Continuous Resolution and Deracemization of Chiral Compounds by Crystallization

Dissemination and Communication Activities, Oct 2016 – Dec 2020

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BLOG POSTS

Grace Wong: "Reflecting on My Apprenticeship" 19 August 2020

Louise Lejeune: "An Internship Abroad" 23 June 2020

Francesca Cascella and Ghufran ur Rehman: "An Interview with Two CORE Early Career Researchers" 30 January 2020

Mihaela Pop: "An Industry Perspective" 23 January 2020

Maxime Charpentier: "Experiences of a Newcomer" 22 October 2019

Ryusei Oketani: "Interesting and Unpublished" Is Equivalent to "Non-existent" 5 April 2019

Francesca Cascella: "A Window Into Your Future" 27 February 2019

Giuseppe Belletti, Jan-Joris Devogelaer and Aliou Mbodji "Solvay workshop on "Chiral symmetry breaking at molecular level" – Brussels, 28-30 November 2018" 9 January 2019

Ghufran ur Rehman "CORE Family" 26 July 2018

Giulio Valenti: "Why not apply for a Marie Curie fellowship?" 11 June 2018

Ryusei Oketani: "Conference report ~Symposium on Molecular chirality in Japan~" 29 May 2018

Francesca Cascella: "Behind the scenes of a Marie Curie PhD" 14 May 2018

Johannes Hoffmann: "Working cross borders" 6 February 2018

Jan-Joris Devogelaer and Carola Tortora: "A taste of industry: interacting with the network's partners" 12 December 2017

Lina Harfouche: "The secondment: a rewarding experience in Glasgow" 8 December 2017

Raghunath Venkatramanan: "CORE at Explorathon 2017" 17 October 2017

Aliou Mbodi: "First Research Experience in SMS Laboratory at University of Rouen, France" 22 August 2017

Giuseppe Belletti and Aliou Mbodji: "Summer School, Nijmegen '17 – Teamwork is the key." 22 August 2017

CONFERENCE PRESENTATIONS

Shashank Bhandari: "Modeling, Simulation and Design Strategies to Efficiently Apply Preferential Crystallization in a Continuous Process" S. Bhandari, H. Lorenz and A. Seidel-Morgenstern, AIChe Annual meeting, 16-20 November 2020, Virtual Presentation

Brigitta Bodák: "Continuous solid-state deracemization via temperature cycles – a model-based process development" B. Bodák and M. Mazzotti, AIChe Annual meeting, 16-20 November 2020, Virtual Presentation

Jan-Joris Devogelaer: "Data-driven discovery of cocrystals using network science and machine learning" J.J. Devogelaer, H. Meekes, E. Vlieg, R. De Gelder, Crystal Conversations, 1 October 2020, Virtual Presentation

Francesca Cascella: "Design and Operation of Batch Crystallization Processes for Enantioseparation Purposes" F. Cascella, H. Lorenz, A. Seidel-Morgenstern (2020), Jour Fixe Crystallization Series, 26 June 2020, Virtual Presentation through TU Dortmund, Germany

Johannes Hoffmann: "Selective Sequential Crystallization of Racemic and Enantiopure Mandelic Acid at the Solution Eutectic and its applicability in the pharmaceutical industry" R. Venkatramanan, F. Cascella, A. Seidel Morgenstern, H. Lorenz and J. H. ter Horst (2019), CMAC Showcase Event, 23-24 October 2019, University of Strathclyde, Glasgow, UK

Jan-Joris Devogelaer: "Knowledge-based design of cocrystals: partner search for molecules" J.J. Devogelaer, R. de Gelder, H. Meekes and E. Vlieg (2019), sIMMposium 2019, 21-22 October 2019, Radboud University, Nijmegen

Shashank Bhandari: "Modelling Batch Preferential Crystallization for Conglomerates Forming Systems using Shortcut Models" S. Bhandari, T. Carneiro, E. Temmel, H. Lorenz and A. Seidel-Morgenstern (2019) 12th European Congress of Chemical Engineering (ECCE12), 15-19 September 2019, Florence, Italy

Francesca. Breveglieri: "Deracemisation via temperature cycles: the effect of the initial and operating conditions" F. Breveglieri*, B. Bodák, and M. Mazzotti (2019) 12th European Congress of Chemical Engineering (ECCE12), 15-19 September 2019, Florence, Italy

Johannes Hoffmann: "Selective Sequential Crystallization of Racemic and Enantiopure Mandelic Acid at the Solution Eutectic" J. Hoffmann, R. Venkatramanan, F. Cascella, A. Seidel-Morgenstern, H. Lorenz, J. H. ter Horst (2019) 12th European Congress of Chemical Engineering (ECCE12), 15-19 September 2019, Florence, Italy

Lina Harfouche: "Non-Classical Studies for Cyclic Preferential Crystallization of a Stable Racemic Compound via its Metastable Conglomerate and Conglomerate cocrystal" L. Harfouche, C. Brandel, Y. Cartigny, G. Coquerel and Samuel PETIT (2019) 26th International Workshop on Industrial Crystallization (BIWIC 2019), 26-28 August 2019, Thailand

Brigitta Bodák: “Model-based analysis of solid-state deracemization via temperature cycles.” B. Bodák, F. Breveglieri and M. Mazzotti (2019) BACG 50th Annual Conference, 9-11 July 2019, London

Maxime Charpentier: “Phase diagram screening of chiral compounds with UV/CD spectroscopy.” M. Charpentier, R. Venkatramanan, K. Johnston and J.H. t. Horst (2019) BACG 50th Annual Conference, 9-11 July 2019, London

Johannes Hoffmann: “Serial Separation and Resolution in Eutectic Solutions.” J. Hoffamnn, R. Venkatramanan, H. Lorenz, A. Seidel-Morgenstern and J. H. T. Horst (2019) BACG 50th Annual Conference, 9-11 July 2019, London

Francesca Breveglieri: “Role of racemisation kinetic in the deracemisation process via temperature cycles.” F. Breveglieri B. Bodák and M. Mazzotti (2019) BACG 50th Annual Conference, Student Day, 8 July 2019, London

Ryusei Oketani: “Phase diagram study and chiral resolution of axially chiral naphthamide derivative.” R. Oketani, M. Hoquante, C. Brandel, S. Clevers, F. Marin, P. Tinnemans, H. Meekes, E. Vlieg, Y. Geerts, P. Cardinael, G. Coquerel, 24th International Conference on the Chemistry of the Organic Solid State (ICCOSS2019), 16-21 June 2019, New York, USA

Lina Harfouche: “Non-Classical Studies for Cyclic Preferential Crystallization of a Stable Racemic Compound via its Metastable Conglomerate and Conglomerate cocrystal” Lina HARFOUCHE, Clément BRANDEL, Yohann CARTIGNY, Gérard COQUEREL and Samuel PETIT (2019) CRISTAL-9 congress, ENSIC, 16-17 May 2019, Nancy, France

Shashank Bhandari: “Resolution of Conglomerates Using Preferential Crystallization and Enzymatic Racemization” T.Carneiro, E. Temmel, S. Bhandari, H. Lorenz, K. Wrzosek, A. Seidel-Morgenstern (2018) 2018 AIChE Annual Meeting, 28 October – 2 November 2018, Pittsburgh, USA

Brigitta Bodak: “Population Balance Model of Solid-State Deracemization Through Temperature Cycles” B. Bodak, G.M. Maggioni, and M. Mazzotti (2018) 25th International Workshop on Industrial Crystallization (BIWIC), 6-7 September 2018, University of Rouen, France

Johannes Hoffmann: “Separation of Mandelic Acid Enantiomers at Eutectic Composition by Preferential Crystallization” J. Hoffmann, R. Venkatramanan, F. Cascella, A. Seidel-Morgenstern, H. Lorenz, J. H. ter Horst (2018) 25th International Workshop on Industrial Crystallization (BIWIC), 6-7 September 2018, University of Rouen, France

Ryusei Oketani: “The role of racemization and crystal growth kinetics on deracemization rate of naphthamide compound using temperature cycling” Ryusei OKETANI, Clément Brandel, Pascal Cardinael, Gérard Coquerel (2018) 13th International Workshop of the Crystal Growth of Organic Material 27 – 30 August 2018, Korea University, Seoul, Korea

Prof. Heike Lorenz: "Crystallization-based isolation of a target compound form complex multicomponent mixtures originating from from plant processing" H. Lorenz, A. Seidel-Morgerstern, P. Schulze, E. Horosanskaia, International Symposium on Industrial Crystallization (ISIC 20), 3-6 September 2017, UCD (Dublin, Ireland)

Prof. Andreas Seidel-Morgerstern: "Continuous crystallization to separate enantiomers exploiting two coupled fluidized bed crystallizers" A. Seidel-Morgerstern, E. Temmel, K. Kerst, D. Khlopov, A. Bartz, G. Janiga, M. Mangold, H. Lorenz. International Symposium on Industrial Crystallization (ISIC 20), 3-6 September 2017, UCD (Dublin, Ireland)

INTERVIEW

Prof. Andreas Seidel-Morgerstern: "How can the Enantiomers of a Chiral Molecule be separated more efficiently" Open Access Video Journal: Latest ThinkinG [LT Video Publication DOI: https://doi.org/10.21036/LTPUB10483]

JOURNAL ARTICLES

Giulio Valenti: "Combining incompatible processes for deracemization of a Praziquantel derivative under flow conditions" G. Valenti, P. Tinnemans, I. Baglai, W.L. Noorduin, B. Kaptein, M. Leeman, J.H. ter Horst, R.M. Kellogg (2020) *Angewandte Chemie*

Jan-Joris Devogelaer: "Cocrystal prediction by artificial neural networks" J.J. Devogelaer, H. Meekes, P. Tinnemans, E. Vlieg, R. de Gelder (2020) *Angewandte Chemie*

Francesca Breveglieri: "Performance Analysis and Model-Free Design of Deracemization via Temperature Cycles" F. Breveglieri, I. Baglai, M. Leeman, W. L. Noorduin, R. M. Kellogg, M. Mazzotti (2020) *Organic Process Research & Development*

Prof Heike Lorenz and Prof Andreas Seidel-Morgenstern: "Separation Processes to Provide Pure Enantiomers and Plant Ingredients" H. Lorenz, A. Seidel-Morgenstern (2020) *Annual Review of Chemical and Biomolecular Engineering*

Francesca Cascella and Carola Tortora: "Speeding up Viedma Deracemization through Water catalyzed and Reactant Self-catalyzed Racemization" C. Tortora, C. Mai, F. Cascella, M. Mauksch, A. Seidel-Morgenstern, H. Lorenz, S. B. Tsogoeva (2020) *ChemPhysChem*

Lina Harfouche: "Discovery of New Proxyphylline Based Chiral Cocrystals: Solid State Landscape and Dehydration Mechanism" L. Harfouche, N. Couvrat, M. Sanselme, C. Brandel, Y. Cartigny, S. Petit, G. Coquerel (2020) *Crystal Growth & Design*

Lina Harfouche: "Resolution by Preferential Crystallization of Proxyphylline by using its Salicylic Acid Monohydrate Co-crystal" L. Harfouche, C. Brandel, Y. Cartigny, S. Petit, G. Coquerel (2020) *Chemical Engineering & Technology*

Aliou Mbodji: "Evidence of Conglomerate with Partial Solid Solutions in Ethylammonium Chlocyphos" A. Mbodji, G. Gbabode, M. Sanselme, Y. Cartigny, N. Couvrat, M. Leeman, V. Dupray, R. M. Kellogg, G. Coquerel (2020) *Crystal Growth & Design*

Francesca Cascella: "Exploiting ternary solubility phase diagrams for resolution of enantiomers: An instructive example" F. Cascella, A. Seidel-Morgenstern, H. Lorenz (2019) *Chemical Engineering & Technology*

Francesca Cascella: "Efficient resolution of racemic guaifenesin via batch preferential crystallization processes" F. Cascella, E. Temmel, A. Seidel-Morgenstern, H. Lorenz (2019) *Organic Process Research & Development*

Brigitta Bodák: "Effect of Initial Conditions on Solid-State Deracemization via Temperature Cycles: A Model-Based Study" G. Maggioni and M. Mazzotti (2019) *Crystal Growth & Design*

Giuseppe Belletti and Carola Tortora: "Photoracemization-based Viedma ripening of a BINOL derivative" G. Belletti, C. Tortora, I. Mellema, P. Tinnemans, H. Meekes, F. Rutjes, S. Tsogoeva and E. Vlieg (2019) *Chemistry: A European Journal*

Jan-Joris Devogelaer: "Cocrystal design by network-based link prediction" J. Devogelaer, S. Brugman, H. Meekes, P. Tinnemans, E. Vlieg and R. de Gelder (2019) *CrystEngComm*

Lina Harfouche: "Enabling direct Preferential Crystallization in a Stable Racemic Compound System" L C. Harfouche, C. Brandel, Y. Cartigny, J. H. ter Horst, G Coquerel, and S Petit (2019) *Molecular Pharmaceutics*

Giuseppe Belletti and Raghunath Venkatramanan: "Towards Continuous Deracemization via Racemic Crystal Transformation monitored by in-situ Raman Spectroscopy" C. Xiouras, G. Belletti, R. Venkatramanan, A. Nordon, H. Meekes, E. Vlieg, G. D. Stefanidis, and J. H. Ter Horst (2019) *Crystal Growth & Design*

Shashank Bhandari: "Shortcut Model for Describing Isothermal Batch Preferential Crystallization of Conglomerates and Estimating the Productivity" S. Bhandari, T. Carneiro, E. Temmel, H. Lorenz, and A. Seidel-Morgenstern (2019) *Crystal Growth & Design*

Aliou Mbodji: "Family of conglomerate forming systems composed of chlocyphos and alkyl-amine. Assessment of their resolution performances by using various modes of preferential crystallization" A. Mbodji, G. Gbabode, M. Sanselme, N. Couvrat, M. Leeman, V. Dupray, R. M. Kellogg, and G. Coquerel (2019) *Crystal Growth & Design*

Ryusei Oketani: "Deracemization in a complex quaternary system with a second-order asymmetric transformation using phase diagram studies" R. Oketani, Francesco Marin, Paul Tinnemans, Marine Hoquante, Anne Laurent, Clément Brandel, Pascal Cardinael, Hugo Meekes, Elias Vlieg, Yves Geerts, and Gerard Coquerel (2019) *Chemistry: A European Journal*

Jan-Joris Devogelar: "Cocrystals in the Cambridge Structural Database: a network approach" Jan-Joris Devogelaer, Hugo Meekes, Elias Vlieg and René de Gelder (2019) *Acta Crystallographica Section B: A Journal of the International Union of Crystallography*

Ryusei Oketani: "Resolution of an atropoisomeric naphthamide by second-order asymmetric transformation: A highly productive technique" Ryusei Oketani, Marine Hoquante, Clément Brandel, Pascal Cardinael, and Gérard Coquerel (2019) *Organic Process Research and Development*

Franscesca Breveglieri: "Role of Racemization Kinetics in the Deracemization Process via Temperature Cycles" Francesca Breveglieri and Marco Mazzotti (2019) *Crystal Growth & Design*

Francesca Cascella: "Resolution of Racemic Guaifenesin Applying a Coupled Preferential Crystallization-Selective Dissolution Process: Rational Process Development" Erik Temmel, Matthias J. Eicke, Francesca Cascella, Andreas Seidel-Morgenstern, and Heike Lorenz (2019) *Crystal Growth & Design*

Ryusei Oketani: "NH-form of a threonine-based Schiff base in the solid state" Ryusei Oketani, Hiroki Takahashi, Marine Hoquante, Clément Brandel, Pascal Cardinael and Gérard Coquerel (2019) *Journal of Molecular Structure*

Ryusei Oketani: "Practical role of racemization rates in deracemization kinetics and process productivities" Ryusei Oketani, Marine Hoquante, Clément Brandel, Pascal Cardinael, Gérard Coquerel* (2018) *Crystal Growth & Design*

Brigitta Bodák: "Population-based Mathematical Model of Solid-state Deracemisation via Temperature Cycles", Brigitta Bodak, Giovanni Maria Maggioni, and Marco Mazzotti (2018) *Crystal Growth & Design*

Giuseppe Belletti: "The role of additives during deracemization using temperature cycling" Giuseppe Belletti, Hugo Meekes, Floris P. J. T. Rutjes, Elias Vlieg (2018) *Crystal Growth & Design*

Prof Richard M Kellogg "The Strecker Reaction Coupled to Viedma Ripening: A Simple Route to Highly Hindered Enantiomerically Pure Amino Acids", I.Baglai, M. Leeman, K. Wurst, B. Kaptein, R.M. Kellogg, W.L. Noorduin (2018) ChemComm., 24 August 2018 [online] DOI: 10.1039/C8CC06658B

Franscesca Breveglieri: "Deracemization of NMPA via Temperature Cycles" Francesca Breveglieri, Giovanni Maria Maggioni , and Marco Mazzotti (2018) *Crystal Growth & Design,* 18 (3), pp 1873–1881, January 2018 [online] DOI: 10.1021/acs.cgd.7b01746

Prof Svetlana Tsogoeva: "Synthesis of Thymoquinone–Artemisinin Hybrids: New Potent Antileukemia, Antiviral, and Antimalarial Agents." T. Fröhlich, C. Reiter, M. E. M. Saeed, C. Hutterer, F. Hahn, M. Leidenberger, O. Friedrich, B. Kappes, M. Marschall, T. Efferth, S. B. Tsogoeva (2018) *ACS Med. Chem. Lett.*, December 2018, DOI: 10.1021/acsmedchemlett.7b00412.

Prof Joop ter Horst: "Coupling Viedma Ripening with Racemic Crystal Transformations: Mechanism of Deracemization" Christos Xiouras, Joop H. Ter Horst, Tom Van Gerven, and Georgios D. Stefanidis (2017) *Crystal Growth and Design,* 24 July 2017 [online]

Prof Richard M. Kellogg: "Practical Stereochemistry" Accounts Chem. Res., 2017, 50, 905-914.

Prof Gérard Coquerel and Prof Samuel Petit: "Molecular Mobility of an Amorphous Chiral Pharmaceutical Compound: Impact of Chirality and Chemical Purity" Quentin Viel, Laurent Delbreilh, Gérard Coquerel, Samuel Petit, and Eric Dargent (2017) *The Journal of Physical Chemistry B*, 20 July 2017

Prof Gerard Coquerel: "Phase Diagrams for Process Design" In book: Engineering Crystallography: From Molecule to Crystal to Functional Form, pp.215-233 part of the *NATO Science for Peace and Security Series A: Chemistry and Biology series* · July 2017

Prof Elias Vlieg: "Deracemization of a Racemic Allylic Sulfoxide Using Viedma Ripening" Anthonius H. J. Engwerda, Niels Koning, Paul Tinnemans, Hugo Meekes, F. Matthias Bickelhaupt , Floris P. J. T. Rutjes, and Elias Vlieg (2017) *Crystal Growth and Design,* 3 July 2017 [online]

Prof Joop ter Horst: "Continuous Total Spontaneous Resolution" René R. E. Steendam and Joop H. ter Horst (2017) *Crystal Growth and Design,* 3 July 2017 [online]

Prof Joop ter Horst: "Effect of additives on the preferential crystallization of L-asparagine monohydrate", Peetikamol Kongsamai, Atthaphon Maneedaeng, Chalongsri Flood, Joop H. ter Horst, Adrian E. Flood (2017) *The European Physical Journal Special Topics*, April 2017, Volume 226, Issue 5, pp 823–835

JOURNAL COVER PROFILES

Francesca Cascella and Carola Tortora: "Speeding up Viedma Deracemization through Water-catalyzed and Reactant Self-catalyzed Racemization" F. Cascella, C. Tortora, C. Mai, M. Mauksch, A. Seidel-Morgenstern, H. Lorenz and S.B. Tsogoeva (2020) *ChemPhysChem*

Giuseppe Belletti and Carola Tortora: "Photoracemization-based Viedma ripening of a BINOL derivative" G. Belletti, C. Tortora, I. Mellema, P. Tinnemans, H. Meekes, F. Rutjes, S. Tsogoeva and E. Vlieg (2019) *Chemistry: A European Journal*

Ryusei Oketani: "Deracemization in a complex quaternary system with a second-order asymmetric transformation using phase diagram studies" R. Oketani, Francesco Marin, Paul Tinnemans, Marine Hoquante, Anne Laurent, Clément Brandel, Pascal Cardinael, Hugo Meekes, Elias Vlieg, Yves Geerts, and Gerard Coquerel (2019) *Chemistry: A European Journal*

LECTURES

Bodák, Brigitta, Breveglieri, Francesca: "Rate control separation processes in fine chemistry" Lecture to Chemical and Process Engineering students at ETH Zurich, 20 December 2018

Prof. Gerard Coquerel "Crystallization and macroscopic symmetry breakings" Gérard Coquerel, Ryusei Oketani, François-Xavier Gendron, Manon Schindler, Simon Clevers, Clément de Saint Jores, Pascal Cardinaël, Najla Garbit-Hamza, and Clément Brandel, Invited Lecture at the Symposium on Molecular Chirality in Chiba, Japan, 10-12 May 2018

Prof. Andreas Seidel-Morgerstern: "Process to Separate Enantiomers in Chemistry and Drugs" Invited plenary speaker at the first European Asymmetry Symposium, 15-16 March 2018 in Nice Théâtre du Parc Valrose

Prof. Heike Lorenz: "Purification by Crystallization" Guest Lecture at CORE Workshop Solid State, 6-10 November 2017, Cluj-Napoca, Romania

Prof Joop ter Horst: "Fundamentals of Crystallization" Guest Tutorial at the International Symposium on Industrial Crystallization (ISIC 20), 3-6 September 2017, UCD (Dublin, Ireland)

Prof Gerard Coquerel: "Thermodynamics and Phase Diagrams" Summer School on Chiral Crystallization, Resolution & Deracemization, 3-6 July 2017, Radboud University

Prof Joop ter Horst: "Crystal nucleation" Summer School on Chiral Crystallization, Resolution & Deracemization, 3-6 July 2017, Radboud University

Prof Joop ter Horst: "Preferential crystallisation & Process Modelling" Summer School on Chiral Crystallization, Resolution & Deracemization, 3-6 July 2017, Radboud University

Prof. Andreas Seidel-Morgerstern: "Processes to separate enantiomers" Summer School on Chiral Crystallization, Resolution & Deracemization, 3-6 July 2017, Radboud University

Prof Elias Vlieg: "Introduction to Chirality" Summer School on Chiral Crystallization, Resolution & Deracemization, 3-6 July 2017, Radboud University

Prof Elias Vlieg "Viedma ripening – theory" Summer School on Chiral Crystallization, Resolution & Deracemization, 3-6 July 2017, Radboud University

Prof. Andreas Seidel-Morgerstern: "Continuous crystallization to separate enantiomers exploiting two coupled fluidized bed crystallizers" A. Seidel-Morgerstern, E. Temmel, H. Lorenz, G. Janiga, M. Mangold. Invited speaker at the British Association of Crystal Growth (BACG 2017), 27-30 June 2017, University of Manchester

Prof Joop ter Horst: "An introduction to Industrial Crystallization" CORE Introductory week, 30 January – 3 February 2017, University of Strathclyde

Prof Marco Mazzotti: "Crystal Shape Engineering" CORE Introductory week, 30 January – 3 February 2017, University of Strathclyde

Prof. Andreas Seidel-Morgerstern: "CORE Introductory week, 30 January – 3 February 2017, University of Strathclyde

POSTERS

Raghunath Venkatramanan: "Towards in situ monitoring and control of crystallization-based resolution processes" A. Nordon and J. H. ter Horst (2019) CMAC Showcase Event, 23-24 October 2019, University of Strathclyde, Glasgow, UK

Maxime Charpentier and Johannes Hoffmann: "Industrial Crystallization Fundamentals" C. Mack, C. J. J. Gerard, J. Sefcik, J. H. ter Horst (2019) CMAC Showcase Event, 23-24 October 2019, University of Strathclyde, Glasgow, UK

Giuseppe Belletti: "Photoracemization-based Viedma ripening of a BINOL derivative" sIMMposium 2019, Radboud University, Nijmegen, 21-22 October 2019

Brigitta Bodak: "Modeling solid-state deracemization via temperature cycles" B. Bodák, F. Breveglieri, and M. Mazzotti (2019) 12th European Congress of Chemical Engineering (ECCE12), 15-19 September 2019, Florence, Italy

Francesca Breveglieri: "Role of racemisation kinetic in the deracemisation process via temperature cycles." F. Breveglieri, B. Bodák and M. Mazzotti (2019) BACG 50th Annual Conference, 9-11 July 2019, London

Ryusei Oketani: "'Phase diagram study and chiral resolution of axially chiral naphthamide derivative" (2019) ICCOSS XXIV: 24th International Conference on the Chemistry of the Organic Solid State, New York City, USA, 16-21 June 2019 **[Winner – Best Poster Prize]**

Shashank Bhandari and Francesca Cascella: "Preferential Enantioselective Crystallization: experiments and modelling." S. Bhandari, F. Cascella, H. Lorenz, A. Seidel-Morgenstern (2019) IMPRS conference YCOPE 2019, 18-20 March, 2019, Max Planck Magdeburg, Germany

Francesca Cascella [poster and flash presentation]: "Studies on batch preferential crystallization of an API" F. Cascella, E. Temmel, A. Seidel-Morgenstern, H. Lorenz (2019) Crystallization meeting in Bamberg, 12-13 March 2019 https://dechema.de/veranstaltungskalender.html

Carola Tortora [poster and flash presentation]: "Speeding up Conglomerate Deracemization through Faster Racemization" Carola Tortora, Christina Mai, Svetlana B. Tsogoeva (2018) 1st Women Symposium in the Friedrich-Alexander Universität of Erlangen, Germany, 9-11 December 2018

Giuseppe Belletti: "The role of additives during deracemization using temperature cycling" Giuseppe Belletti, Hugo Meekes, Floris P. J. T. Rutjes, Elias Vlieg (2018), Solvay Workshop "Chiral Symmetry Breaking at Molecular Level" 28 - 30 November 2018, ULB, Brussels

Jan-Joris Devogelaer: "Cocrystals as a route to chiral conglomerates" J. Devogelaer, R. de Gelder, H. Meekes, and E. Vlieg (2018), Solvay Workshop "Chiral Symmetry Breaking at Molecular Level" 28 - 30 November 2018, ULB, Brussels

Aliou Mbodji: "Propensity for amine family to form conglomerates with Chlocyphos and first attempts to perform preferential crystallization of the conglomerate derivative salts", Aliou Mbodji, Gabin Gbabode, Morgane Sanselme, Michel Leeman, Valérie Dupray, Richard M. Kellogg and Gérard Coquerel (2018), Solvay Workshop "Chiral Symmetry Breaking at Molecular Level" 28 - 30 November 2018, ULB, Brussels

Raghuanth Venkatramanan: "Application of Raman & UV for monitoring a racemic compound forming system" Raghunath Venkatramanan, Alison Nordon, Joop H. Ter Horst (2018) EPSRC Centre for Innovative Manufacturing in Continuous Manufacturing and Crystallisation (CMAC) Open Day, 25-26 October 2018, University of Strathclyde, Glasgow UK

Johannes Hoffmann: "Controlling Crystal Chirality in Continuous Cooling and Antisolvent Crystallization of Sodium Bromate" Johannes Hoffmann, René R. E. Steendam, Joop H. Ter Horst (2018) EPSRC Centre for Innovative Manufacturing in Continuous Manufacturing and Crystallisation (CMAC) Open Day, 25-26 October 2018, University of Strathclyde, Glasgow UK

Giuseppe Belletti: "The role of additives during deracemization using temperature cycling", G. Belletti, H. Meekes, F. P. J. T. Rutjes and E. Vlieg (2018), 25th International Workshop on Industrial Crystallization (BIWIC), 6-7 September 2018, University of Rouen, France

Shashank Bhandari: "Cyclic Batch Preferential Crystallization for Conglomerates and Racemic Compounds" S. Bhandari, S. Qamar, A. Seidel-Morgenstern (2018), 25th International Workshop on Industrial Crystallization (BIWIC), 6-7 September 2018, University of Rouen, France

Francesca. Breveglieri: "Evaluation and optimization of solid-state deracemisation via temperature cycles" F. Breveglieri, G.M. Maggioni, and M. Mazzotti (2018), 25th International Workshop on Industrial Crystallization (BIWIC), 6-7 September 2018, University of Rouen, France

Francesca Cascella: "Fundamental Studies for Continuous Preferential Crystallization of Guaifenesin", F. Cascella , E. Temmel , A. Seidel-Morgenstern, H. Lorenz (2018), 25th International Workshop on Industrial Crystallization (BIWIC), 6-7 September 2018, University of Rouen, France **[Winner – First Place, Best Poster Award]**

Jan-Joris Devogelaer: "Discovering new cocrystals via coformer-network analysis" J. Devogelaer, R. de Gelder, H. Meekes, and E. Vlieg (2018), 25th International Workshop on Industrial Crystallization (BIWIC), 6-7 September 2018, University of Rouen, France

Lina Harfouche: "Implementation of Preferential Crystallization in unfavorable cases: Detection of metastable conglomerate" (2018) Lina HARFOUCHE*, Clément BRANDEL, Yohann CARTIGNY, Gérard COQUEREL and Samuel PETIT (2018), 25th International Workshop on Industrial Crystallization (BIWIC), 6-7 September 2018, University of Rouen, France

Aliou Mbodji: "Crystal structure determination of Chlocyphos and resolution of Chlocyphos ethylamine salt by preferential crystallization" Aliou Mbodji, Valerie Dupray, Gabin Gbabode, Clément Brandel, Morgane Sanselme and Gérard Coquerel (2018), 25th International Workshop on Industrial Crystallization (BIWIC), 6-7 September 2018, University of Rouen, France

Ryusei Oketani: "Interplay of the racemization rate and the crystal growth rate on the deracemization rate" R. Oketani, C. Brandel, P. Cardinael, and G. Coquerel (2018), 25th International Workshop on Industrial Crystallization (BIWIC), 6-7 September 2018, University of Rouen, France

Ghufran ur Rehman: "Design of closed loop auto-sampling device able to characterize enantiomeric excess in liquids and solids during chiral resolution processes" Ghufran ur Rehman, Thomas Vetter (2018), 25th International Workshop on Industrial Crystallization (BIWIC), 6-7 September 2018, University of Rouen, France

Carola Tortora: "Speeding up conglomerate deracemization through faster racemization" Carola Tortora and Svetlana B. Tsogoeva (2018), 25th International Workshop on Industrial Crystallization (BIWIC), 6-7 September 2018, University of Rouen, France

Giulio Valenti: "Flurbiprofen: A Target for Viedma Ripening" G.Valenti, Joop H. ter Horst and R.M. Kellogg (2018), 25th International Workshop on Industrial Crystallization (BIWIC), 6-7 September 2018, University of Rouen, France

Raghunath Venkatramanan: "Towards in situ monitoring and control of crystallization-based resolution processes" Raghunath Venkatramanan, Alison Nordon, Joop H ter. Horst (2018), 25th International Workshop on Industrial Crystallization (BIWIC), 6-7 September 2018, University of Rouen, France

Rene de Gelder: "Discovering new cocrystals via coformer-network analysis" J. Devogelaer, R. de Gelder1, H. Meekes, and E. Vlieg (2018), 31st European Crystallographic Meeting, ECM31, of the European Crystallographic Association will take place in the Palace of Exhibition and Congresses (PEC) in Oviedo, Asturias, 22-27 August 2018

Ryusei Oketani: "Derassemization of axial chiral naphthamide: racemization rate and crystallization rate" Symposium on Molecular Chirality in Chiba, Japan, 10-12 May 2018 **[Winner - Excellent poster prize]**

Johannes Hoffmann: "Crystal Chirality Control in Continuous Antisolvent Crystallization of Sodium Bromate" (2017) International Symposium on Industrial Crystallization (ISIC 20), 3-6 September 2017, UCD (Dublin, Ireland)

Francesca Cascella: "Continuous preferential crystallization of a chiral API " H. Temmel, F. Cascella, H. Lorenz, A. Seidel-Morgerstern (2017), 24th International Workshop on Industrial Crystallization (BIWIC 2017), 27-31 August, Dortmund University

Giuseppe Belletti: "The role of additives in the deracemization of conglomerate-forming compounds using temperature cycling" Giuseppe Belletti, Hugo Meekes, Floris P. J. T. Rutjes, Elias Vlieg (2017), Summer School on Chiral Crystallization, Resolution & Deracemization, Nijmegen, The Netherlands, July 3-6, 2017.

Giuseppe Belletti, Aliou Mbodji, Sudhansu Sekhar Jena: Dissemination plan: ideas, methods and objectives - Dissemination Committee, CORE Network - Activities proposal, Giuseppe Belletti, Aliou Mbodji, Sudhansu Sekhar Jena, Svetlana Tsogoeva, Elias Vlieg (2017), Summer School on Chiral Crystallization, Resolution & Deracemization, Nijmegen, The Netherlands, July 3-6, 2017.

Shashank Bhandari: "Continuous Crystallization Process Design Strategies" S. Bhandari and A. Seidel-Morgerstern (2017), Summer School on Chiral Crystallization, Resolution & Deracemization, Nijmegen, The Netherlands, July 3-6, 2017.

Francesca Breveglieri: "Solid state deracemisation if Imine derivatives via High pressure homogenisation and temperature cycles" (2017). Summer School on Chiral Crystallization, Resolution & Deracemization, Nijmegen, The Netherlands, July 3-6, 2017.

Francesca Cascella: "Continous Enantioselective Crystallization Processes" F. Cascella, A. Seidel-Morgerstern, H. Lorenz (2017), Summer School on Chiral Crystallization, Resolution & Deracemization, 3-6 July 2017, Radboud University

Jan-Joris Devogelaer:" Predicting new chiral multicomponent systems: A datamining approach" J. Devogelaer, R. de Gelder, H. Meekes, E.Vlieg (2017), Summer School on Chiral Crystallization, Resolution & Deracemization, 3-6 July 2017, Radboud University

Lina Harfouche: "Chiral Resolution of Pharmaceutical Racemic Compounds: Implementation of Preferential Crystallization In Unfavorable Cases" Lina HARFOUCHE*, Clément BRANDEL, Yohann CARTIGNY, Gérard COQUEREL and Samuel PETIT (2017), Summer School on Chiral Crystallization, Resolution & Deracemization, Nijmegen, The Netherlands, July 3-6, 2017.

Johannes Hoffmann: “Deracemization using antisolvent crystallization” Johannes Hoffmann, Francesca Breveglieri, Carola Tortora, A. Seidel-Morgenstern, Joop H. ter Horst (2017), Summer School on Chiral Crystallization, Resolution & Deracemization, Nijmegen, The Netherlands, July 3-6, 2017.

Johannes Hoffmann: “CORE Network Model Compounds” (2017) Summer School on Chiral Crystallization, Resolution & Deracemization, Nijmegen, The Netherlands, July 3-6, 2017.

Sudhansu Sekhar Jena: “Phase Diagram of Naproxen in Ethanol” Sudhansu Sekhar Jena, Andrew S. Dunn, Karen Johnston, Joop H. ter Horst (2017), Summer School on Chiral Crystallization, Resolution & Deracemization, Nijmegen, The Netherlands, July 3-6, 2017.

Aliou Mbodji: “New Device for In Situ Detection of Conglomerate Forming Systems in Suspension by Second Harmonic Generation” Aliou MBODJI*, Gabin GBABODE, Valérie DUPRAY and Gérard COQUEREL, Summer School on Chiral Crystallization, Resolution & Deracemization, Nijmegen, The Netherlands, July 3-6, 2017.

Ryusei Oketani: “Optimization of SOAT: Example of Naphthamide deracemization” Oketani, R.; Brandel, C.; Cardinael, P.; Coquerel, G. (2017), Summer School on Chiral Crystallization, Resolution & Deracemization, Nijmegen, The Netherlands, July 3-6, 2017.

Carola Tortora: “Development of Organocatalytic Racemization Methods” Carola Tortora, Svetlana B. Tsogoeva (2017), Summer School on Chiral Crystallization, Resolution & Deracemization, Nijmegen, The Netherlands, July 3-6, 2017.

Giulio Valenti: "Towards deracemization of flurbiprofen" Giulio Valenti, Joop H. ter Horst, Richard M. Kellogg (2017), Summer School on Chiral Crystallization, Resolution & Deracemization, 3-6 July 2017, Radboud University.

Raghunath Venkatramanan: “Chiral Analysis In Suspensions” Raghunath Venkatramanan, Alison Nordon, Joop H. ter Horst (2017), Summer School on Chiral Crystallization, Resolution & Deracemization, 3-6 July 2017, Radboud University .

Francesca Breveglieri: “Solid state deracemisation if Imine derivatives via High pressure homogenisation and temperature cycles" (2017). British Association of Crystal Growth (BACG 2017), 27-30 June 2017, University of Manchester **[winner of runner up prize in the BACG2017 Poster Competition (open only to contributions with a major experimental component]**

PRIZES

Ryusei Oketani: “'Phase diagram study and chiral resolution of axially chiral naphthamide derivative” Chemistry of Materials Best Poster Prize at ICCOSS XXIV: 24th International Conference on the Chemistry of the Organic Solid State, New York City, USA, 16-21 June 2019.

Francesca Cascella: “Fundamental Studies for Continuous Preferential Crystallization of Guaifenesin” First Place, Best Poster Award at the 25th International Workshop on Industrial Crystallization (BIWIC), University of Rouen, France, 6-7 September 2018.

Ryusei Oketani: "Derassemization of axial chiral naphthamide: racemization rate and crystallization rate" Excellent poster prize at the Symposium on Molecular Chirality in Chiba, Japan, 10-12 May 2018.

Francesca Breveglieri: “Solid state deracemisation if Imine derivatives via High pressure homogenisation and temperature cycles" Runner up prize in Poster Competition (open only to contributions with a major experimental component) at the British Association of Crystal Growth (BACG 2017), University of Manchester, 27-30 June 2017.

PUBLIC ENGAGEMENT

Maxime Charpentier: Video “EU H2020 ITN CORE - Chiral Molecules Separation: The Case of Praziquantel” June 2020

Prof Joop ter Horst, Francesca Cascella, Prof. Andreas Seidel-Morgerstern, Raghunath Venkatramanan, Prof Heike Lorenz: Video "EU H2020 ITN CORE: Creating Better Pharmaceutical Products for Society" June 2020

Raghunath Venkatramanan: "sparkly night crystal tree. Imaging technique used: Polarisation microscope with sodium bromate crystals" BACG Crystals in Art Competition 2020 (Virtual)

Raghunath Venkatramanan: "Crystallising solutions for precision pharmaceuticals" Strathclyde Images of Research Competition, June 2019, University of Strathclyde, Glasgow, UK

Maxime Charpentier: "Crystal Builders" Explorathon: European Researchers Night, 27 September 2019 in Riverside Museum

Maxime Charpentier, Johannes Hoffmann: "Crystal Builders" Explorathon: European Researchers Night, 29 September 2018 in Riverside Museum

Shashank Bhandari, Giuseppe Belletti, Francesca Cascella, Lina Harfouche, Aliou Mbodji, Ghufran ur Rehman, Carola Tortora, Giulio Valenti, Raghunath Venkatramanan: CORE Crystal Growth competition with local high schools (2018) France, Germany, The Netherlands, UK

Shashank Bhandari and Francesca Cascella, 13th Long Night of Science, 2 June 2018, Max Planke Institute Magdeburg

Johannes Hoffmann, Sudhansu Sekhar Jena, Giulio Valenti, Raghunath Venkatramanan: "Crystal Builders" Explorathon: European Researchers Night, 29 September 2017 in Riverside Museum

SEMINARS

Francesca Breveglieri: "Isolation of a pure enantiomer from a racemic mixture via either preparative chromatography or crystallization" Virtual MSD Symposium: Invent. Impact. Inspire., 14 September 2020

Prof Joop ter Horst and Johannes Hoffmann: "Chiral resolution using antisolvent crystallization" Monday 10 July 2017, Dutch Design & Synthesis lectures, Syncom BV, The Netherlands.

WEBINARS

Prof Joop ter Horst: "Crystallization-Enhanced Resolution and Deracemization of Chiral Compounds" J. ter Horst, British Association for Crystal Growth (BACG) and Cambridge Crystallographic Data Centre (CCDC) Crystal Conversations, 3 December 2020

Jan-Joris Devogelaer: "Data-driven discovery of co-crystals" J.J. Devogelaer and R. de Gelder (duo presentation), British Association for Crystal Growth (BACG) and Cambridge Crystallographic Data Centre (CCDC) Crystal Conversations, 1 October 2020

Prof Joop ter Horst: Free online in demand webinar **The Influence of Crystallization Kinetics on Your Process: Measuring Primary and Secondary Nucleation in Crystallization** by Professor Joop ter Horst and available by registering your name, email and contact number [took place on 26 Aril 2018 organised by Technobis https://register.gotowebinar.com/register/692694914388943105