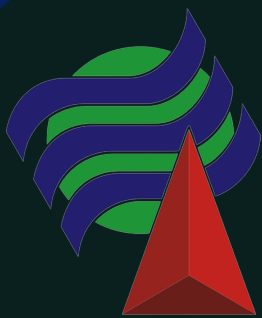




CAMURE 12 & ISMR 11



8-11 SEPTEMBER 2024



Ghent, Belgium

12th International Symposium on
Catalysis in Multiphase Reactors

&

11th International Symposium on
Multifunctional Reactors

WHAT IS CAMURE 12 & ISMR 11?

The CAMURE (Catalysis in Multiphase Reactors) meeting was initiated in 1994 in Lyon, France, followed by subsequent gatherings in Toulouse (1998), Naples (2000), Lausanne (2002), and Portorose (2005). In 2005, CAMURE merged with ISMR (International Symposium on Multifunctional Reactors) during the Portorose Symposium. Prior ISMR meetings were held in Amsterdam (1999), Nuremberg (2001), and Bath (2003). The combined symposia took place in Pune (2007), Montreal (2009), Naantali (2011), Lyon (2014), Quindao (2017), and Milano (2021). The merger aimed to foster interdisciplinary discussions on multiphase catalytic systems and multifunctional reactors, covering areas such as catalysis, kinetics, heat/mass transfer, hydrodynamics, process intensification, catalyst design, and sustainable chemical processes. The International Scientific Committee is led by prof. dr. Claude De Bellefon (France) and prof. dr. Faïçal Larachi (Canada).

THANK YOU TO OUR SPONSORS:



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AWARDS & SPECIAL ISSUE

BEST PRESENTATION AND POSTER AWARD

We are proud to announce also that CAMURE 12 & ISMR 11 will award the best 3 oral presentations and the best 2 poster presentations, which will be selected by the Scientific Committee. The eligibility criteria will consider the excellence and originality of the research presented as well as the quality of the presentation. The awards, which are sponsored by ACS Engineering Au, will be presented during the Closing Ceremony.

SPECIAL ISSUE

We are pleased to announce that ACS Engineering and I&EC Research will feature a special issue dedicated to the CAMURE 12 & ISMR 11 conference. We welcome all presenters and their research teams to submit their work, provided it aligns with the journal's scope and was presented at the conference. The deadline for submission is 31st of October, 2024.



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GHENT

As one of Belgium's most vibrant cities, Ghent offers a unique cultural fusion, where ancient traditions blend harmoniously with modern ideas. With a rich heritage spanning over centuries, Ghent's story has been shaped by diverse influences, leaving an indelible imprint on its character.

Ghent embraces its role as a hub of creativity, attracting artists, researchers, and young innovators who thrive within its progressive atmosphere. Ghent is a city where people enjoy life: a chilled-out place where anything goes and a city that feels human.



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© Boy Martin

Ghent is located at the intersection of the E17 and E40 and is therefore easily accessible by car and bus. With two train stations in the city and the international airport of Zaventem 'Brussels Airport' less than an hour away, train and plane are certainly an option.

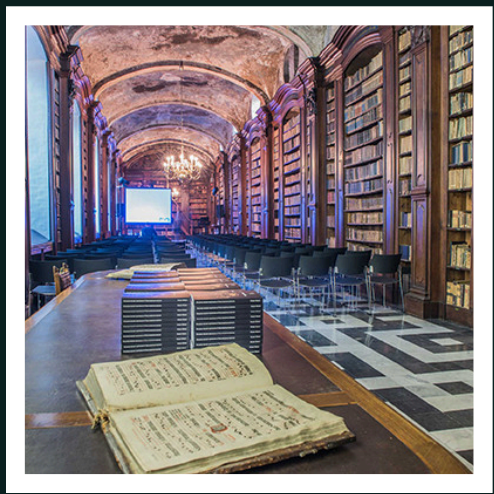
THE VENUE

📍 Academiestraat 1, 9000 Ghent

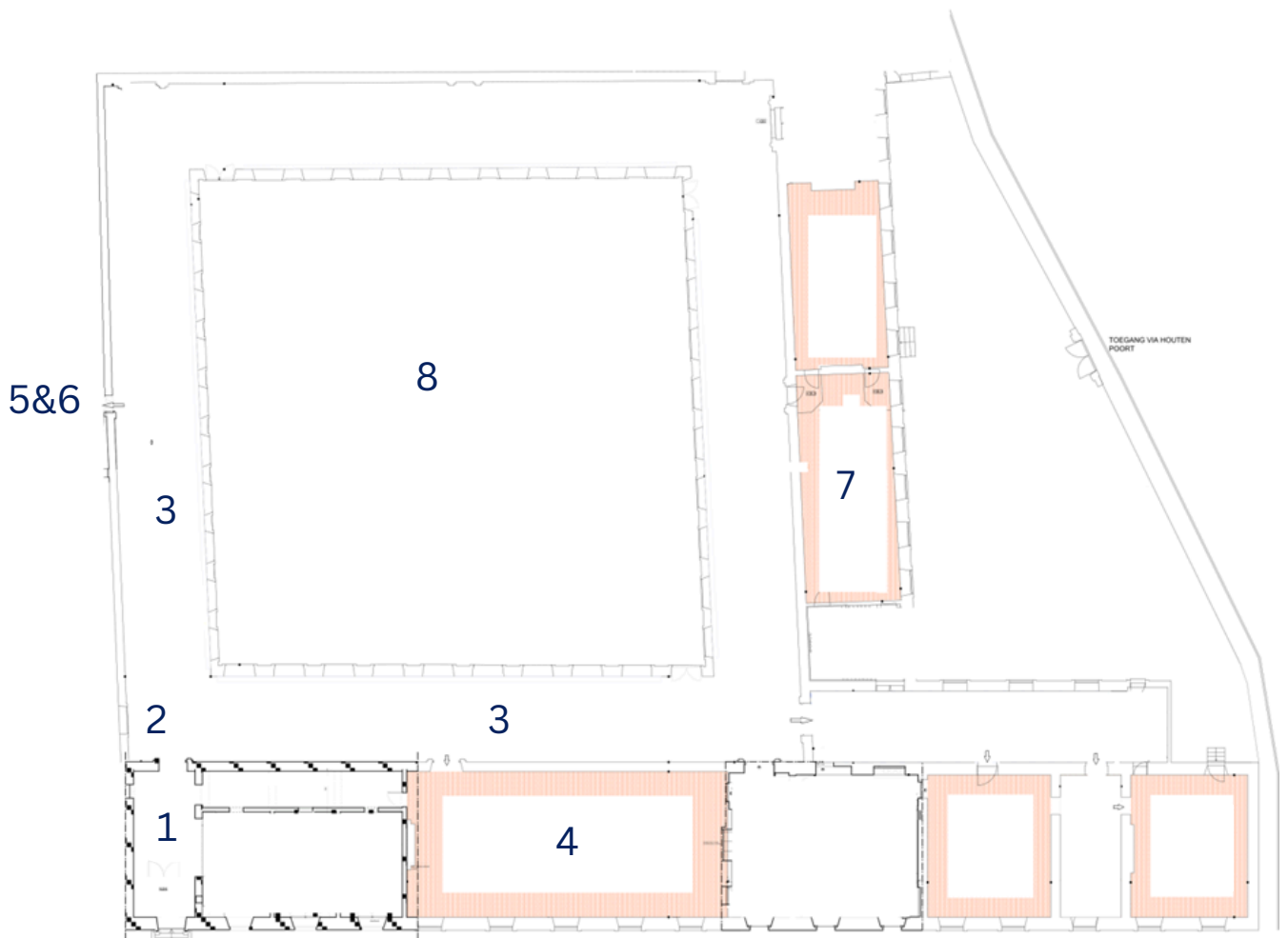
Thagaste is a unique venue in a magnificent monastery where fathers live and work. Besides a wide choice of characterful event rooms, there are special art treasures, a beautiful interior garden, the historic library and the baroque church with its valuable organs.



Augustinian Monastery Thagaste



MAP OF THAGASTE



- | | |
|---------------------------------|-------------------------------|
| 1. Entrance | 5. Stairs to Bibliotheek room |
| 2. Registration desk | 6. Rest room |
| 3. Coffee break and poster area | 7. Hippo room |
| 4. Augustinus room | 8. Garden |

SYMPOSIUM THEMES

Multidisciplinary program covering more traditional themes as well as very latest issues and novel developments in the field of multiscale modeling and experimentation.

REGULAR SESSIONS

CATALYSIS AND KINETICS
REACTOR DESIGN
PROCESS DEVELOPMENT

THEMATIC SESSIONS

LOW CARBON TECHNOLOGY
RENEWABLE CHEMICALS
PROCESS INTENSIFICATION

PLENARY SPEAKERS



Prof. Jesus Santamaria – Universidad de Zaragoza
Can heterogeneous catalysis change the way we treat cancer?



Prof. Louise Olsson – Chalmers University of Technology
The importance of catalysis for future biorefineries



Prof. Enrico Tronconi – Politecnico di Milano
Advancing catalytic processes for the energy transition

PROGRAMME

**SUNDAY
SEPTEMBER 8**

Registration

Opening Ceremony
Plenary session
Jesus Santamaria

Welcome Reception

**MONDAY
SEPTEMBER 9**

Plenary session
Louise Olsson

Break

Catalysis and Kinetics Renewable Chemicals

Lunch break

Catalysis and Kinetics Process Intensification

Break

Catalysis and Kinetics Process Intensification

Poster session with beer tasting

**TUESDAY
SEPTEMBER 10**

Plenary session
Enrico Tronconi

Break

Reactor Design Renewable Chemicals

Lunch break

Reactor Design Plastic Recycling

Break

Low Carbon Technology Panel Debate

Boat trip in Ghent

Conference dinner

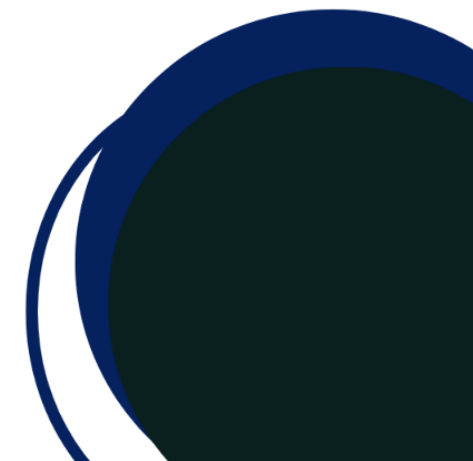
**Wednesday
SEPTEMBER 11**

Process Development Low Carbon Technology

Break

Catalysis and Kinetics Renewable Chemicals

Closing Ceremony & Awards



SUNDAY, SEPTEMBER 8

15:30-17:30 Registration

Augustinus

17:30-18:00 Opening Ceremony

18:00-19:00 **PLENARY SESSION I**

session chair: Joris Thybaut

Can heterogeneous catalysis change the way we treat cancer?

Jesus Santamaria – Universidad de Zaragoza

Corridors

19:00-21:00 Welcome Reception



MONDAY, SEPTEMBER 9

Augustinus

9:00-10:00 **PLENARY SESSION II**

session chair: Mark Saeys

The importance of catalysis for future biorefineries

Louise Olsson – Chalmers University of Technology

Corridors

10:00-10:20 Coffee break

Augustinus **CATALYSIS AND KINETICS I**

session chair: Tapio Salmi and Jeriffa De Clercq

10:20-11:00 Solid acid catalysts for esterification reactions – challenges with stability
KEYNOTE of acid sites

Josephine Hill – The University of Calgary

11:00-11:20 Cu/Al₂O₃ as a selective catalyst for (de)methylation of anisole and
guaiacol

Snehasis Dutta, Setal A/P Govi Nair, Kateřina Pacultová, David Kubička

11:20-11:40 Reactions in three phase CO₂ methanation using LOHC as liquid phase

Mathias Held, Siegfried Bajohr, Thomas Kolb

11:40-12:00 The effect of mesopores in platelike H-ZSM-5 zeolites in the 1-butanol
dehydration reaction

Phebe Lemaire, Arno de Reviere, Dhanjay Sharma, Joris W. Thybaut,

Maarten K. Sabbe, An Verberckmoes

Bibliotheek RENEWABLE CHEMICALS I

session chair: Leon Lefferts and Robin Varghese

- 10:20-10:40 Insights into the mild catalytic reductive depolymerization of Soda lignin: link between the catalytic properties of Pd and PdCu catalysts and the derived product pools
Boyana Atanasova, Tibo De Saegher, Joeri Vercammen, An Verberckmoes, Jeriffa De Clercq, Jeroen Lauwaert
- 10:40-11:00 Metal sulfates-catalyzed depolymerization of cellulose to alkyl levulinates
Viktória Flóra Csendes, Karine Thomas, Sébastien Leveneur
- 11:00-11:20 Magnetically heated Ru-catalyst for levulinic acid HDO in electrified slurry reactor
Miha Grilc, Darko Makovec, Blaž Likozar, Sašo Gyergyek
- 11:20-11:40 Commercial polymeric waste mix characterization and pyrolysis in a lab-scale setup for gas and liquid fractions products valorization
Andrea Pastorino, Marcello Pagliero, Giancarlo Bruni, Renzo Di Felice, Antonio Comite
- 11:40-12:00 Catalytic Oxidation of Glucose: A Heterogeneous Pathway to Glucuronic Acid Production
Maher Elhallal, Vitaly Ordomski V., Mickael Capron

12:00-13:30 Lunch break

Augustinus CATALYSIS AND KINETICS II

session chair: Elio Santacesaria and An Verberckmoes

- 13:40-14:00 Optimization of temperature profile for di-methyl ether synthesis by CO₂ hydrogenation
Laura Duran Martinez, Isabelle Pitault, Isabelle Polaert
- 14:00-14:20 Kinetic study of CO₂ hydrogenation to formate over a solid micellar catalyst: unveiling the role of the base
Catarina Mendes, Javiera Rubio, Francisca Rebelo, Vitaly Ordomsky, Mark Saeys
- 14:20-14:40 Shining light on sustainability: CuIn_xGa_{1-x}Se (CIGS) solar cells drive selective photocatalytic oxidation of methane
Duc Manh Nguyen, Chunyang Dong, Thomas Tom, Negar Naghavi, Vitaly V. Ordomsky, Andrei Y. Khodakov
- 14:40-15:00 Kinetics and modelling of direct CO₂ hydrogenation into liquid hydrocarbons
Antoinette Maarawi Chidraoui, Carlotta Panzone, Alban Chappaz, Geneviève Geffraye, Albin Chaise
- 15:00-15:20 Kinetic assessment of the heterogeneous catalyzed hydroformylation over a nanoparticle rhodium catalyst
Maria Herrero Manzano, Jeroen Poissonnier, Sébastien Siradze, Joris W. Thybaut

Bibliotheek **PROCESS INTENSIFICATION I**

session chair: Hannsjörg Freund and Yi Ouyang

13:40-14:20 Process intensification: The potential and challenges of acoustic droplet
KEYNOTE based reactor systems

Leen Braeken – KU Leuven

14:20-14:40 Sorption-Enhancement with in-situ water removal for an intensified
methanol production from carbon dioxide

Enrico Antonuccio, David Edouard, Pascal Fongarland

14:40-15:00 Development of semi-batch process for the synthesis of methyl
pentanone

Nitin Sharma, Sumit Kamal

15:00-15:20 Study of heterogeneous enzymatic reactive distillation: from experiment
to comprehensive modeling

*Nicolas Chaussard, Clémence Nikitine, David Rouzineau, Michel Meyer,
Pascal Fongarland*

Corridors

15:20-15:40 Coffee break

Augustinus **CATALYSIS AND KINETICS III**

session chair: Leen Braeken and Jeroen Lauwaert

15:40-16:00 Transient techniques in the investigation of three-phase catalytic
processes: epoxidation of alkenes in trickle bed reactor

*Tapio Salmi, Vincenzo Russo, Matias Alvear Cabezón, Michele Emanuele Fortunato,
Christoph Schmidt, Christopher Stäglich, Kari Eränen*

16:00-16:20 Solid foam catalyst for three-phase sugar hydrogenation: semi-batch
and continuous operation

*German Araujo-Barahona, Alberto Goicoechea-Torres, Maria Ciaramella,
Miriam Cavaliere, Kari Eränen, Dmitry Y. Murzin, Juan García-Serna, Vincenzo Russo,
Tapio Salmi*

16:20-16:40 Transient reaction kinetics for CO hydrogenation: Combining periodic
experimentation with microkinetic modeling

Max Gäßler, Simon Hermann, Jens Friedland, Robert Güttel

16:40-17:00 Mechanistic insights into r-WGS reaction on Rh and Pt via a combined
experimental and structure-dependent microkinetic analysis

*Gabriele Spanò, Luca Nardi, Gabriele Contaldo, Raffaele Cheula, Chiara Negri,
Matteo Maestri*

17:00-17:20 Unravelling the liquid-phase oxidation of cyclohexane by computer-aided
kinetic model development with 'ALKIMO'

*Kevin De Ras, Gust Popelier, Lander Nelis, Connor Huntwork, Robin Vercauteren,
Unni Kurumbail, Joris W. Thybaut, Ive Hermans, Kevin M. Van Geem*

Bibliotheek **PROCESS INTENSIFICATION II**

session chair: Tilman Schildhauer and Georgios Bellos

15:40-16:20
KEYNOTE The Urgent Energy-Efficient Transition Towards an Electrified Chemical Sector for Reduced CO₂ Emissions

Patrice Perreault – Universiteit Antwerpen

16:20-16:40 Intensification of mass-transfer limited catalytic applications through POCS structured supports with optimized cell and streamlined strut shape

Claudio Ferroni, Mauro Bracconi, Matteo Ambrosetti, Matteo Maestri, Gianpiero Groppi, Enrico Tronconi

16:40-17:00 Model development of gas-liquid vortex reactor for process intensification of CO₂ capture

Afroditi Kourou, Gozde Gecim, Siyuan Chen, Geraldine J. Heynderickx, Yi Ouyang, Kevin M. Van Geem

17:00-17:20 Photodegradation of phenol in rotating disk reactor and 3D modelling

Ewan Westgate, Dom Johnson, Farid Aiouache

Augustinus

17:30-19:15 Poster session with beer tasting

17:30-17:45

Introduction to the secrets of Belgian beer (in Augustinus)

17:45-19:15

Poster session (in the corridors)



TUESDAY, SEPTEMBER 10

Augustinus

9:00-10:00

PLENARY SESSION III

session chair: Kevin Van Geem

Advancing catalytic processes for the energy transition

Enrico Tronconi – Politecnico di Milano

Corridors

10:00-10:20

Coffee break

Augustinus

REACTOR DESIGN I

session chair: Jan Kopyscinski and Patrice Perreault

10:20-11:00
KEYNOTE The complexity of kinetics of plasma-catalytic reactions

Leon Lefferts – University of Twente

11:00-11:20 InterPOCS for in operando adjustment of fluid flow and mass transport characteristics in heterogeneous catalysis

Lisa Eckendörfer, Hannsjörg Freund

11:20-11:40 Measurement of Bubble Property Distributions for Better Description of Mass Transfer Limitations in Chemical Reactors
Philipp Riechmann, Lukas Schlagenhauf, Evert C. Wagner, J. Ruud van Ommen, Tilman Schildhauer

11:40-12:00 Validity of the generalized film-model criteria for instantaneous gas-liquid reactions in Higbie's penetration model
Pieter Janssens, Jeroen Poissonnier, René Bos, Joris W. Thybaut

Bibliotheek RENEWABLE CHEMICALS II

session chair: Miha Grilc and Jeriffa De Clercq

10:20-11:00 Heterogeneous Catalysis as Key Technology for Circular Economy – A KEYNOTE Spotlight on Renewable Feedstocks and Hydrogen
Regina Palkowits – RWTH Aachen University

11:00-11:20 (Un)catalyzed depolymerization of hydrolysis lignin: experimental assessment and kinetic modelling
Lucas I. Garbarino, Matteo Deroma, Dhanjay Sharma, Jeriffa De Clercq, An Verberckmoes, Jeroen Lauwaert, Joris W. Thybaut

11:20-11:40 Reaction kinetics prediction and modeling in the 5-HMF solvolysis to alkyl levulinate aided by structure reactivity relationships
Erny Encarnacion Munoz, Jean-Christophe Buvat, Sébastien Leveneur

11:40-12:00 Exploring Selective Glucose Oxidation: Monometallic versus Bimetallic Catalysts
Žan Lavrič, Janvit Teržan, Ana Kroflič, Janez Zavašnik, Matej Huš, Miha Grilc, Blaž Likozar

12:00-13:30 Lunch break

Augustinus REACTOR DESIGN II

session chair: Robert Güttel and Patrice Perreault

13:40-14:20 Multifunctional fluidized bed reactors: overview and case studies KEYNOTE
Pedro Castano - KAUST

14:20-14:40 LOGIC 2,0: Characterisation of a natural convection driven methanol reactor
Tim van Schagen, Wim Brilman

14:40-15:00 Development of an improved one-dimensional fixed-bed catalytic reactor model through CFD simulations
Liantsoa Randriambololona, Arnaud Cockx, Philippe Schmitz, Marie-José Huguet, Olivier Peruch

15:00-15:20 Pilot scale methanation and PtG of (simulated) wood gasification
Tilman Schildhauer, Chiara Berretta, Lukas Schlagenhauf, Tanja Wieseler, Martin Künstle, Julian Indlekofer, Robert Janz, Daniel Erne

Bibliotheek **PLASTIC RECYCLING**

session chair: Marvin Kusenberg and Kevin Van Geem

- 13:40-14:00 A combined experimental and modeling study of a 3D printed gyroidal copper structure for post-plasma chemical process intensification in non-reactive conditions
Victor Rosa, Fabio Cameli, Kevin M. Van Geem, Georgios Stefanidis
- 14:00-14:20 Maximizing Olefin Yields for Steam Cracking of Plastic Waste Pyrolysis Oils: An Experimental and Modeling Study
Tamás Buzogány, Ismaél Amghizar, Marvin Kusenberg, Lin Chen, David J. Brown, Guy B. Marin, Geraldine J. Heynderickx, Kevin M. Van Geem
- 14:20-14:40 Unlocking Radical Insights: Integrating Detailed Kinetic Modeling and Method of Moments for Pyrolysis of Polystyrene
Daniël Withoeck, Florence Vermeire, Oğuzhan Akin, Robin John Varghese, Kevin Van Geem, Steven De Meester, Paul Van Steenberge
- 14:40-15:00 Characterization and Pyrolysis Analysis of PVC Waste: Insights into Composition, Degradation Products, and HCl Emissions
Mohammadhossein Havaei, Robin John Varghese, Florent Minette, Eric Romers, Kevin Van Geem
- 15:00-15:20 Sustainable Waste Polypropylene Recycling: Enhancing Catalyst Stability and Selectivity in Light Olefin Production
Oğuzhan Akin, Qing He, Parviz Yazdani, Robin John Varghese, Kevin Van Geem

Corridors

- 15:20-15:40 Coffee break

Augustinus **LOW CARBON TECHNOLOGY I**

session chair: Gunther Kolb and Yi Ouyang

- 15:40-16:20 **KEYNOTE** CO₂ capture and utilization. From catalyst development and kinetic assessment to reactor design
Jan Kopyscinski – McGill University
- 16:20-16:40 Evaluation of the relevant mass and heat transfer phenomena in a packed bed membrane reactor for the direct conversion of CO₂ to dimethyl ether
Serena Poto, Huub van den Bogaard, Fausto Gallucci, Fernanda Neira D'Angelo
- 16:40-17:00 Design and construction of a large-scale GDE-based electrolyzer for sustainable formate production using CO₂ as feedstock
Jose Antonio Abarca, Axel Arruti, Esther Santos, Guillermo Díaz-Sainz, Angel Irabien
- 17:00-17:20 Alternative to Claus process through COS as intermediate: CO₂ and H₂S competitive adsorption and reaction on sodium zeolites
Marco Fabbiani, Syeda Rabia Batool, Ludovic Pinard, Alexey Novikov, Helene Retot, Igor Shlyapnikov, Valentin Valtchev

Hippo

PANEL DEBATE

moderators: Annick Meerschman and Erik Paredis

15:40-17:20

“Innovations and technical challenges: Expected future for plastics recycling”

Kevin Van Geem, Jeremias Michal, Azd Zayoud, Geoff Brighty, Steven De Meester



“Towards a circular economy: Social acceptance of chemical recycling”

Kevin Van Geem, Rémi Tilkin, Alexander Röder, Saskia Walraedt, Werner Bosmans

17:50-19:00

Boattrip in Ghent

Meeting point: Sint-Antoniusskaai, 9000 Ghent

19:00-24:00

Conference dinner in Café Theatre

Schouwburgstraat 7, 9000 Ghent



WEDNESDAY, SEPTEMBER 11

Augustinus

PROCESS DEVELOPMENT

session chair: Pedro Castano and Georgios Bellos

09:00-09:40

KEYNOTE

From kinetic model to process simulation: production of levulinate

Sébastien Leveneur – INSA Rouen

09:40-10:00

Electrothermal Fluidized Bed Reactor model for high temperature endothermic reactions: The case of COS decomposition

Klaus Jacobs, Soroush Zareghorbaei, Jeroen Lauwaert, Igor Shlyapnikov, Miha Grilc, Gleb Veryasov, Joris W. Thybaut

10:00-10:20

Techno-economic analyses of NETmix-based facilities for the production of CO₂ hydrates

Isabel S. Fernandes, Mariana G. Domingos, Marcelo F. Costa, Ricardo J. Santos, José C. B. Lopes

Bibliotheek

LOW CARBON TECHNOLOGY II

session chair: Isabelle Polaert and Joris Thybaut

08:40-09:00

Intensifying the catalytic process via the conservative perturbed equilibrium (CPE): methane tri-reforming as an example

Mykhailo O. Vilboi, Vitaly R. Trishch, Gregory S. Yablonsky

09:00-09:20

CFD design of photocatalytic mesostructured reactors for green ammonia production

Isabel S.O. Barbosa, M. Teresa Oliveira, Margarida S.C.A. Brito, Cláudia G. Silva, Ricardo J. Santos

- 09:20-09:40 Stoichiometric selective carbonylation of methane to acetic acid by chemical looping
Yinghao Wang, Chunyang Dong, Mariya Shamzhy, Yury G. Kolyagin, Jeremie Zaffran, Andrei Y. Khodakov, Vitaly V. Ordonsky
- 09:40-10:00 Ni-decorated BiVO₄/WO₃ photoanodes for an enhanced photoelectrochemical response under solar light
Ivan Merino-Garcia, Sara Crespo, Jose Antonio Abarca, Jonathan Albo
- 10:00-10:20 Catalyst coatings for hydrogen generation by ammonia decomposition at high temperatures and elevated pressure
Gunther Kolb, Tobias Weissenberger, Ralf Zapf, Helmut Pennemann

Corridors

- 10:20-10:40 Coffee break

Augustinus CATALYSIS AND KINETICS IV

session chair: Pascal Fongarland and Mark Saeys

- 10:40-11:00 Impact of mild hydrothermal aging on NH₃, NO, CO, and SO₂ oxidation kinetics on a Cu/SSZ-13 catalyst
Tetyana Zheleznyak, Petr Kočí, William Epling
- 11:00-11:20 Upscaling of a debenzilation reaction in pharmaceutical synthesis: the mass transfer paradox
Wout Callewaert, Jeroen Lauwaert, Mairtin McNamara, Joris W. Thybaut
- 11:20-11:40 Transient methods to overcome the thermodynamic limits of the levulinic acid esterification
Vincenzo Russo, Francesco Taddeo, Riccardo Tesser, Martino Di Serio
- 11:40-12:00 Elucidating the Effect of Hydrocarbon Structure and Zeolite Topology on the β -Scission Activation Energy
Yannick Ureel, Konstantinos Alexopoulos, Maarten K. Sabbe, Kevin M. Van Geem

Bibliotheek RENEWABLE CHEMICALS III

session chair: Josephine Hill and Jeroen Lauwaert

- 10:40-11:00 Novel superbases as organocatalysts in low temperature depolymerization of polyethylene terephthalate (PET)
Ali Harlin, Henri Olander, Erno Karjalainen
- 11:00-11:20 Evaluation of piston reactor to produce hydrogen from methane via gas-phase SMR and ATR routes
Aya Abousrafa, Mary Anna Katebah, Patrick Linke, Ma'moun Al-Rawashdeh
- 11:20-11:40 Kinetic modelling and packed bed reactor technology in the catalytic oxidation of furfural to valuable products
Enrico Marchi, Wander Perez Sena, Kari Eränen, Johan Wärnå, Dmitry Murzin, Tapio Salmi

11:40-12:00 Levulinic esters valorization: the production of γ -valerolactone and ethyl pentenoates through an innovative gas-phase continuous flow process

Luca Visentin, Pietro Zappalorti, Stefania Albonetti, Nikolaos Dimitratos, Leandro Ardemani, Nicola Scotti, Tommaso Tabanelli, Fabrizio Cavani

Augustinus

12:00-12:30 Closing Ceremony & Awards



POSTER SESSION

- 1 Process intensification for ammonia synthesis – Analyzing the potential of in situ product removal for high single-pass conversion
Theresa Kunz, Johannes Geri, Robert Güttel
- 2 Equations of state: The critical component of supercritical water-hydrocarbon mixtures
Gust Popelier, Maarten Sabbe, Florence Vermeire, Kevin M. Van Geem
- 3 Modeling of baker's yeast and ethanol production by *Saccharomyces Cerevisiae*
Elio Santacesaria, Riccardo Tesser, Martino Di Serio
- 4 Intelligent catalyst carrier concept with reversible wall contact in tubular reactors for an improved wall heat transfer
Dominik Rudolf, Hannsjörg Freund
- 5 Epoxidation of tall oil in the presence of metal doped SBA15 heterogeneous catalysts
Tommaso Cogliano, Angie Desgouliere, Wander Perez Sena, Kari Eränen, Vincenzo Russo, Laurence Pirault-Roy, Tapio Salmi
- 6 Thermocatalytic decomposition of methane over innovative ordered mesoporous Carbons and Carbon Black
Simon De Langhe, Soroush Zareghorbaei, Hilde Poelman, Vladimir Galvita, Dirk Poelman, Joris W. Thybaut, Kevin M. Van Geem
- 7 Microkinetic analysis of acid gas conversion to COS by zeolite 13X
Raman Ghassemi, Soroush Zare Ghorbaei, Jeroen Lauwaert, Marco Fabbiani, Ludovic Pinard, Valentin Valtchev, Joris W. Thybaut
- 8 Experimental and numerical assessment of radial thermal behavior of chemical looping packed bed reactor
Ahmed Aman Ismaeel Ali, Vincenzo Spallina
- 9 CO and O₂ solubility in different mixtures of ethanol, acetonitrile and water at high temperatures and pressures
Maan Al Jurdi, Assaad Zoughaib, Tetiana Krachko, Tawfiq Nasr Allah, Benoît Illy
- 10 DPA synthesis: a feasibility study towards the continuous application
Francesco Taddeo, Federica Orabona, Domenico Licursi, Claudia Antonetti, Vincenzo Russo, Anna Maria Raspolli Galletti, Martino Di Serio

- 11 Methanation of carbon dioxide on Co-containing catalysts based on aluminosilicates
Etibar Ismailov, Shahla Tagiyeva, Sevinj Osmanova, Aygun Rustamova, Sevil Khalilova, Dilgam Tagiyev
- 12 Surface elemental and phase composition of MnO_x-Na₂WO₄/SiO₂ catalysts for oxidative coupling of methane
Sevinj Osmanova, Asif Mammadov, Etibar Ismailov, Dilgam Tagiyev, Michael Vorochta, Miquel Rodríguez, Tomáš Hrbek, Joris W. Thybaut
- 13 Numerical Modelling of mass transfer in multiphase microreactors
Mohammad Anzar Hussain, Raghvendra Gupta
- 14 Kinetics of α -terpineol reactivity under heterogeneous catalysis with heteropolyacid
Anna Rejzková, Marek Plachý, Eliška Vyskočilová
- 15 New method of group characterization gas-liquid flow and its application in gas-liquid stirred tanks
Haoliang Wang, Xiangyang Li, Jingcai Cheng, Chao Yang
- 16 Olefins cracking by zeolites prepared from valorized refinery waste
Mohammad Al Rebh, Moussa Zarrour, Javier Ruiz-Martinez
- 17 A combined experimental and kinetic modeling study on low- and intermediate-temperature oxidation of trimethoxymethane e-fuel
Gilles Dossche, Kevin De Ras, Olivier Herbinet, Frédérique Battin-Leclerc, Maarten Sabbe, Kevin M. Van Geem
- 18 Optimal design and experimental test of a reactor used for the biooxidation of refractory gold ores
Yanzhen Chen, Guangji Zhang, Jiale Guo, Chao Yang
- 19 Acidity requirement and reaction pathway for the dehydration of 1,3 butanediol to 1,3 butadiene over ZSM-22
Loïc Eloi, Jeroen Poissonnier, Dhanjay Sharma, Maarten K. Sabbe, Joris W. Thybaut, An Verberckmoes
- 20 Hydrolysis of an emerging contaminant using an immobilized laccase scaffold fabricated by 3D technology
Carola Bahamondes, Paula Garín, Isabel Cáceres
- 21 Investigating deactivation and kinetics of levulinic acid hydrogenation on titania supported ruthenium catalysts
Adarsh Patil, Amin Delparish, Remy Creemers, John van der Schaaf, M. Fernanda Neira d'Angelo
- 22 Investigations on nickel-based catalysts for the reverse water gas shift reaction
Elina Mkrtchian, Ilaria Rizzardi, Marcello Pagliero, Andrea Pastorino, Camilla Costa, Antonio Comite
- 23 Numerical modelling of gas-liquid flow in mesoscale reactors using periodic boundaries
Isabel S. Fernandes, Madalena M. Dias, José C. B. Lopes, Ricardo J. Santos
- 24 Membrane utilization for intensified CO₂ conversion to MeOH based on multisite microkinetic modelling of Cu/ZnO/Al₂O₃/MgO
Anže Prašnikar, Andraž Pavlišič, Marija Sarić, Damjan Lašič Jurković, David Bajec, Matic Grom, Blaž Likozar

- 25 Single pellet string reactors – Theoretical study on heat and mass transport limitations based on the CO₂ methanation
Christian Bauer, Tabea Gros, Olaf Hinrichsen
- 26 Coalescence and rebound of bubbles in gas-liquid dispersed systems: experiments and theory
Runci Song, Jie Chen, Luchang Han, Chao Yang
- 27 Comparative study of conventional and ozone-assisted catalytic oxidation of methane using Mn/Hydroxyapatite catalyst: introducing a novel setup
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