

ECCE AB 23

Chemical and Biochemical Engineering –
Acting Together

PROGRAMME AT A GLANCE

17 – 21 September 2023 · CityCube Berlin · Germany

ECCE 14 & ECAB 7

14th European Congress of Chemical Engineering

7th European Congress of Applied Biotechnology

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Sunday, 17 September 2023

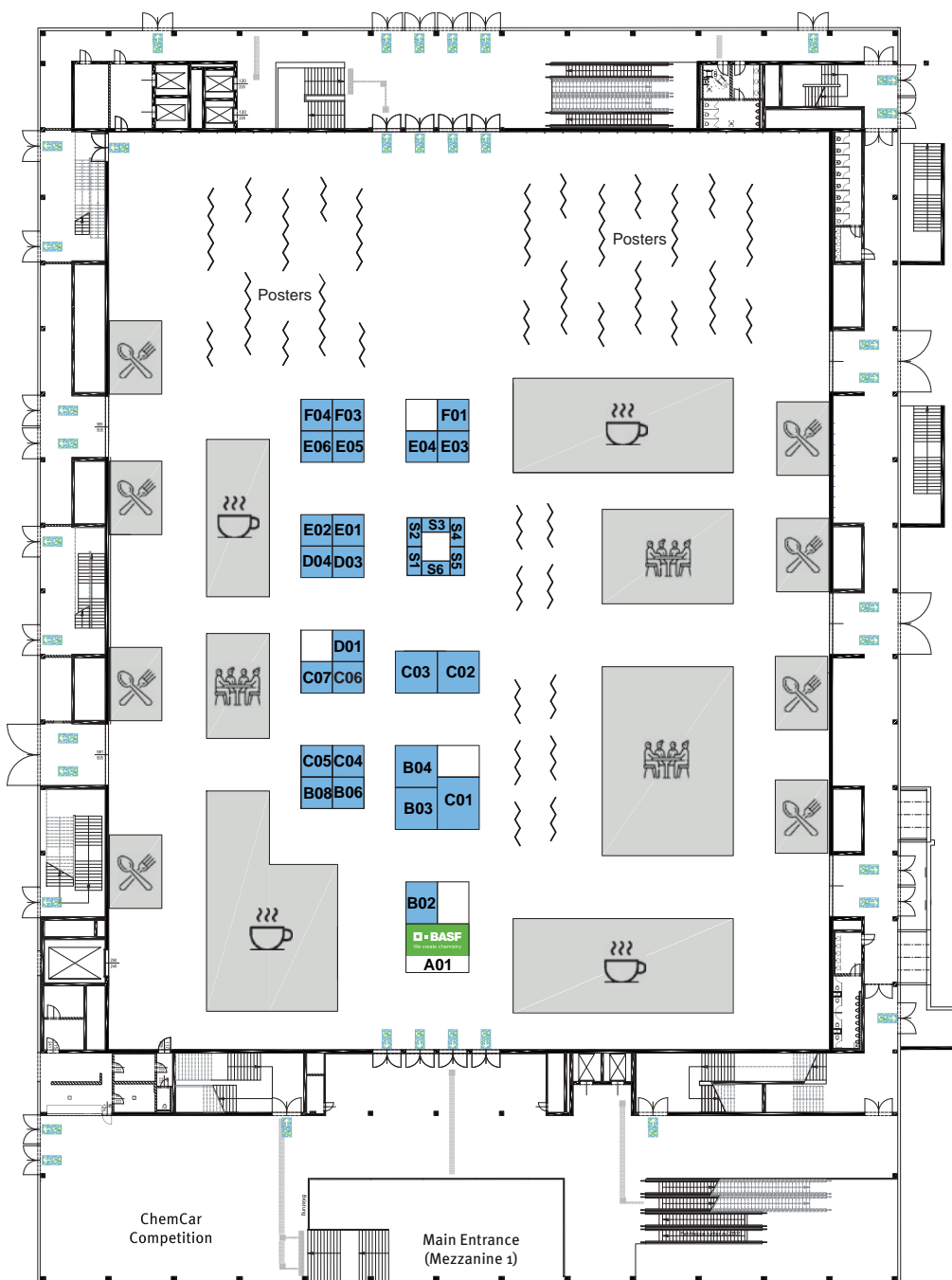
16:30	Registration	16:30
18:00	WELCOME / AWARDS DECHEMA Awards	18:00
Chair:	A. Liese	Chair:
18:15	EVENING PLENARY LECTURE Catalysis for a better world Prof. Dr. Benjamin List, Director Homogeneous Catalysis at Max-Planck-Institut für Kohlenforschung and Nobel Laureate in Chemistry, Mülheim an der Ruhr/D	18:15
19:00 21:00	WELCOME RECEPTION	19:00 21:00

EXHIBITOR LIST

- A01 - BASF (Gold Sponsor)
- B02 - EFCE & ESBES & CHISA24
- B03 - Siemens Industry Software
- B04 - Fraunhofer Allianz Chemie
- B06 - Kreienbaum Neoscience
- B08 - Fluitec
- C01 - DECHEMA
- C02 - Getinge
- C03 - De Gruyter
- C04 - Octapharma
- C05 - A2 Photonic Sensors
- C06 - Fink Chem + Tec
- C07 - Reacnostics
- D01 - DHCAE Tools
- D03 - Integrated Lab Solutions
- D04 - SOPAT GmbH
- E01 - Hamilton
- E02 - attocube systems
- E03 - HNP Mikrosysteme
- E04 - Berghof Products & Instruments
- E05 - Bio-PAT
- F01 - Kuhner Shaker
- F03 - Bronkhorst Instruments
- F04 - Bluesens

Start Up Area:

- S1 - SBI Scientific Bioprocessing
- S2 - DyssolTEC
- S3 - CreaFlow
- S4 - kjVI
- S5 - NaWuReT
- S6 - BC Berlin Catalysts



Network: EcceCab2023
 Password: Berlin2023

Monday, 18 September 2023

08:00	Registration																08:00
09:00	Room: A8	OPENING															09:00
09:15	Room: A8	HONOURS / AWARDS EFCE Lifetime Achievements Award 2023 JACQUES VILLERMAUX MEDAL DECHEMA Student Awards Student Mobility Award															09:15
Chair:	L. Pirro																Chair:
09:45	Room: A8	PLENARY LECTURE (Bio)chemical engineers of the 21st century – Are we preparing them well for their professional future? Prof. Dr. Jarka Glassey, Newcastle University, Newcastle upon Tyne/UK															09:45
10:30	Coffee Break																10:30
	Room: A1	Room: A2	Room: A3	Room: A4	Room: A5	Room: A6	Room: A7	Room: A8	Room: M1	Room: M2	Room: M3	Room: M4	Room: M5	Room: M6	Room: M7	Room: M8	
Chair:	V. Cozzani	A. Staby	A. Marcato	G. Montante	A.S. Behr	L. van der Wielen	B. Bühler	S. Garcia Fracaro	F. Artusio	S. Lütz	R. Ratnakar	R. Wohlgemuth	S. Kaufmann	H. Feise / M. Wilk		D. Krämer	Chair:
11:00	Green Deal Climate and energy - Waste to energy I	Acting Together – Biochemical and Chemical Engineering Integration Modelling	Tools and Toolkits for Chemical and biochemical reactors Computational and modelling approaches to polymer production and processing	Matter in Motion Static mixers and micromixing devices	Digital transformation Flexibility assessment & supply-chain management	Green Deal Sustainability and circular (bio)economy – Process Systems Analysis I	Faster and more selective Enzymes and their interactions in biocatalysis	Digital transformation Industry 4.0 I	Tools and Toolkits for Chemical and biochemical reactors Crystallization and filtration	Acting Together – Biochemical and Chemical Engineering Integration Biorefineries I	Tools and Toolkits for Chemical and biochemical reactors Transport phenomena, separation I	Industrial Biocatalysis – Moving forward Step by Step towards a Resilient and Sustainable Bioeconomy ¹	Solid Matter Advanced and new characterization techniques	Education Panel discussion “STEM skills shortage threatens our prosperity”		Chemical and Biochemical Engineering in Medicine Micro- and mini(bio) reactors	11:00
12:40	Lunch Break (Self-payer)																12:40
Chair:	M. Seifali Abbas-Abadi	L. Jourdin	D. Marchisio	S. Sarkar	I. Burke	L. van der Wielen	B. Bühler	D. Barletta	E. Tocci	S. Lütz	V.C. Hass	L. Pirro	H. Müller	M. Debacq		T.R. Sosnowski	Chair:
13:40	Green Deal Climate and energy - Waste to energy II	Acting Together – Biochemical and Chemical Engineering Integration Bioreactors	Tools and Toolkits for Chemical and biochemical reactors Computational Fluid Dynamics	Matter in Motion Modelling	Digital transformation Industrial artificial intelligence methods	Green Deal Sustainability and circular (bio)economy – Process Systems Analysis II	Faster and more selective Engineering and modelling of biocatalytic reactions	Digital transformation Decision-making and control methods	Tools and Toolkits for Chemical and biochemical reactors Membranes for gas separation and CO ₂ capture	Acting Together – Biochemical and Chemical Engineering Integration Wastes processing I	Tools and Toolkits for Chemical and biochemical reactors Transport phenomena, separation II	Green Deal Food in the focus I	PAT applications in fed batch and continuous bioprocesses I ²	Education Motivating high school students for STEM courses	Youth programme ³ 14:05	Chemical and Biochemical Engineering in Medicine Demand for new or improved (bio) technologies I	13:40
15:20	Coffee Break																15:20
Chair:	M. Seifali Abbas-Abadi	K. Schürle	C. Lange Bassani	S. Kaufmann	S. Lasala	T. Franco	M.J. Cocero Alonso	G. Boccoardo	J.M. Schulz	L. Schroedter	A. Criscuoli	L. Pirro	P. Neubauer			T. Keil	Chair:
15:50	Green Deal Climate and energy – Industry decarbonisation	Acting Together – Biochemical and Chemical Engineering Integration Methabolic/strain engineering	Tools and Toolkits for Chemical and biochemical reactors Computational and modelling approaches to porous media	Matter in Motion Advanced mixers	Digital transformation Computational bioprocesses I	Green Deal Sustainability and circular (bio)economy – Process Systems Analysis III	Faster and more selective Biomass valorization via chemical catalysis	Digital transformation Separation strategies	Tools and Toolkits for Chemical and biochemical reactors Measurement techniques for separations	Acting Together – Biochemical and Chemical Engineering Integration Fine chemicals	Chemical Engineering in Space Engineering ⁶	Green Deal Food in the focus II	PAT applications in fed batch and continuous bioprocesses II ²		Youth programme ³	Chemical and Biochemical Engineering in Medicine Demand for new or improved (bio) technologies II	15:50
Chair:	G. Veronesi																Chair:
17:10	Room: A8	PLENARY LECTURE We change the world and the world changes us: the Anthropocene through the lenses of evolution Prof. Telmo Pievani, University of Padua/I															17:10
17:55 20:00	Poster Session in the exhibition hall																17:55 20:00

¹ organized by ESAB - European Society of Applied Biocatalysis, Swiss Coordination Committee for Biotechnology SCCB and DECHEMA e.V.

² organized by DFG Schwerpunktprogramm DiSPBiotech (SPP 1934)

³ organized by the kJVI (creative young process engineers), the youth group of the German society for process and chemical engineering (VDI-GVC)

Tuesday, 19 September 2023

08:30	Registration																08:30	
Chair:	A. Jungbauer																Chair:	
09:00	Room: A8	PLENARY LECTURE Affinity Proteins for Biotechnological and Medical Purposes Prof. Sophia Hober, KTH Royal Institute of Technology, Stockholm/S														09:00		
09:45	Break																09:45	
	Room: A1	Room: A2	Room: A3	Room: A4	Room: A5	Room: A6	Room: A7	Room: A8	Room: M1	Room: M2	Room: M3	Room: M4	Room: M5	Room: M6	Room: M7	Room: M8	Room: R2	
Chair:	F. Bezzo	K. Schürle	D. Krämer	D. Albrecht	E. Lasseuguette	L. van der Wielen	S. Kaufmann	R. Aires-Barros	S. Dooley	M. Eppink				S. Garcia Fracaro		S. Beutel		Chair:
09:50	Green Deal Climate and energy – Hydrogen and fuels I	Acting Together – Biochemical and Chemical Engineering Integration Methabolic/strain engineering	Tools and Toolkits for Chemical and biochemical reactors Separations I	Matter in Motion Multiphase flow I	Tools and Toolkits for Chemical and biochemical reactors Computational and modelling	Green Deal Sustainability and circular (bio)economy - Circularity I	Matter in Motion Batch-to-Continuous and flow chemistry-based processes	Chemical and Biochemical Engineering in Medicine Downstream processes I	Faster and more selective Kinetic analyses	Acting Together – Biochemical and Chemical Engineering Integration Biorefineries II				Education Sustainability in chemical engineering education	Youth programme ³	Digital transformation Computational bioprocesses II		09:50
11:05	Coffee Break																11:05	
Chair:	F. Bezzo	L. Jourdin	M. Considine	A. Kokossis	H. Massong	L. van der Wielen	A. Brunetti	M. Ottens	V. Diky	D. Barletta	G. Kontogeorgis	C. Ampelli	G. Yablonsky / K.M. Van Geemt	J. Glassey		A. Jungbauer	F. Stenger	Chair:
11:35	Green Deal Climate and energy – Hydrogen and fuels II	Acting Together – Biochemical and Chemical Engineering Integration Bioreactors	Tools and Toolkits for Chemical and biochemical reactors Extraction	Matter in Motion Design and Optimization	Tools and Toolkits for Chemical and biochemical reactors Computational and modelling approaches for safe and sustainable processes	Green Deal Sustainability and circular (bio)economy - Circularity II	Matter in Motion Multifunctional reactors and hybrid separations	Chemical and Biochemical Engineering in Medicine Downstream processes II	Faster and more selective Advanced kinetic measurement methods	Acting Together – Biochemical and Chemical Engineering Integration Biofuels	Tools and Toolkits for Chemical and biochemical reactors The Future of Thermodynamics and hybrid methods	Tools and Toolkits for Chemical and biochemical reactors Batteries fabrication and recycling	MACKIE – Mathematics in (bio)Chemical Kinetics and Engineering I⁴	Education Training in digital space	Youth programme ³	Digital transformation Animal culture control and optimization	MACBETH – Membranes and Catalysts Beyond Economic and Technological Hurdles I⁵	11:35
13:15	Lunch Break (Self-payer) / ChemCar Competition (Foyer Level 2)																13:15	
Chair:	V. Cozzani	J. Friedland	K. Schürle	M. Schlüter	L. Rapp	T. Franco	D. Krämer	M. Ottens	P. Biessey	M. Mauricio-Iglesias	J.-C. de Hemptinne	A. Amin	G. Yablonsky / K.M. Van Geemt	N. Kockmann		T. Salmi	F. Stenger	Chair:
14:45	Green Deal Climate and energy – Industry decarbonisation	Acting Together – Biochemical and Chemical Engineering Integration Separation	Tools and Toolkits for Chemical and biochemical reactors Gas Adsorption I	Matter in Motion Hydrodynamics I	Tools and Toolkits for Chemical and biochemical reactors Computational and modelling approaches to bioreactors	Green Deal Sustainability and circular (bio)economy - Circularity III	Matter in Motion Energy activation (energy transfer) I	Chemical and Biochemical Engineering in Medicine Downstream processes III	Faster and more selective Making use of biomass/bio-waste via chemical catalysis	Acting Together – Biochemical and Chemical Engineering Integration Wastes processing II	Tools and Toolkits for Chemical and biochemical reactors Data and novel modelling tools	Tools and Toolkits for Chemical and biochemical reactors Electrochemical reactors	MACKIE – Mathematics in (bio)Chemical Kinetics and Engineering II⁴	Education Education, not just lecturing	Youth programme ³	Digital transformation Computational process analytical technologies	MACBETH – Membranes and Catalysts Beyond Economic and Technological Hurdles II⁵	14:45
16:25	Coffee Break																16:25	
Chair:	C. Bohnenkamp / L. Rapp																Chair:	
16:55	Room: A4	Science Slam														16:55		

⁴ organized by MaCKiE - Mathematics in (bio)Chemical Kinetics and Engineering and the EFCE working party on reaction engineering

⁵ organized by the European MACBETH project

Wednesday, 20 September 2023

08:30	Registration															08:30	
Chair:	J. Legrand															Chair:	
09:00	Room: A8	PLENARY LECTURE Process Engineering in Food: Food security and Nutrition for all Dr. Christoph Hartmann, Head of Academic Alliances & Expertise Development, Société des Produits Nestlé S.A., Vevey/CH														09:00	
09:45	Break															09:45	
	Room: A1	Room: A2	Room: A3	Room: A4	Room: A5	Room: A6	Room: A7	Room: A8	Room: M1	Room: M2	Room: M3	Room: M4	Room: M5	Room: M6	Room: M7	Room: M8	
Chair:	M. Seifali Abbas-Abadi	S. Pal	R. Soto	J. Legrand	L.-E. Meyer	L. van der Wielen	A. Brunetti	P. Jenkinson	M. Schlüter	A. Liese	S. Salerno	B. Bühler	A. ten Kate	M. Eppink			Chair:
09:50	Green Deal Climate and energy – Industry decarbonisation	Chemical and Biochemical Engineering in Medicine Continuous manufacturing I	Faster and more selective Reaction engineering for olefin production	Acting Together – Biochemical and Chemical Engineering Integration Bioproducts I	Tools and Toolkits for Chemical and biochemical reactors Separations II	Green Deal Sustainability and circular (bio)economy - biogenic carbon I	Matter in Motion Multifunctional reactors and hybrid separations	Tools and Toolkits for Chemical and biochemical reactors Computational and modelling approaches to process control	Matter in Motion Multiphase flow II	Acting Together – Biochemical and Chemical Engineering Integration Bioreactors I	Chemical and Biochemical Engineering in Medicine Biodegradable and biocompatible materials for health applications I	Faster and more selective Continuous flow (bio) reactors	The Pharma Challenge: a cross-cutting perspective I⁷	Digital transformation Process optimization in the drug industry	Youth programme ³		09:50
11:05	Coffee Break															11:05	
Chair:	M. Seifali Abbas-Abadi	S. D'Ambrosio	M.A. Liauw	P. Satzer	E.M. Maus	T. Franco	N. Nikačević	E. Kessler	M. Schlüter	P. Jenkinson	S. Salerno	B. Bühler	A. ten Kate	N. Kockmann		D. Mattia	Chair:
11:35	Green Deal Climate and energy – Sustainable processes I	Chemical and Biochemical Engineering in Medicine Continuous manufacturing II	Faster and more selective Sustainable reaction engineering	Acting Together – Biochemical and Chemical Engineering Integration Bioproducts II	Tools and Toolkits for Chemical and biochemical reactors Water purification and minerals extraction	Green Deal Sustainability and circular (bio)economy - biogenic carbon II	Matter in Motion Novel process and equipment concepts	Tools and Toolkits for Chemical and biochemical reactors Computational and modelling approaches for bioprocesses	Matter in Motion Hydrodynamics II	Acting Together – Biochemical and Chemical Engineering Integration Design & scaling up I	Chemical and Biochemical Engineering in Medicine Biodegradable and biocompatible materials for health applications II	Faster and more selective Specialized (bio)catalytic reactor concepts	The Pharma Challenge: a cross-cutting perspective II⁷	Digital transformation Industry 4.0 II	Youth programme ³	Green Deal Wastes I	11:35
13:15	ChemPlant Competition	Lunch Break (Self-payer)														13:15	
Chair:	M. Seifali Abbas-Abadi	A. Criscuoli	N.N.	M. Eppink	M. Zednikova	L. van der Wielen	A. Brunetti	M. Grazia De Angelis	R. Horn	R. Hahn		C. Nouvel	F. Bezzo	S. Junne		E. Kessler	Chair:
14:15	Green Deal Climate and energy – Sustainable processes II	Membrane Engineering I⁶	Faster and more selective Liquid phase reaction engineering	Acting Together – Biochemical and Chemical Engineering Integration Biomaterials I	Tools and Toolkits for Chemical and biochemical reactors Distillation	Green Deal Sustainability and circular (bio)economy - biogenic carbon III	Matter in Motion Batch-to-Continuous and flow chemistry-based processes	Tools and Toolkits for Chemical and biochemical reactors Computational and modelling approaches to thermodynamic properties prediction	Matter in Motion Energy activation (energy transfer) II	Acting Together – Biochemical and Chemical Engineering Integration Process integration/ optimization		Solid Matter Polymers technology and modelling	Research advancements towards the digitalisation of microalgae cultivation processes I⁸	Digital transformation Computational bioprocesses III		Green Deal Wastes II	14:15
15:55	Coffee Break															15:55	
Chair:	S. Müller															Chair:	
16:25 – 17:10	Room: A8	PLENARY LECTURE OF THE EARLY CAREER CHEMICAL ENGINEERS A systems engineering approach for novel and sustainable value chains in life sciences Dr. Maria Papathanasiou, Imperial College London/UK														16:25 – 17:10	
19:00	Conference Dinner at Hofbräu Wirtshaus Berlin Karl-Liebknecht-Str. 30, 10178 Berlin (Alexanderplatz) (separate registration necessary)															19:00	

⁶ organized by EFCE Section on Membrane Engineering

⁷ jointly organized by EFCE working parties Thermodynamics and Transport Properties, CAPE and Crystallization

⁸ organized by H2020 EU project "DigitAlgaesation"

⁹ organized by Prof. Stephan Lütz, TU Dortmund

¹⁰ organized by DFG-Schwerpunktprogramm 1934 "DISPBiotech"

Thursday, 21 September 2023

08:30	Registration															08:30
Chair:	D. Bogle															Chair:
09:00	Room: A8	DANCKWERTS LECTURE Systems Biology of Yeast Metabolism Prof. Dr. Hens Nielsen, BiolInnovation Institute Fonden, Copenhagen/DK													09:00	
09:45	Break															09:45
	Room: A1	Room: A2	Room: A3	Room: A4	Room: A5	Room: A6	Room: A7	Room: A8	Room: M1	Room: M2	Room: M3	Room: M4	Room: M5	Room: M6	Room: M8	
Chair:	D. Krämer	D. Albrecht	F. Sedegi	H. Grénman	J. Morchain	J. Legrand	R. Aires-Barros	A. Brunetti		A. Bohnenkamp	S. Lütz	E. Tronconi	S. Beutel	I. Kampen	K. Rübberdt	Chair:
09:50	Green Deal Water – Remediation I	Acting Together – Biochemical and Chemical Engineering Integration Enzymatic reactions	Tools and Toolkits for Chemical and biochemical reactors Computer-aided process design and optimisation I	Matter in Motion Multifunctional reactors and hybrid separations	Digital transformation Process design methodologies	Green Deal Sustainability and circular (bio)economy - biogenic carbon	Matter in Motion Micro- and millireactors I	Faster and more selective Catalytic Reaction Engineering: CO ₂ utilisation		Acting Together – Biochemical and Chemical Engineering Integration Enzymatic reactions	Engineering contributions to (quick) energy and raw material savings ⁹	Hydrogen for a decarbonized future I ⁶	Research advancements towards the digitalisation of microalgae cultivation processes II ⁸	Dispersity, structure and phase changes of proteins and bioagglomerates in biotechnological processes ¹⁰ Particles in biotechnological processes and their formulation	Chemical and Biochemical Engineering in Medicine Chemical and Biochemical engineer- ing in medicine	09:50
11:05	Coffee Break															11:05
Chair:	G. Virruso	A. Liese	L.M. Helleckes	A. Antzaras	V.C. Hass	E. Sforza	N. Kockmann	R. Ratnakar	C. Nouvelle	A. López Prieto	A. Figoli	A. Iulianelli	L. Urbas	A. Kwade / I. Kampen	T.R. Sosnowski	Chair:
11:35	Green Deal Water – Remediation II	Acting Together – Biochemical and Chemical Engineering Integration Bioreactors II	Tools and Toolkits for Chemical and biochemical reactors Computer-aided process design and optimisation II	Matter in Motion Novel process and equipment concepts I	Digital transformation Computational bioprocesses IV	Green Deal Sustainability and circular (bio)economy - Bioprocesses I	Matter in Motion Micro- and millireactors II	Faster and more selective Reaction engineering for catalytic processes and technologies	Solid Matter 3D printing and materials printing	Acting Together – Biochemical and Chemical Engineering Integration Biomaterials II	Membrane engineering II ⁶	Hydrogen for a decarbonized future II ⁶	Research advancements towards the digitalisation of microalgae cultivation processes III ⁸	Dispersity, structure and phase changes of proteins and bioagglomerates in biotechnological processes ¹⁰ Mechanical stresses improving fermentation processes	Chemical and Biochemical Engineering in Medicine Analogies of the engi- neering approach and the body healthcare I	11:35
13:15	Lunch Break (Self-payer)															13:15
Chair:	M. de Cazes	M. Schlüter	B. Benyahia	J. Harmsen	A. Arsenio	M. Morweiser	N. Kockmann	M. Grazia De Angelis	U. Westhaus	N. Johnson		E. Tronconi / A. Iulianelli	F. Krujatz	A. Kwade	T. Chen	Chair:
14:15	Green Deal Water – Remediation III	Acting Together – Biochemical and Chemical Engineering Integration Design & scaling up II	Tools and Toolkits for Chemical and biochemical reactors Computational and modelling approaches to bioreactors	Matter in Motion Novel process and equipment concepts II	Digital transformation Information and data management	Green Deal Sustainability and circular (bio)economy - Bioprocesses II	Matter in Motion Batch-to-Continuous and flow chemistry- based processes	Faster and more selective Catalytic Reaction Engineering: oxidation and reduction	Solid Matter Advanced functional materials	Acting Together – Biochemical and Chemical Engineering Integration Enzymes		Hydrogen for a decarbonized future III ⁶	Research advancements towards the digitalisation of microalgae cultivation processes IV ⁸	Dispersity, structure and phase changes of proteins and bioagglomerates in biotechnological processes ¹⁰ Protein interactions and crystallisation	Chemical and Biochemical Engineering in Medicine Analogies of the engi- neering approach and the body healthcare II	14:15
15:55	Coffee Break															15:55
Chair:	A. Förster															Chair:
16:25	Room: A8	JACQUES VILLERMAUX MEDAL LECTURE A Perspective on the Future of Chemical Engineering Prof. David Bogle, University College London/UK													16:25	
17:10	Room: A8	BASF POSTER AWARDS / CLOSING													17:10	