, *42*, 7595.
“Supramolecular Bulky Phosphines Comprising of 1,3,5-Triaza-7-phosphaadamantane and Zn(salphen)s: Structural Features and Application in Hydrosilylation Catalysis.”
- [13] **T. Besset**, D. W. Norman, J. N. H. Reek, *Adv. Synth. Catal.* **2013**, *355*, 348. “Supramolecular Encapsulated Rhodium Catalysts for Branched Selective Hydroformylation of Alkenes at High Temperature.”
- [12] F. W. Patureau, **T. Besset**, F. Glorius, checked by T. Harada, T. Fukuyama, *Org. Synth.* **2013**, *90*, 41.
“Preparation of (E)-N,N-Diethyl-2-styrylbenzamide by Rh-catalyzed C-H Activation.”
- [11] **T. Besset**, C. Schneider, D. Cahard, *Angew. Chem. Int. Ed.* **2012**, *51*, 5048.
“Tamed (Hetero)Arene Trifluoromethylation.” (Highlight)
- [10] F. W. Patureau, **T. Besset**, R. Fröhlich, F. Glorius, *C. R. Chim.* **2012**, *15*, 1081.
“On the Selectivity in Some Rh(III) Catalyzed C-H Activation Cross-Couplings; De la Sélectivité dans des Réactions d'Hétéro-Couplage par C-H Activation Catalysées au Rh(III).”

- [9] N. Schroder, **T. Besset**, F. Glorius, *Adv. Synth. Catal.* **2012**, 354, 579.
“*Synthesis of Olefin-Oxazoline-Ligands (OlefOx) by Rhodium(III)-Catalyzed Oxidative Olefination.*”
- [8] **T. Besset**, N. Kuhl, F. W. Patureau, F. Glorius, *Chem. Eur. J.* **2011**, 17, 7167.
“*Rh(III)-Catalyzed Oxidative Olefination of Vinylic C-H Bonds: Efficient and Selective Access to Di-unsaturated α -Amino Acid Derivatives and other Linear 1,3-Butadienes.*”
- [7] **T. Besset**, E. Braud, C. Garbay, S. Kolb, P.-M. Léo, C. Morin, *Eurjchem* **2011**, 2, 433.
“*Preparation and Evaluation of a Set of Bis-(methoxycarbonyl-methylthio)-heteroquinones as CDC25B Phosphatase Inhibitors.*”
- [6] S. Rakshit, C. Grohmann, **T. Besset**, F. Glorius, *J. Am. Chem. Soc.* **2011**, 133, 2350. “*Rh[III]-Catalyzed Directed C-H Olefination using an Internal Oxidant: Mild, Efficient and Versatile.*”
- [5] F. W. Patureau, **T. Besset**, N. Kuhl, F. Glorius, *J. Am. Chem. Soc.* **2011**, 133, 2154. “*Diverse Strategies Towards Indenol and Fulvene Derivatives: Rh-Catalyzed C-H Activation of Aryl Ketones Followed by Coupling with Internal Alkynes.*”
- [4] F. W. Patureau, **T. Besset**, F. Glorius, *Angew. Chem. Int. Ed.* **2011**, 50, 1064.
“*Rhodium-Catalyzed Oxidative Olefination of C-H Bonds in Acetophenones and Benzamides.*”
- [3] **T. Besset**, C. Morin, *Synthesis* **2009**, 1753.
“*Synthesis of 3,6-Dimethoxybenzene-1,2-diamine and of 4,7-Dimethoxy-2-methyl-1H-benzimidazole.*”
- [2] C. Morin, **T. Besset**, J.-C. Moutet, M. Fayolle, M. Brueckner, D. Limosin, K. Becker, E. Davioud-Charvet, *Org. Biomol. Chem.* **2008**, 6, 2731.
“*The Aza-Analogues of 1,4-Naphthoquinones are Potent Substrates and Inhibitors of Plasmodial Thioredoxin and Glutathione Reductases and of Human Erythrocyte Glutathione Reductase.*”
- [1] I. Abrunhosa-Thomas, O. Roy, M. Barra, **T. Besset**, P. Chalard, Y. Troin, *Synlett* **2007**, 1613.
“*Diastereoselective Synthesis of 2-Monosubstituted and 2,6-Disubstituted Piperidines.*”