FRIEDRICH-ALEXANDER
UNIVERSITÄT
ERLANGEN-NÜRNBERG
FACULTY OF ENGINEERING

Diffusion Phenomena Moving People

Diffusion Fundamentals VIII

Basic Principles of Theory, Experiment and Application

September 1st to 5th, 2019, Erlangen, Germany

Conference Program

AOTTP

PROGRAM

Sunday, 1st September 2019

09:30-17:00	**Sightseeing trip to Bamberg** (optional, to be booked in advance)
17:00-21:00	**Welcome reception and registration** Mensa Langemarckplatz
18:30	**Introduction of the Friedrich-Alexander-University Erlangen-Nürnberg (FAU) and the city of Erlangen** Siegfried Balleis, Universitätsbund of FAU and former Mayor of Erlangen

Monday, 2nd September 2019

Opening of Diffusion Fundamentals VIII	
09:00	**Welcome** by Andreas P. Fröba, Conference Chair and Local Host **Words of Greeting** from Joachim Hornegger, President of FAU
09:35	**Book Award of FCI (Fonds der Chemischen Industrie)** Laudation: Roland A. Fischer, Technical University of Munich, Germany
10:00	Group photograph and coffee break
Lectures	
10:30	**International human rights – an example of global norms diffusion?** Heiner Bielefeldt, FAU
11:30	**The dynamics and propagation of riots** Henri Berestycki, PSL University, Paris, France
12:30	Lunch break
Lectures	
13:30	**Why do people change their language?** Katharina Prochazka, University of Vienna, Austria
14:30	**Diffusion of innovation: a theory of reverse diffusion** Christian Pescher, FAU
15:30	Coffee break
Lectures	
16:00	**Mechanisms of knowledge diffusion in online social dynamics** Bosiljka Tadic, Jozef Stefan Institute, Ljubljana, Slovenia
17:00-18:00	**Modeling direct injection of drugs into the brain** Malisa Sarntinoranont, University of Florida, USA
19:00/20:40	**Guided city tours in Erlangen**
20:00	**Social meetings:** local brewery "Steinbach Bräu" and student pub "Zum Pleitegeier"

Tuesday, 3rd September 2019

Lecture	
08:30	**Better, faster, more versatile NMR diffusion measurements** William S. Price, Western Sydney University, Australia
Poster session A „Society, economy, medicine, biology“	
09:30	**Poster short presentations** followed by **Poster discussion** with coffee
Lectures	
11:00	**Fundamentals of carrier diffusion waves in electronic solids** Andreas Mandelis, University of Toronto, Canada
12:00	**Atomic diffusion studied by coherent X-ray scattering** Michael Leitner, Technical University of Munich, Germany
13:00	Lunch break
Lecture	
14:00	**Exploring guest dynamics in nanoporous host materials** Christian Chmelik, University of Leipzig, Germany
Poster session B „Solids and porous materials“	
15:00	**Poster short presentations** followed by **Poster discussion** with coffee
Parallel lab tours (please register at conference office)	
17:00-18:00	**Institute of Advanced Optical Technologies – Thermophysical Properties** **Institute of Particle Technology** **Institute of Chemical Reaction Engineering** **Institute of Separation Science & Technology / Erlangen Catalysis Resource Center**
19:30	**Social meeting:** beer garden „Entlas Keller“ guided tours into the beer cellars will be offered



source: http://www.entlaskeller.de

Wednesday, 4th September 2019

Parallel workshops (please visit the workshop you registered for) 08:30-12:30, with coffee break, 10:30-11:00	
WS1	**Characterization and adsorption-based applications of nanoporous materials** Martin Hartmann, FAU; Markus Richter, Chemnitz University of Technology, Germany; Matthias Thommes, FAU
WS2	**Determination of transport properties of fluids by optical methods** Werner Köhler, University of Bayreuth, Germany; Cédric Giraudet, FAU
WS3	**Molecular dynamics (MD) simulation and modeling of diffusion in fluids and porous materials** Thomas M. Koller, FAU; Ulrich Tallarek, University of Marburg, Germany
WS4	**Solid state diffusion: Atomistic simulation and phase field modeling** Rafal Kozubski, Jagiellonian University of Krakow, Poland; Helena Zapolsky, University Rouen Normandy, France
12:30	Lunch break
Lectures	
13:30	**The 190th birthday of Adolf Fick:** **Still the same procedure for diffusion in fluids as every year?** André Bardow, RWTH Aachen University, Germany
14:30	**Prediction of physical properties for the design of processes in the oil & gas industry using molecular simulation** Ioannis G. Economou, Texas A&M University at Qatar
Poster session C „Fluids“	
15:30- 18:00	**Poster short presentations** followed by **Poster discussion** with coffee
17:00	Meeting of editorial board „Diffusion Fundamentals“
Conference dinner in the Redoutensaal	
19:00	**Doors open** **Reception** with sparkling wine and finger food
20:00- 23:00	**Conference dinner** including **Concert of the Bamberger Streichquartett** (http://www.bambergerstreichquartett.de/en/welcome/)

Thursday, 5th September 2019

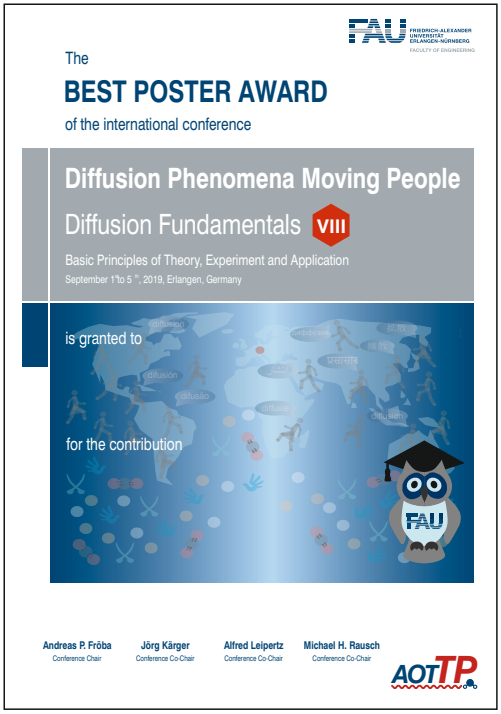
Lectures	
08:30	**Measurement and modelling of mass diffusion coefficients for application in carbon dioxide storage and enhanced oil recovery** J. P. Martin Trusler, Imperial College London, United Kingdom
09:30	**Global challenges of capturing carbon dioxide** Stefano Brandani, University of Edinburgh, United Kingdom
Poster session D „Chemical engineering and measurement methods“	
10:30	**Poster short presentations** followed by **Poster discussion** with coffee
Closing ceremony of Diffusion Fundamentals VIII	
12:30	**Closing remarks and Best Poster Awards** Andreas P. Fröba, FAU **Invitation to Diffusion Fundamentals IX in Krakow, Poland** Rafal Kozubski, Jagiellonian University, Krakow Host of Diffusion Fundamentals IX
13:00	Light lunch

BEST POSTER AWARDS

The three best poster presentations given at the Diffusion Fundamentals VIII will be awarded with certificates and prize money during the closing ceremony.

Each conference participant will receive a voting card upon registration and can vote for up to three poster contributions (one vote per poster possible). For the decision, the short oral introduction given in the plenum, the scientific quality of the work, the poster design, and the discussion at the poster should be considered.

The voting cards will be collected by the conference staff during the last poster session of the conference.



POSTER SESSION A
"SOCIETY, ECONOMY, MEDICINE, BIOLOGY"

Tuesday, 3rd September 2019, 09:30

A01 **Dynamic extracellular space alters spatiotemporal distribution of chemical signals in brain: experiment and modeling**
S. Hrabetova[1], J. Hrabe[1,2], [1]State University of New York Downstate Medical Center, Brooklyn, NY, USA, [2]Nathan Kline Institute, Orangeburg, NY, USA

A02 **Molecules in nanopores as a model system for mimicking spreading in nature and society**
S. Hwang[1], C. Chmelik[1,2], J. Kärger[1,2], [1]Faculty for Physics and Earth Sciences, Leipzig University, Leipzig, Germany, [2]Saxon Academy of Sciences and Humanities in Leipzig, Leipzig, Germany

A03 **Along the cause-and-effect chain: On the propagation of ideas and visions within the scientific analyzer market**
D. Klank, C. Reichenbach, D. Schneider, 3P INSTRUMENTS, Germany

A04 **Measurement of diffusion of atmospheric gases in a liquid perfluorocompound by means of optical technique**
A. Mialdun[1], V. Yasnou[1], R. Rives[2], A. Coronas[2], V. Shevtsova[1], [1]Université libre de Bruxelles, Brussels, Belgium, [2]Universitat Rovira i Virgili, Tarragona, Spain

A05 **Using diffusion tensor imaging to predict transport patterns in brain**
M. Sarntinoranont, T. Mareci, University of Florida, Gainesville, FL, USA

A06 **Transient anomalous subdiffusion of DNA-binding species in the nucleus**
M. J. Saxton, Dept Biochemistry & Molecular Medicine, University of California, Davis, CA, USA

A07 **Diffusion coefficients of quinine in supercritical CO_2**
Y. Gaponenko, A. Mialdun, V. Shevtsova, Microgravity Research Center, Université libre de Bruxelles (ULB), Brussels, Belgium

A08 **Diffusion detects conformation changes during reactions of photosensor proteins**
M. Terazima, Y. Nakasone, Department of Chemistry, Graduate School of Science, Kyoto University, Japan

A09 **Imaging of 3D patterns of slow flow in porous media**
J. Wang[1], S. Haber-Pohlmeier[2], A. Pohlmeier[3], K. Pitman[1], A. Chan[1], P. Galvosas[1], [1]MacDiamid Institute for Advanced Materials and Nanotechnology, School of Chemical and Physical Sciences, Victoria University Wellington, Wellington, New Zealand, [2]RWTH Aachen University, ITMC, Aachen, Germany, [3]Research Center Jülich, IBG-3, 5 Jülich, Germany

POSTER SESSION B "SOLIDS AND POROUS MATERIALS"

Tuesday, 3rd September 2019, 15:00

B01 **Bubble diffusivity in BCC metals: atomistic mechanisms and kinetic models**
A. Antropov, V. Stegailov, Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow, Russia, Moscow Institute of Physics and Technology, Dolgoprudny, Russia

B02 **Statistical model of atoms diffusion in a crystal lattice of a metal**
S. V. Bobyr, Iron and Steel Institute of Z. I. Nekrasov, National Academy of Sciences of Ukraine, Dnipro, Ukraine

B03 **Molecular dynamics study on the diffusion behavior of water inside functionalized carbon nanotubes**
Q. Chen, B. Liu, X. Han, Zhejiang University of Science and Technology, Hangzhou, People's Republic of China

B04 **Impact of titanium doping on Al self-diffusion in alumina**
P. Fielitz[1], S. Ganschow[2], K. Kelm[3], G. Borchardt[1], [1]Technische Universität Clausthal, Institut für Metallurgie, Clausthal-Zellerfeld, Germany, [2]Leibniz-Institut für Kristallzüchtung, Berlin, Germany, [3]Deutsches Zentrum für Luft- und Raumfahrt, Institut für Werkstoff-Forschung, Köln, Germany

B05 **Direct quantification of surface barriers in nanoporous materials**
M. Gao[1,2], H. Li[1], S. Peng[1,2], M. Ye[1], Z. Liu[1], [1]Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, China, [2]University of Chinese Academy of Sciences, Beijing, China

B06 **Theoretical model for mass transport and adsorption of gases in porous solids based on the frequency response method**
R. Grün, C. Breitkopf, Technische Universität Dresden, Institut für Energietechnik, Dresden, Germany

B07 **Multiscale modeling of diffusion in elastic composite materials**
S. Kaessmair, P. Steinmann, Chair of Applied Mechanics, Friedrich-Alexander-University Erlangen-Nürnberg (FAU), Erlangen, Germany

B08 **Diffusion in nanopores recorded by microscopic measuring techniques**
C. Chmelik[1,2], D. Freude[1], J. Haase[1,2], S. Hwang[1], J. Kärger[1,2], R. Valiullin[1,2], [1]Faculty for Physics and Earth Sciences, Leipzig University, Leipzig, Germany, [2]Saxon Academy of Sciences and Humanities in Leipzig, Leipzig, Germany

B09 withdrawn

B10 **Anomalous diffusion-controlled kinetics in irradiated oxide crystals**
V. N. Kuzovkov, A. I. Popov, E. A. Kotomin, Institute of Solid State Physics, University of Latvia, Riga, Latvia

B11 **Diffusion of Sn in polycrystalline α-Fe under pulsed magnetic field**
A. V. Pokoev[1], A. A. Fedotov[1], S. V. Divinski[1,2], [1]Samara University, Samara, Russia [2]Institute of Materials Physics, University of Münster, Münster, Germany

B12 **Phase formation in aluminum alloys aged in the constant and pulse magnetic field**
J. V. Osinskaya, A. V. Pokoev, K. S. Yamschikova, Samara National Research University, Samara, Russia

B13 **Simulation of the magnetoplastic effect in copper-beryllium alloys**
D. S. Sineglazov, A. V. Pokoev, Samara National Research University, Samara, Russia

B14 **The diffusion path reversibility confirms symmetry of surface barriers**
G. Sastre[1], J. Kärger[2], D. M. Ruthven[3], [1]Instituto de Tecnologia Quimica U.P.V.−C.S.I.C., Universidad Politecnica de Valencia, Spain, [2]Faculty of Physics and Earth Sciences, University of Leipzig, Leipzig, Germany, [3]Department of Chemical and Biological Engineering, University of Maine, Orono, Maine, United States

B15 **Multiscale diffusion in porous media: from interfacial dynamics to hierarchical porosity**
U. Tallarek, D. Hlushkou, J. Rybka, A. Höltzel, Philipps-Universität Marburg, Marburg, Germany

B16 **Stationary-phase contributions to surface diffusion at C_8-modified silica mesopores**
J. Rybka, A. Höltzel, N. Trebel, U. Tallarek, Department of Chemistry, Philipps-Universität Marburg, Marburg, Germany

B17 **Concentration-dependent sedimentation and diffusion coefficient in analytical ultracentrifugation experiments**
M. J. Uttinger, S. Wawra, J. Walter, W. Peukert, Institute of Particle Technology (LFG), FAU Erlangen-Nürnberg, Erlangen, Germany

B18 **Synthesis of hierarchical TS-1 zeolites from a hydrolysis resistant polymer and their excellent catalytic performance in bulky molecules oxidation**
J. Xing[1,2], D. Yuan[1], Y. Wu[1,2], Y. Xu[1], Z. Liu[1], [1]Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, China, [2]University of Chinese Academy of Sciences, Beijing, China

B19 **A vacuum set-up for fundamental studies of self- and transport diffusion in porous media**
H. Yu, M.-O. Coppens, Department of Chemical Engineering and Centre for Nature Inspired Engineering, University College London, London, United Kingdom

B20 withdrawn

POSTER SESSION C “FLUIDS”

Wednesday, 4th September 2019, 15:30

C01 **Self- and transport diffusion coefficients from NMR experiments**
D. Bellaire, K. Münnemann, H. Hasse, Laboratory of Engineering Thermodynamics (LTD), University of Kaiserslautern, Germany

C02 **Dynamic viscosity, interfacial tension and mass diffusion coefficient of *n*-hexane, cyclohexane, 2-methylpentane and CO_2 systems**
S. Yan, S. Bi, J. Cui, X. Meng, J. Wu, Key Laboratory of Thermo-Fluid Science and Engineering, Ministry of Education, School of Energy and Power Engineering, Xi’an Jiaotong University, Xi’an, China

C03 **Translational and rotational diffusion coefficients in nanofluids from polarized dynamic light scattering**
F. E. Bioucas[1], C. Damm[2], W. Peukert[2], M. H. Rausch[1], T. M. Koller[1], C. Giraudet[1], A. P. Fröba[1], [1]Institute of Advanced Optical Technologies – Thermophysical Properties (AOT-TP), Friedrich-Alexander-University Erlangen-Nürnberg (FAU), Erlangen, Germany, [2]Institute of Particle Technology (LFG), FAU, Erlangen, Germany

C04 **Assessing diffusivities of organic compounds in ionic liquids**
J. Praus, P. Číhal, O. Vopička, Department of Physical Chemistry, University of Chemistry and Technology, Prague, Czech Republic

C05 **The thermodynamic factor: The key to understand complex diffusion behavior in fluid mixtures**
G. Guevara-Carrión[1], V. Shevtsova[2], J. Vrabec[1], [1]Thermodynamics and Process Engineering, Technical University of Berlin, Berlin, Germany, [2]Microgravity Research Center, Université Libre de Bruxelles, Brussels, Belgium

C06 **The Diffusion Research Unit, The Australian National University, Canberra: A contribution to physical chemistry and beyond**
K. R. Harris[1], W. E. Price[2], [1]University of New South Wales, Canberra, ACT, Australia, [2]University of Wollongong, Wollongong, NSW, Australia

C07 **Fick diffusion coefficients in binary fluid mixtures consisting of methane, propane, or carbon dioxide by theoretical and optical methods**
U. A. Higgoda, M. Piszko, P. Zangi, M. H. Rausch, C. Giraudet, T. M. Koller, A. P. Fröba, Institute of Advanced Optical Technologies – Thermophysical Properties (AOT-TP), Friedrich-Alexander-University Erlangen-Nürnberg (FAU), Erlangen, Germany

C08 **Solubility of CO_2 in 2-butyl-1-octanol from (323.15 to 573.15) K at pressures up to 10 MPa**
X. Hu, J. Yang, X. Jia, S. Bi, J. Wu, Key Laboratory of Thermo-Fluid Science and Engineering of Ministry of Education, Xi'an Jiaotong University, Xi’an, China

C09 **Fick diffusion coefficients in binary liquid mixtures of *n*-alkanes or 1-alcohols with dissolved gases investigated by molecular dynamics simulations and dynamic light scattering**
T. Klein, W. Wu, M. Kerscher, M. H. Rausch, C. Giraudet, T. M. Koller, A. P. Fröba, Institute of Advanced Optical Technologies – Thermophysical Properties (AOT-TP), Friedrich-Alexander-University Erlangen-Nürnberg (FAU), Erlangen, Germany

C10 **Simultaneous study of molecular and micelle diffusion in polyol-based microemulsions with CO_2-swollen micelles by dynamic light scattering**
M. S. G. Knoll[1], C. Giraudet[1], C. J. Hahn[2], M. H. Rausch[1], A. P. Fröba[1], [1]Institute of Advanced Optical Technologies – Thermophysical Properties (AOT-TP), FAU, Erlangen, Germany, [2]Covestro Deutschland AG, Leverkusen, Germany

C11 **Improvement of a transferable force field for the prediction of self-diffusivity, viscosity, surface tension, and density of long-chained linear and branched alkanes and alcohols up to 573 K by molecular dynamics simulations**
F. D. Lenahan, T. M. Koller, T. Klein, A. P. Fröba, Institute of Advanced Optical Technologies – Thermophysical Properties (AOT-TP), FAU, Erlangen, Germany

C12 **Viscosity measurements of *n*-dodecane and 2-butyl-1-octanol at temperatures from (298 to 475) K and pressures up to 10 MPa by vibrating-wire method**
X. Liang, Y. Fu, J. Wu, J. Kuang, Key Laboratory of Thermo-Fluid Science and Engineering of Ministry of Education, Xi'an Jiaotong University, Shaanxi, Xi'an, China

C13 **Predicting self-diffusion and transport diffusion coefficients using entropy scaling and PC-SAFT**
J. Mele[1], M. Hopp[1], A. Bardow[2], J. Gross[1], [1]University of Stuttgart, Institute of Thermodynamics and Thermal Process Engineering, Stuttgart, Germany, [2]RWTH Aachen University, Chair of Technical Thermodynamics, Aachen, Germany

C14 **Definition of frame-invariant Soret coefficients for ternary mixtures**
J. M. Ortiz de Zárate, Facultad de Física, Universidad Complutense, Madrid, Spain

C15 **Diffusivities accessible from dynamic light scattering across the two-phase boundary of an equimolar propane-methane mixture**
M. Piszko, M. H. Rausch, C. Giraudet, A. P. Fröba, Institute of Advanced Optical Technologies – Thermophysical Properties (AOT-TP), FAU, Erlangen, Germany

C16 **Reference frames and negative main Fick diffusion coefficients**
V. Shevtsova[1], T. Janzen[2], S. Kozlova[3], I. Ryzhkov[3], A. Mialdun[1], J. Vrabec[2], [1]Microgravity Research Center, Université libre de Bruxelles (ULB), Brussels, Belgium, [2]Thermodynamics and Process Engineering, Technical University Berlin, Berlin, Germany, [3]Institute of Computational Modelling SB RAS, Krasnoyarsk, Russia

C17 **The Soret effect in ternary mixtures of water + ethanol + triethylene glycol of equal mass fractions: ground and microgravity experiments**
D. Sommermann[1], T. Triller[1], M. Schraml[1], F. Sommer[1], W. Köhler[1], E. Lapeira[2], M. M. Bou-Ali[2], [1]Physikalisches Institut, Universität Bayreuth, Bayreuth, Germany, [2]Mechanical and Manufacturing Department, MPEG Mondragon, Mondragon, Spain

C18 **Interfacial tension measurements of *n*-dodecane/CO_2 from (298.15 to 573.15) K at pressures up to 10 MPa by pendant drop method**
J. Yang, S. Bi, J. Wu, Key Laboratory of Thermo-Fluid Science and Engineering of Ministry of Education, Xi'an Jiaotong University, Xi'an, China

C19 **Self-diffusivity of a homologous series of ethylene glycols: Experimental measurements, relation with viscosity, correlation and prediction methods**
J. R. Ascenso[1], M. C. M. Sequeira1, H. M. N. T. Avelino[1,2], F. J. P. Caetano[1,3], J. M. N. A. Fareleira[1], [1]Centro de Química Estrutural, Instituto Superior Técnico, Universidade de Lisboa, [2]Área Departamental de Engenharia Química, Instituto Superior de Engenharia de Lisboa, Instituto Politécnico de Lisboa, [3]Departamento de Ciências e Tecnologia, Universidade Aberta, [1,2,3]Lisboa, Portugal

POSTER SESSION D
"CHEMICAL ENGINEERING AND MEASUREMENT METHODS"

Thursday, 5th September 2019, 10:30

D01 **The effects of external surface barriers on zeolite catalysts**
M. Alkhunaizi[1], T. Weissenberger[1], G. Sankar[2], M. O. Coppens[1], [1]Department of Chemical Engineering, [2]Department of Chemistry, [1,2]University College London, UK

D02 **Breakdown of the Stokes-Einstein relation for nanoparticles**
A. Baer[1], Zoran Miličević[1,2], David M. Smith[2,3], Ana-Sunčana Smith[1,2], [1]PULS Group at the Institute for Theoretical Physics, [2]Division of Physical Chemistry, Institute Ruđer Bošcović, Zagreb, Croatia, [3]Computer Chemistry Center, [1,3]Friedrich-Alexander-University Erlangen-Nürnberg (FAU), Erlangen, Germany

D03 **Multicomponent diffusion coefficients in liquids from a fully automated microfluidic setup using Raman-microspectroscopy**
C. Flake[1], J. Thien[1], C. Peters[1], H.-J. Koß[1], A. Bardow[1,2], [1]Institute of Technical Thermodynamics, RWTH Aachen, Germany, [2]Institute of Energy and Climate Research (IEK-10), Forschungszentrum Jülich, Germany

D04 **A multi-region model for reaction-diffusion process in a catalyst particle**
H. Li, M. Gao, M. Ye, Z. Liu, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, China

D05 **Contribution of mesopores of hierarchically structured titanium silicalite-1 to the catalytic activity towards the methyl oleate epoxidation**
M. Dvoyashkin[1], J. Möllmer[2], R. Gläser[1], M. Göpel[1], [1]Institute of Chemical Technology, [2]Institute of Non-Classical Chemistry, Universität Leipzig, Germany

D06 **Kinetic data for the adsorption of nickel ions from aqueous solutions**
C. Hermann, B. Niemeyer, Chair for Process Engineering with Focus on Separation Technologies, Helmut-Schmidt-University, Hamburg, Germany

D07 **Particle diffusivities in free and porous media from dynamic light scattering applying a heterodyne detection scheme**
M. S. G. Knoll[1], N. Vogel[2], D. Segets[3], M. H. Rausch[1], C. Giraudet[1], A. P. Fröba[1], [1]Institute of Advanced Optical Technologies – Thermophysical Properties (AOT-TP), [2]Institute of Particle Technology (LFG), [1,2]Friedrich-Alexander-University Erlangen-Nürnberg (FAU), Erlangen, Germany, [3]Process Technology for Electrochemical Functional Materials, Center for Nanointegration Duisburg-Essen (CENIDE), University of Duisburg-Essen (UDE), Duisburg, Germany

D08 **Diffusion-wave inverse problem thermal conductivity depth-profile reconstructions using an integral equation approach**
A. Mandelis[1], D. Zheng[1,2], A. Melnikov[1], S. Kooshki[1,3], [1]Center for Advanced Diffusion-Wave and Photoacoustic Technologies (CADIPT), University of Toronto, Toronto, Canada, [2]School of Energy and Power Engineering, Xi'an Jiaotong University, Xi'an, China, [3]Mechanical Engineering, Yazd University, Yazd, Iran

D09 **Infrared Soret forced Rayleigh scattering apparatus using a single crystal diamond window to measure Soret and mass diffusion coefficient**
H. Matsuura[1], Y. Nagasaka[2], [1]School of Integrated Design Engineering, [2]Department of System Design Engineering, [1,2]Keio University, Yokohama, Japan

D10 **Interdiffusion of two polymer layers during drying**

L. Merklein, S. Raupp, P. Scharfer, W. Schabel, Institute of Thermal Process Engineering (TVT), Thin Film Technology (TFT), Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany, Innovation Lab(iL), Heidelberg, Germany

D11 **Molecular dynamics studies on shale gas and fracturing fluid diffusivity in shales**

L. D. Peristeras[1], K. D. Papavasileiou[1,2], I. G. Economou[1,3], [1]National Center for Scientific Research "Demokritos", Institute of Nanoscience and Nanotechnology, Molecular Thermodynamics and Modelling of Materials Laboratory, Aghia Paraskevi Attikis, Greece, [2]Scienomics SARL, Paris, France, [3]Texas A&M University at Qatar, Chemical Engineering Program, Doha, Qatar

D12 **Shortening NMR diffusion experimental times**

W. S. Price, A. Gupta, R. Masuda, T. Stait-Gardner, A. Torres, G. Zheng, Nanoscale Organisation and Dynamics Group, Western Sydney University, Penrith, NSW, Australia

D13 **Diffusion processes in soft matter studied by field-cycling proton NMR relaxometry**

E. A. Rössler[1], M. Flämig[1], M. Hofmann[1], R. Meier[1], N. Fatkullin[2], Benjamin Kresse[3], Alexei Privalov[3], Franz Fujara[3], [1]Experimentalphysik und Nordbayer. NMR-Zentrum, University Bayreuth, Germany, [2]Institute of Physics, Kazan Federal University, Kazan, Tatarstan, Russia, [3]Institut für Festkörperphysik, TU Darmstadt, Darmstadt, Germany

D14 **Exploration of diffusional phenomena during LOHC dehydrogenation with Pt/Al_2O_3-catalysts of varying pore sizes**

P. S. Schulz, F. Auer, A. Bösmann, P. Wasserscheid, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Lehrstuhl für Chemische Reaktionstechnik, Erlangen, Germany

D15 **Beam induced dynamics in oxide glasses**

C. Tietz[1,2], T. Fritz[1], K. Holzweber[1], M. Legenstein[1], B. Sepiol[1], [1]Faculty of Physics, [2]VDS Physics, [1,2]University of Vienna, Vienna, Austria

D16 **Controlling methanol and water diffusion in Nafion via amine treatment**

M. Kludský, O. Vopička, P. Matějka, Š. Hovorka, K. Friess, University of Chemistry and Technology, Prague, Czech Republic

D17 **Diffusion measurements using a volumetric differential pressure apparatus**

J. Wang, E. Mangano, S. Brandani, University of Edinburgh, School of Engineering, UK

D18 **Adsorption and diffusion in oxyfuel combustion – Linking experiment and MD simulation through graphite structures as a first example**

C. Wedler[1], V. Angenent[2], Ö. Yönder[3], C. Hättig[3], R. Schmid[2], R. Span[1], M. Richter[4], [1]Thermodynamics, [2]Computational Materials Chemistry Group, Inorganic Chemistry II, [3]Quantum Chemistry Group, Theoretical Chemistry, [1,2,3]Ruhr University Bochum, Bochum, Germany, [4]Applied Thermodynamics, Chemnitz University of Technology, Chemnitz, Germany

D19 **Determination of diffusivities in fluid mixtures using light scattering techniques in and out of equilibrium**

W. Wu, M. H. Rausch, C. Giraudet, A. P. Fröba, Institute of Advanced Optical Technologies – Thermophysical Properties (AOT-TP), Friedrich-Alexander-University Erlangen-Nürnberg (FAU), Erlangen, Germany

D20 **Establishment of the shadowgraphy-setup for the measurements of non-equilibrium fluctuations**

D. Zapf, W. Köhler, Experimentalphysik IV, Universität Bayreuth, Bayreuth, Germany

Program of Diffusion Fundamentals VIII at a glance

Sunday, Sept. 1st	Monday, Sept. 2nd	Tuesday, Sept. 3rd	Wednesday, Sept. 4th	Thursday, Sept. 5th
09:30-17:00 Sightseeing trip to Bamberg	**09:00** Welcome and FCI Book Award **10:00** Group photo and coffee **10:30** Lectures	**08:30** Lecture **09:30** Poster session A with coffee **11:00** Lectures	**08:30-12:30** Workshops **10:30-11:00** Coffee break	**08:30** Lectures **10:30** Poster session D with coffee **12:30** Closing remarks, poster awards, invitation to DF IX
	12:30 Lunch	**13:00** Lunch	**12:30** Lunch	**13:00** Light lunch
	13:30 Lectures **15:30** Coffee break **16:00-18:00** Lectures	**14:00** Lecture **15:00** Poster session B with coffee **17:00-18:00** Lab tours	**13:30** Lectures **15:30-18:00** Poster session C with coffee	
17:00-21:00 Welcome reception and registration **18:30** Introduction FAU and city of Erlangen	**19:00/20:40** City tours **20:00** Social meetings “Steinbach Bräu” and “Pleitegeier”	**19:30** Social meeting “Entlaskeller”	**19:00-23:00** Conference dinner with concert	