

# PROGRAM 2019

**Take note:**

This is a translation of the original program. Most of the session lectures will be presented in German. Only lectures marked with

a star ★ will be presented in English. During the plenary session an English translation will be offered.

## 51<sup>st</sup> KRAFTWERKSTECHNISCHES KOLLOQUIUM 22<sup>nd</sup> & 23<sup>rd</sup> OCTOBER 2019

International Congress Center Dresden  
Ostra-Ufer 2 | 01067 Dresden

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## Hall 4/5 Plenary Session

Session host: Professor Dr.-Ing. Michael Beckmann, Technische Universität Dresden

- 09:30 am **Registration and exhibition opening with coffee and cake**
- 10:30 am **Welcome and Boie Prize award**  
Professor Dr.-Ing. Michael Beckmann, Technische Universität Dresden
- 11:00 am **Structural policy and energy transition**  
Professor Dr. Dr. h.c. Ulrich Blum, Founding director of Center of Economics of Materials, Halle
- 11:30 am **Bring the sun to earth? – The way to a fusion power plant**  
Professor Dr. Sibylle Günter, Scientific director of Max-Planck-Institut für Plasmaphysik, Garching
- 12:00 pm **Lunch break**
- 01:30 pm **Innovation as the key to the climate-neutral industry of tomorrow**  
Professor Dr. rer. pol. Andreas Pinkwart (FDP), Minister of Economic Affairs, Innovation, Digitalization and Energy of North Rhine-Westphalia

## Panel discussion

Session host: Professor Dr.-Ing. Michael Beckmann and  
Professor Dr.-Ing. habil. Antonio Hurtado, Technische Universität Dresden

- 02:00 pm **Future in energy regions – structural change and energy transition**  
Stanislaw Tillich, former Prime Minister of the Free State of Saxony; Chairman of the Commission – Growth, Structural Change and Employment, Bundesministerium für Wirtschaft und Energie, Berlin  
Krzysztof Bramorski, Representative for International Relations of the Marshall of the Lower Silesian Voivodship, Wrocław  
Professor Dr. rer. pol. Andreas Pinkwart (FDP), Minister of Economic Affairs, Innovation, Digitalization and Energy of North Rhine-Westphalia  
Tomáš David, EPH Group – EPH Group – Vice-chairman of the board, EP Power Europe; Chairman of the board and CEO, EP Energy, Prague  
Dr.-Ing. Klaus Freytag, Lausitz Commissioner of the Prime Minister of Brandenburg, Staatskanzleides des Landes Brandenburg, Cottbus  
Dr. Stephan Rohde, Head of Department for Structural Development in the Saxon lignite mining areas, Sächsische Staatskanzlei, Dresden  
Prof. Dr. Dr. h.c. Ulrich Blum, founding director of Center for Economics of Materials, Halle (Saale)
- 03:30 pm **Coffee break**

## Hall 4 Structural change in energy regions

Session host: Professor Dr.-Ing. Reinhard Scholz, Technische Universität Clausthal

- 04:15 pm **The reference power plant Lausitz – a contribution to the future energy supply**  
Frank Mehlow, Lausitz Energie Kraftwerke AG, Cottbus | Manfred Heine, Zweckverband Industriepark Schwarze Pumpe, Spremberg | Gerhard Hänel, ASG Spremberg  
Prof. Dr.-Ing. Hans-Joachim Krautz, Brandenburgische Technische Universität Cottbus-Senftenberg | Prof. Dr.-Ing. Harald Weber, Universität Rostock
- 04:45 pm **Thermal storage power plants and Carnot batteries**  
Prof. Dr.-Ing. Bernhard Hoffschmidt, Rheinisch-Westfälische Technische Hochschule Aachen/ Deutsches Zentrum für Luft- und Raumfahrt e.V., Köln | Prof. Dr. rer. nat. habil. André Dietrich Thess, Universität Stuttgart/Deutsches Zentrum für Luft und Raumfahrt e.V., Stuttgart
- 05:15 pm **Industry cluster progressLAUSITZ – Innovative added value because of circular economy for sustainable structural change**  
Dipl.-Ing. Andreas Herrmann, Ludwig Georg Seidl, M.Sc., Dr. rer. pol. Roh Pin Lee, Prof. Dr.-Ing. Bernd Meyer, Technische Universität Bergakademie Freiberg
- 05:45 pm **Energy network and raw materials network**  
Prof. Dr.-Ing. Michael Beckmann, Technische Universität Dresden  
Prof. Dr.-Ing. Martin Bertau, Technische Universität Bergakademie Freiberg
- 06:15 pm **End of session**

Tuesday, 22nd October 2019  
06:30 pm Welcome drink in the exhibition hall  
07:30 pm Evening event – terrace level  
Internat. Congress Center Dresden

## ■ Hall 5 Mercury reduction I

Session host: Dipl.-Ing. Günter Heimann, Lausitz Energie Kraftwerke AG, Cottbus

- 04:15 pm **Mercury emission reduction in exhaust fumes of large combustion plants by activated carbon injection by means of multi-function lances and flow models according to the ESCHSORB 2.0 air-jet adsorption technology**  
Daniel Kaulbars, M.Sc., E.S.C.H. Engineering Service Center und Handel GmbH, Unterwellenborn
- 04:45 pm **Capture of Hg in baghouse of CFB boilers – influence of used technology and combustion process control\***  
Ing. Petr Karafiát, Alpiq Generation (CZ) s.r.o., Kladno, Tschechische Republik
- 05:15 pm **Experience in Activated Carbon Testing – The right choice of Powder Activated Carbon under high Mercury and Sulfur Trioxide concentration\***  
Tomasz Zukowski, M.Sc., Cabot Norit Activated Carbon, Amersfoort, Niederlande
- 05:45 pm **Mercury Oxidation by Chlorine, Bromine and Iod in Lignite Boilers – Modeling according to the Stop-Temp-Method of Vosteen allows for recalculation of test results and allows prognoses**  
Prof. Dr.-Ing. Bernhard W. Vosteen, Vosteen Consulting GmbH, Köln  
Dipl.-Ing. Michael Kramer, Andreas Gruber-Waltl, M.Sc., Andritz AG, Raaba-Grambach, Österreich
- 06:15 pm End of session

## ■ Conference room 1

### Exhaust gas cleaning I

Session host: Dipl.-Ing. Markus Gleis, Umweltbundesamt, Dessau-Roßlau

- 04:15 pm **Is it still possible to monitor the new ranges from the BAT conclusions continuously?**  
Michael Klein, SICK Vertriebs GmbH, Düsseldorf
- 04:45 pm **Loading behaviour of a high-temperature-storage for absorbing peak loads during regenerative generation**  
Maik Nestler, DURAG data systems GmbH, Hamburg
- 05:15 pm **Future requirements for flue gas cleaning systems behind waste incineration plants**  
Prof. Dr.-Ing. Rudi Karpf, Ingenieurgesellschaft für Energie- und Umweltengineering & Beratung mbH, Lich/Technische Hochschule Mittelhessen, Gießen
- 05:45 pm **Development and operating results of U-SNCR technology in coal-fired steam generators**  
Dipl.-Ing. Hellmuth Brüggemann, GE Power, Stuttgart
- 06:15 pm End of session

## ■ Conference room 2/3

### Grid stability

Session host: Professor Dr.-Ing. Hendrick Lens, Universität Stuttgart

- 04:15 pm **Utility Power Plant Synchronization without Delay**  
Dipl.-Ing. Matthias Heue, Dr. Gerta Zimmer, Dipl.-Ing. Martin Bennauer, Dipl.-Ing. Christoph Schindler, Dipl.-Ing. Marc Borowski, Dipl.-Ing. Edmund Eisenburger, Siemens AG, Mülheim an der Ruhr
- 04:45 pm **Interaction of gas turbine & conventional power plant to support grid stability**  
Dr. Thomas Krüger, Dipl.-Ing. Dietmar Haake, Lausitz Energie Kraftwerke AG, Cottbus  
Torsten Weiß, GMB GmbH, Senftenberg
- 05:15 pm **Enhanced Frequency Control Capability (EFCC) – RoCoF triggered frequency response provision with a large-scale solar PV and battery hybrid system in the UK**  
Dr. Tim Müller, Sebastian Feldmann, Apoorv Pareek, Belectric GmbH, Dresden
- 05:45 pm **Medium Voltage Transformers Exposed to Transient Voltage Stresses**  
Matthias Nilges, M.Sc., Prof. Dr.-Ing. Peter Schegner, Technische Universität Dresden
- 06:15 pm End of session

## Conference room 4/5

### Measurement methods

Session host: Dr.-Ing. Benedetto Risio, RECOM Services GmbH, Stuttgart

- 04:15 pm **Oil health monitoring to prevent machine damage and to optimize maintenance planning**  
Dipl.-Ing. Frank Wiedmann, ZILA GmbH, Suhl  
Dipl.-Ing. Eliseo Pignanelli, Christoph Meiers, M.Sc., ZILA GmbH, Saarbrücken
- 04:45 pm **Metrological detection of the state space of a beater wheel mill**  
Dipl.-Ing. Hans Georg Conrads, PROMECON GmbH, Barleben  
Dipl.-Ing. Frank Schulze, Conwico GmbH, Vetschau/Spreewald
- 05:15 pm **New approach for safety monitoring in coal dust silos according to SIL2**  
Lars Gumprecht, ENOTEC GmbH, Marienheide
- 05:45 pm **Radiation Pyrometers for Measurement of Flue Gas Temperature for SNCR-Control in Different Boiler-Types and Potential for Optimization of SNCR**  
Dr.-Ing. Ralf Koschack, CMV-Systems GmbH & Co. KG, Büro Nord, Velgast Dipl.-Ing. Philip Reynolds, ERC-Technik GmbH, Buchholz in der Nordheide
- 06:15 pm End of session

## Conference room 6

### Combustion 4.0 I

Session host: Professor Dr.-Ing. habil. Klaus Görner, Universität Duisburg-Essen

- 04:15 pm **Model based analysis of operational data for monitoring of the biomass cogeneration plant Ilmenau**  
Dr.-Ing. Martin Pohl, ENVERUM Ingenieurgesellschaft für Energie- und Verfahrenstechnik mbh, Dresden | Dipl.-Ing. Tobias Widder, Technische Universität Dresden  
Dipl.-Wi.-Ing. Martin Woite, STEAG New Energies, Saarbrücken  
Markus Vogeler, Biomasse-Heizkraftwerk Ilmenau GmbH (BHI)
- 04:45 pm **Development of substitute engineering models with Artificial Intelligence**  
Dr.-Ing. Martin Horeni, Michael Wechner, solutions-ahead Schweiz GmbH, Zürich, Schweiz
- 05:15 pm **Combustion 4.0 – First operational experience with integrated model-based optimization of firing and power plant operation for different firing systems**  
Dr.-Ing. Martin Habermehl, Dr.-Ing. Martin Weng, Dipl.-Ing. Stefan Tschunko, aixprocess, Aachen
- 05:45 pm **Development and Application of a Method for Process Performance Monitoring on the Example of Waste to Energy Power Plants**  
Dipl.-Ing. Fabian Cyris, Prof. Dr.-Ing. Roland Scharf, Leibniz Universität Hannover  
Dip.-Ing. Dirk Richter, eew Energy from Waste GmbH, Großbräsen
- 06:15 pm End of session

## Seminar room 1/2

### Gas and steam turbines

Session host: Dr.-Ing. E. h. Manfred Freimark, VGB PowerTech e.V., Essen

- 04:15 pm **Experience with flexible steam turbines using steam from sewage sludge incineration**  
Dipl.-Ing. Cornelia Liebmann, Howden Turbo GmbH, Frankenthal
- 04:45 pm **Warm-keeping and Pre-warming of a Steam Turbine Using Hot Air**  
Piotr Luczynski, M.Sc., Lukas Pehle, M.Sc., Prof. Dr.-Ing. habil Manfred Wirsum, Rheinisch-Westfälische Technische Hochschule (RWTH) Aachen
- 05:15 pm **Steam Turbine Hot Standby – Plant validation of electrical steam turbine pre-warming**  
David Veltmann, M.Sc., Dr.-Ing. Yevgen Kostenko, Dr.-Ing. Simon Hecker, Siemens AG, Mülheim an der Ruhr
- 05:45 pm **The role of gas turbines in a decarbonized energy future\***  
Dr.-Ing. Rudolf Lachner, GE Power, München
- 06:15 pm End of session

## Conference room 2/3

### Biomass as an energy source

Session host: Dr.-Ing. habil. Rutger Kretschmer, DREWAG – Stadtwerke Dresden GmbH

- 08:30 am** Sustainable Biomass for Energy transition  
Dr. Jan Grundmann, Energy Crops GmbH, Hamburg
- 09:00 am** Use of biomass and hydrogen in thermal power plants on the way towards EU carbon neutrality  
Dr. Christian Bergins, Dipl.-Ing. Liisa Clemens, Dr. Michalis Agraniotis, Dipl.-Ing. Torsten Buddenberg, Prof. Dr.-Ing. Emmanouil Kakaras, Dipl.-Ing. Falk Hoffmeister, Mitsubishi Hitachi Power Systems Europe GmbH, Duisburg
- 09:30 am** *Bioefficiency: Towards the Next Generation of Biomass-fired Combined Heat and Power Plants*  
Thorben de Riese, M.Sc., Lynn Hansen, M.Sc., Prof. Dr.-Ing. Hartmut Spliethoff, Richard Nowak Delgado, M.Sc., Dipl.-Ing. Sebastian Fendt, Technische Universität München
- 10:00 am** Development of an innovative universal press technology for briquetting of renewable and fossile resources, as well as for waste and residual materiels  
Dipl.-Ing. André Schmidt, Dr.-Ing. Franz Fehse, Dr.-Ing. Hans-Werner Schröder, Technische Universität Bergakademie Freiberg

**10:30 am** Coffee break

### Biomass and corrosion

Session host: Dr.-Ing. Sebastian Grahl, Technische Universität Dresden

- 11:00 am** KORRISTENT – Investigation of Slagging Properties of Lusatian Lignite  
Dr.-Ing. Stefan Guhl, Dr.-Ing. Mathias Klinger, Dr.-Ing. Ronny Schimpke, Caroline Hommel, M. Sc., Dr.-Ing. Dmitry Safronov, Dr. rer. nat. Daniela Vogt, Dr.-Ing. Patrick Gehre, Prof. Dr.-Ing. Bernd Meyer, Technische Universität Bergakademie Freiberg  
Dr.-Ing. Thomas Brunne, Lausitz Energie Kraftwerke AG, Cottbus
- 11:30 am** Challenges of using fossil and young biomass  
Dipl.-Ing. (FH) Marie Kaiser, CheMin GmbH, Augsburg  
Dr. rer. nat. Manuela Neuroth, RWE Power AG, Bergheim
- 12:00 pm** Corrosion protection of steam generators – first experience with the use of protective layers of coal-based energy generation in WtE  
Dr.-Ing. Andreas Salamon, DSTB Dr. Salamon Technische Beratung, Erfstadt

**12:30 pm** Lunch break

### Decentralized energy supply

Session host: Professor Dr.-Ing. habil. Tobias Zschunke, Hochschule Zittau/Görlitz

- 01:30 pm** Physical barriers of the German "Energiewende"  
Prof. Dr. rer. nat. Horst-Joachim Lüdecke, Heidelberg
- 02:00 pm** Next level geothermal power generation based on supercritical carbon dioxide  
Dr.-Ing. Stefan Glos, Dipl.-Ing. Michael Wechsung, Jil Hansper, Siemens AG, Mülheim an der Ruhr
- 02:30 pm** Performance Evaluation of an Aero Derivate Gas Turbine Stack with Decoupled Operation  
Marcel Oettinger, M.Sc., Paul Prohaska, Lukas Schwerdt, M.Sc., Dr.-Ing. Lars Panning-von Scheidt, Dr.-Ing. Florian Herbst, Prof. Dr.-Ing. Jörg R. Seume, Leibniz Universität Hannover
- 03:00 pm** End of session & congress

## Conference room 4/5

### Combustion 4.0 II

Session host: Dr.-Ing. Martin Pohl, ENVERUM Ingenieurgesellschaft für Energie- und Verfahrenstechnik mbh, Dresden

- 08:30 am **Safety solution for remote service for KRITIS applications in power plants**  
Dipl.-Ing. Heiko Kanisch, Lausitz Energie Kraftwerke AG, Cottbus  
Maik Behley, Dipl.-Ing. Ulrich Lieske, ZEDAS GmbH, Senftenberg  
Daniel Drews, M.Sc., Lausitz Energie Kraftwerke AG, Spremberg
- 09:00 am **Cyber Security for Critical Infrastructure in the Power Industry\***  
Lionel Mazzella, CEng, CMgr, MSc, General Electric, Berkshire, Großbritannien
- 09:30 am **Cybersecurity checks of power plants and grids – Audits & Pentests – What to do?**  
Dipl.-Ing. Jordan Rahlwes, Laborelec Deutschland, Bad Vilbel
- 10:00 am **IT-Security in Power Plants: Methods for Automated Security Assessment and Anomaly Detection in Highly Sensitive Networks**  
Franka Schuster, M.Sc., Andreas Paul, M.Sc., Stefan Mehner, M.Sc., Prof. Dr.-Ing. habil. Hartmut König, Brandenburgische Technische Universität Cottbus–Senftenberg  
Dipl.-Ing. Heiko Kanisch, Lausitz Energie Kraftwerke AG, Cottbus
- 10:30 am **Coffee break**

### Combustion 4.0 III

Session host: Dr.-Ing. Martin Horeni, solutions-ahead Schweiz GmbH, Zürich, Schweiz

- 11:00 am **Sustainability at Neurath TPP: Joint use of virtual sensors and a measurement data management system simplify condition-based maintenance**  
Michael Skomrock, Alexander Loup, Dr. Jürgen Brandt, RWE Power AG, Grevenbroich  
Eike Martensen, M.Sc., Florian Binder, Dr. Francesco Turoni, EUTECH Scientific Engineering GmbH, Aachen
- 11:30 am **Use of Predictive Analytics for Detection of Tube Leakages**  
Dipl.-Ing. Heino Zimmermann, STEAG Energy Services GmbH, Essen  
Dr.-Ing. Jürgen Brandt, RWE Power AG, Grevenbroich
- 12:00 pm **Machine Learning Algorithms for Predictive Maintenance\***  
Dipl.-Ing. Frank Buderreck, Siemens AG, Frankfurt
- 12:30 pm **Lunch break**

### Combustion 4.0 IV

Session host: Professor Dr.-Ing. Kai Michels, Universität Bremen

- 01:30 pm **Applying a neural network for feed-forward control of an industrial process plant**  
Dipl.-Ing. Frank Gebhardt, Dr.-Ing. Nicolas Mertens, Uniper Technologies GmbH, Gelsenkirchen
- 02:00 pm **Deep Learning -based Optimization of Thermal Load Prediction**  
Prof. Dr.-Ing. Matthias Finkenrath, Till Faber, M.Eng., Hochschule Kempten
- 02:30 pm **Digitalization makes energy production more effective and also leads to significant energy saving**  
Philip Modler, Dr.-Ing. Hiren Gandhi, mycon GmbH, Bielefeld  
Prof. Dr.-Ing. Bernd Sankol, Hochschule für Angewandte Wissenschaften Hamburg (HAW)
- 03:00 pm **End of session & congress**

## Conference room 6 Combustion 4.0 V

Session host: Dr.-Ing. Frank Neumann, RWE Power AG, Essen

- 08:30 am **Topological line coloring in the network representation as an integral part of the DCS**  
Dipl.-Ing. (TH) Uwe Siebert, Mitsubishi Electric Europe B.V., Ratingen  
Dipl.-Ing. Olaf Ries, ME-Automation Projects GmbH, Fuldaabrück
- 09:00 am **Asset Performance Management 4.0: Predict with Confidence within the Digital Twin**  
Stefan Lichtenberger, M.Eng., Siemens AG, Erlangen
- 09:30 am **Big Data Analytics für regenerative Energietechnik**  
Florian Binder, Alexander Hlawenka, Michael Schneider, Dr. Francesco Turoni, Dr. Steffen Albrecht, EUtech Scientific Engineering GmbH, Aachen
- 10:00 am **Value of plant monitoring for the implemented thermo-dynamic models**  
Dipl.-Ing. Markus Waltenspiel, Dipl.-Math. Thomas Will, Dipl.-Ing. Mojtaba Mahmoodan, Steinmüller Engineering GmbH, Gummersbach

10:30 am **Coffee break**

## Combustion 4.0 VI

Session host: Professor Dr.-Ing. Alexander Kratzsch, Hochschule Zittau/Görlitz

- 11:00 am **Optimal PID controller structures by limited norm-optimal controller design**  
Prof. Dr.-Ing. Kai Michels, Simon Fleischer, M.Sc., Universität Bremen
- 11:30 am **How (in-) specific are process KPIs that are used as decision aids for the operation and maintenance of power plants?**  
Frank Schulze, VPC GmbH, Berlin  
Andreas Knieschke, Christian Lösche, VPC GmbH, Peitz
- 12:00 pm **Modern, reliable and carbon neutral heat supply in the Aarhus area (DK): Operational optimization with online measurement technology and data analytics as part of the Bioefficiency project**  
Dr. Francesco Turoni, Florian Binder, EUtech Scientific Engineering GmbH, Aachen  
Dr. Christian Streicher, Dipl.-Ing. Liisa Clemens, Mitsubishi Hitachi Power Systems Europe GmbH, Duisburg | Rasmus Skipsted Jensen, Orsted A/S, Skodstrup, Dänemark

12:30 pm **Lunch break**

## Models

Session host: Dr. rer. nat. Kai Keldenich, STEAG Energy Services GmbH, Essen

- 01:30 pm **New opportunities for a precise calculation of processes with CO<sub>2</sub> as working fluid**  
Dr. Reiner Pawellek, STEAG Energy Services GmbH, Zwingenberg
- 02:00 pm **Evaluation of the effects of a load shedding on a lignite-fired power plant using a transient process model**  
Jens Hinrich Prause, M.Sc., Prof. Dr.-Ing. Egon Hassel, Universität Rostock  
Dr.-Ing. Sebastian Meinke, Vattenfall Wärme Berlin AG  
Jan Koltermann, M.Eng., Lausitz Energie Kraftwerke AG, Cottbus
- 02:30 pm **Status of the research project KONRAD dynamic mill tests and modeling**  
Dipl.-Ing. Hellmuth Brüggemann, GE Power, Stuttgart  
Dipl.-Ing. Karsten Meyer, Technische Universität Dresden

03:00 pm **End of session & congress**

## Hall 4 High temperature- and compressed air storage

Session host: Dr.-Ing. Simon Unz, Technische Universität Dresden

- 08:30 am **Loading behaviour of a high-temperature-storage for absorbing peak loads during regenerative generation**  
Manuela Richter, B.Eng., Dipl.-Ing. (FH) Sergej Herzog, M.Sc., Prof. Dr.-Ing. Stefan Lechner, Thorben Meier, B.Eng., Dipl.-Ing. (FH) Torsten Ascher, Florian von der Grün, B.Eng., Technische Hochschule Mittelhessen, Gießen
- 09:00 am **Development of a modular latent heat thermal energy storage system for the application of waste heat at temperatures up to 500 °C**  
Dipl.-Ing. Torsten Seidel, Dipl.-Ing. (FH) Michael Lehmann, Dr.-Ing. Marcel Fink, Dr.-Ing. Olaf Andersen, Dr.-Ing. André Schlott, Fraunhofer-Institut für Fertigungstechnik und Angewandte Materialforschung (IFAM), Dresden | Dr.-Ing. Wolfgang Bender, Hülsenbusch Apparatebau GmbH & Co. KG, Kempen | Dr.-Ing. Hansjochen Oertel, GIWEP GmbH, Mülheim an der Ruhr  
Dipl.-Ing. Benedikt Bender, OWI gGmbH, Herzogenrath
- 09:30 am **Optimal Operation Strategy of the Compressed Air Energy Storage Plant Huntorf at the Day Ahead Market**  
Ann-Kathrin Fries, M.Sc., Dr.-Ing. Ernst-August Wehrmann, Prof. Dr.-Ing. Hans-Peter Beck, Technische Universität Clausthal
- 10:00 am **Experiences with the Huntorf compressed air energy storage power plant in residual load operation of the year 2018 and retrofitting**  
Dipl.-Ing. Uwe Krüger, Uniper Kraftwerke GmbH, Wilhelmshaven  
Prof. Dr.-Ing. Henning Zindler, Ostfalia Hochschule für angewandte Wissenschaften, Wolfenbüttel  
Prof. Dr. techn. Reinhard Leithner, Technische Universität Braunschweig
- 10:30 am **Coffee break**

## Organic storage

Session host: Professor Dr.-Ing. Uwe Gampe, Technische Universität Dresden

- 11:00 am **Liquid Organic Hydrogen Carrier for the storage of energy**  
PD Dr.-Ing. Karsten Müller, Helmholtz-Institut Erlangen-Nürnberg
- 11:30 am **Comparative life-cycle-assessment of Power-to-Methanol-Processes**  
Engin Demirkol, M.Sc., Matthias Dierks, M.Sc., Dipl.-Ing. Florian Möllenbruck, Dr.-Ing. Marcel Richter, Dr.-Ing. Gerd Oeljeklaus, Prof. Dr.-Ing. habil. Klaus Görner, Universität Duisburg-Essen
- 12:00 pm **ALIGN CCUS – Current Status of Development Activities for the Synthesis of Diesel Substitute Fuel Dimethylether from CO<sub>2</sub> and H<sub>2</sub> at the power plant Niederaußern**  
Dr. Arthur Heberle, Dr. Muhammad Majid, Dr. Christian Kuhr, Dipl.-Ing. Kay Schroer, Mitsubishi Hitachi Power Systems Europe GmbH, Duisburg | Dr. Peter Moser, Dr. Sandra Schmidt, Dipl.-Ing. Knut Stahl, RWE Power AG, Essen | Prof. Dr. Ralf Peters, Dr. Stefanie Troy, Dr. Petra Zapp, Stefan Weiske, M.Sc., Forschungszentrum Jülich GmbH
- 12:30 pm **Lunch break**

## Battery storage and sector coupling

Session host: Frank Mehlow, Lausitz Energie Kraftwerke AG, Cottbus

- 01:30 pm **Increasing the economic efficiency of CHP plants through intelligent sector coupling**  
Dr. Rüdiger Franke, Jörg Orth, ABB AG, Mannheim | Per Steffensen, ABB A/S, Skovlunde, Dänemark
- 02:00 pm **A grand transformation driven by new technology: Hybrid Power Generation Systems\***  
Gianpaolo Giuliani, General Electric, Sesto San Giovanni/Mailand, Italien
- 02:30 pm **Liquid Metal Batteries as an Option for Large-scale Electrical Storage**  
Dr.-Ing. Michael Nimitz, Dr.-Ing. Tom Weier, Steffen Landgraf, Paolo Personnettaz, M.Sc., Dr.-Ing. Norbert Weber, Helmholtz-Zentrum Dresden-Rossendorf
- 03:00 pm **End of session and congress**

## Hall 5 Mercury reduction II

Session host: Dipl.-Ing. Sylvio Sauer, Uniper Kraftwerke GmbH, Schkopau

- 08:30 am **Mercury from industrial sources – study results on behalf of the German EPA "UBA"**  
Dipl.-Ing. Christian Tebert, Ökopol GmbH, Hamburg
- 09:00 am **Environmental relief through mercury fixation**  
Dipl.-Ing. (FH) Jürgen Fritzsche, NET GmbH, Mannheim
- 09:30 am **Simultaneous Mercury and SO2 control in coal fired power plants with stationary sorbents**  
Dr. Ole Petzoldt, Stefan Rämisch, W. L. Gore & Associates GmbH, Putzbrunn  
Jeff Kolde, W. L. Gore & Associates, inc., Elkton, Maryland, USA
- 10:00 am **Black practices against mercury – the active carbon injection technology**  
Dr.-Ing. Jan Schütze, IEM FörderTechnik GmbH, Kastl (Kemnath)
- 10:30 am Coffee break

## Mercury Measurement

Session host: Dr.-Ing. Jan Schütze, IEM FörderTechnik GmbH, Kastl (Kemnath)

- 11:00 am **Continous mercury analyzer with low measurement range**  
Thermo Fisher Scientific WATSON MSS Mercury CEMS\*  
Joseph Vaglio, Michael Thomas, Thermo Fisher Scientific, Franklin, Massachusetts, USA
- 11:30 am **Continuous Mercury Emission Monitoring with Sorbent Trap Monitoring Systems – Experiences by flue gas temperatures of 200 ° C**  
Dipl.-Phys. Jürgen Reinmann, ENVEA Deutschland, Bad Homburg
- 12:00 pm **Optimization of mitigation measures with continuously measuring mercury analysers**  
Dipl.-Ing. Verena Buchem, Dipl. Phys. Sarah Lühmann, Dipl.-Ing. Mathias Klostermann, DURAG GmbH, Hamburg
- 12:30 pm Lunch break

## New plants

Session host: Professor Dr.-Ing. Bernd Neukirchen, Consultant Umwelttechnik, München

- 01:30 pm **Design methodologies of 21st century for the firing system of CHP Astana**  
Dr.-Ing. Hans-Ulrich Thierbach, Steinmüller Engineering GmbH, Gummersbach  
Dr.-Ing. Benedetto Risio, RECOM Services GmbH, Stuttgart
- 02:00 pm **Improving Operation and Fuel Flexibility of Coal Fired Steam Generators\***  
Dipl.-Ing. Frank Kluger, Dr.-Ing. Dragisa Ristic, Dipl.-Ing. Hellmuth Brüggemann, GE Boiler Deutschland GmbH, Stuttgart
- 02:30 pm **Thermal Treatment of Sewage Sludge in Mono Incinerator Plants**  
Dr.-Ing. Josef Langen, Dipl.-Ing. Gerald Grüner, Dipl.-Ing. Frank Reimöller, Standardkessel Baumgarte GmbH, Bielefeld
- 03:00 pm End of session and congress



## Conference room 7/8 Maintenance

Session host: Dipl.-Ing. Thomas Hörtinger, Lausitz Energie Kraftwerke AG, Cottbus

- 08:30 am **Cost efficient maintenance of grid reserve power plants: New challenges following the German energy turnaround**  
Dipl.-Ing. Martin Winterstein, Dr.-Ing. Stefan Buse, TÜV SÜD Industrie Service GmbH, München  
Dipl.-Ing. Harald Scherer, TenneT TSO GmbH, Bayreuth
- 09:00 am **Investigations on the influence of cyclic operation on the fatigue of components of the water-steam cycle using the example of a lignite-fired power plant**  
Philipp Gampe, M.Sc., Prof. Dr.-Ing. Uwe Gampe, Technische Universität Dresden  
Dipl.-Ing. Peter Jentsch, Lausitz Energie Kraftwerke AG, Cottbus
- 09:30 am **New Service Concepts for Steam Turbines – Extended Interval using Condition Based Monitoring**  
Ing. Andreas Schaarschmidt, Dr.-Ing. Michael Löhr, Dipl.-Ing. Markus Lachner, Siemens AG, Mülheim an der Ruhr
- 10:00 am **World's First Upgrade with Additive Manufactured Components to GT13E2 Gas Turbines by GE\***  
Dipl.-Ing. Fulvio Magni, GE Power, Baden, Schweiz
- 10:30 am **Coffee break**

## Fittings and components I

Session host: Dipl.-Ing./IWE Britta Daume, Qesy GmbH & Co. KG, Burgwedel

- 11:00 am **Cavitation in pipe systems – focus on power plant valves**  
Dr.-Ing. Andreas Dudlik, Hydraulische Systeme – Beratung, Berechnung & Fortbildung, Duisburg  
Dipl.-Ing./IWE Britta Daume, Qesy GmbH & Co. KG, Burgwedel
- 11:30 am **Innovative Quick Closing Butterfly-Flap Valves and Butterfly-Flap Actuatorsystems for high frequency cycling in Air Separation – and Power Plants**  
Uwe Krabbe, Dipl.-Ing. Stephan Simon, KÜHME Armaturen GmbH, Bochum
- 12:00 pm **React rather than resign – The impact of the Best-Available-Technology reference document of the Industrial Emissions Directive 2010/75/EU on large gas- and oil-fired combustion plants**  
Dr.-Ing. Christopher D. Rosebrock, Dipl.-Ing. Sven Gose, Dr.-Ing. Ronald Wilhelm, SAACKE GmbH, Bremen
- 12:30 pm **Lunch break**

## Fittings and components II

Session host: Dr.-Ing. Andreas Dudlik, Hydraulische Systeme – Beratung, Berechnung & Fortbildung, Duisburg

- 01:30 pm **Selection of Strainers: reduce cost – increase efficiency**  
Dipl.-Wirt. Ing. Dirk Waldow, Dipl.-Ing. Günter Waldow, W-FILTER GmbH, Speyer
- 02:00 pm **Ljungström AdvX™ heat recovery technology**  
Dr. Jonas Klingspor, Dr. Dominik Scheid, Wolf-Peter Jehn, ARVOS Ljungström GmbH, Heidelberg
- 02:30 pm **Longitudinally welded pipes made of P91 in RH systems - qualification and operating experience in RWE power plants**  
Dr.-Ing. Ansgar Kranz, TÜV Rheinland Werkstoffprüfung GmbH, Köln  
Dipl.-Ing. Thomas Hagelkreutz, RWE Power AG, Grevenbroich
- 03:00 pm **End of session and congress**

## Conference room 1 (from 8:30 am - 03:00 pm) Nuclear Energy Symposium

On 23rd October 2019 there will be a full-day Nuclear Energy Symposium parallel to the Kraftwerkstechnisches Kolloquium and visitors of the conference can take part.

The detailed program of the Nuclear Energy Symposium will be published in our updated program in summer 2019 and on our website: [www.kraftwerkskolloquium.de](http://www.kraftwerkskolloquium.de).

## ■ Seminar room 1/2

### Exhaust gas cleaning II

Session host: Dr.-Ing. Andrea Ohle, Technische Universität Dresden

- 08:30 am **Application of SCR technology for nitrogen oxide reduction in conventional power plants/process engineering – Operating experience & outlook**  
Dr.-Ing. Matthias Meierer, Dipl.-Ing. Norbert Eimer, Grosskraftwerk Mannheim AG
- 09:00 am **Complying with the New EU NOx Emission Standards by Combining Advanced SNCR Technologies in Coal-Fired Boilers**  
Dipl.-Ing. Bernd von der Heide, Mehldau & Steinfath Umwelttechnik GmbH, Essen
- 09:30 am **Optimised SNCR Injection Lances**  
Dr.-Ing. Rüdiger Heidrich, Dr.-Ing. Stefan Binkowski, Dr. Axel Thielmann, Steinmüller Engineering, Gummersbach
- 10:00 am **SNCR Technology for Large Power Plants**  
Dr. Niels Woltersdorf, Dipl.-Ing. Philip Reynolds, ERC-Technik GmbH, Buchholz in der Nordheide
- 10:30 am **Coffee break**

### Exhaust gas cleaning III

Session host: Professor Dr.-Ing. Rudi Karpf, Ingenieurgesellschaft für Energie- und Umweltengineering & Beratung mbH, Licht/Technische Hochschule Mittelhessen, Gießen

- 11:00 am **Optimised wet flue gas cleaning of a sewage sludge incineration**  
Dr.-Ing. Dorian Rasche, Dr. Axel Thielmann, Dipl.-Ing. Uwe Schadow, Dr.-Ing. Stefan Binkowski, Steinmüller Engineering GmbH, Gummersbach
- 11:30 am **Flue gas treatment for sewage sludge incinerators – Now and tomorrow**  
Dipl.-Ing. Martin Sindram, Dr.-Ing. Diethelm Walter, Rheinkalk GmbH, Wülfrath  
Dipl.-Ing. (FH) Frank Hermitscheck, Walhalla Kalk GmbH & Co. KG, Regensburg
- 12:00 pm **Flue gas cleaning with electrostatic precipitator. Energetic optimisation at HKM Duisburg**  
Volodymyr Lebedynskyy, M.Sc., Prof. Dr.-Ing. Ulrich Riebel, Brandenburgische Technische Universität Cottbus-Senftenberg  
Dipl.-Ing. Till van der Zwaag, Dr.-Ing. Stefan Haep, Institut für Energie- und Umwelttechnik e.V., Duisburg | Dr.-Ing. Boris Kohnen, Hüttenwerke Krupp Mannesmann GmbH, Duisburg
- 12:30 pm **Lunch break**

### Risk management: Opportunities and challenges of new technologies

Session host: Professor Dr.-Ing. Frank Schulenburg, H. C. Starck GmbH & Co. KG, Goslar

- 01:30 pm **How to live With Mistakes – Which tools and Engineering Concepts make this Possible?**  
Dipl.-Ing./IWE Hans Christian Schröder, Schröder Anlagenservice GmbH, Weinheim  
Dipl.-Ing. (FH)/IWE Jörg Schenkel, ACS Solution GmbH, Saarbrücken
- 02:00 pm **Proper Protection – Insurances during Construction and Operation**  
Dr. Michael Härig, Marsch GmbH, Düsseldorf
- 02:30 pm **Defects and damage – In which cases does the insurer pay?**  
Christian Becker, Eversheds Sutherland (Germany) LLP, Düsseldorf
- 03:00 pm **End of session and congress**



## Company fair and Poster presentation

Within a company fair companies can take the opportunity to present themselves with a booth. 105 exhibitors were already registered. There will also be a poster presentation. More information and registration forms you will find at [www.kraftwerkskolloquium.de](http://www.kraftwerkskolloquium.de).



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## Venue

### MARITIM Hotel & International Congress Center Dresden

Ostra-Ufer 2 | 01067 Dresden

Phone: +49(0)351-2160

Fax: +49(0)351-2161000

Mail: [info.dre@maritim.de](mailto:info.dre@maritim.de)

Arrival information: [www.dresden-congresscenter.de](http://www.dresden-congresscenter.de)

### Conference office

The conference office is located on the terrace level (main entrance).

Opening hours:

22nd October 2019: 08:30 am – 06:30 pm

23rd October 2019: 07:30 am – 03:00 pm

Phone: +49(0)351-463-35308

hotel recommendations you will find at [www.kraftwerkskolloquium.de](http://www.kraftwerkskolloquium.de)

## Terms and Conditions

### Registration

You can register for the conference via internet, mail, fax or by post until **4th October 2019**. A later registration in the conference office is possible but without inclusion in the directory. You will find the registration form at: [www.kraftwerkskolloquium.de](http://www.kraftwerkskolloquium.de)

After registration at the counter you will receive the invoice by mail. The conference documents will be handed out to you in the directly at the conference office during registration.

The protection of your personal data is a very serious topic for us. Personal data (name, address, e-mail-address etc.) you provide for the conference will be treated in accordance with the data protection regulations. Your name, academic title, institution/company and location will be published in the directory. Furthermore, your data will not be published or handed out to third parties without authorisation.

### Program

Changes in the program are reserved.

### Conference fee

**790,00 € plus VAT. for companys**

**360,00 € plus VAT. for university employees, public authorities, main authors of a poster and pensioners**

All prices are exclusive VAT (value added tax). The price includes: Participation on October 22nd and 23th October 2019, drinks, cold and warm snacks in the breaks, conference documents (book and e-book with conference topics), the company fair and the poster presentation as well as the evening event on the first day.

The main author of a lecture is exempted from the conference fee. The acceptance of credit cards and foreign currency is not possible.

### Cancellation

Cancellations must be made in writing. From the **23th September 2019** we charge 50 % of the conference fee for cancellations (handling fee). Non attendance or cancellation from **14th October 2019** have to pay the full conference fee. In case you are prevented from coming the application can be transferred to a representative.

### Photos and film recordings

During the event pictures and film recordings will be taken and will be published in various online and offline media. Our participants can be seen on these photos and films. The selection of persons is randomly. A representation of the pictures takes place on the homepage and in print media of the conference organizer. When you enter the venue, you agree to the publication of the photos and recordings in context of the publicity work described above. In addition, you agree to the unlimited storage and accessibility of the media. The personal rights are maintained in any case.

### Evening event

The Evening event on Tuesday, 22nd October 2019, from 7:30 pm will take place at the International Congress Center Dresden on the terrace level. **Please note that free seats are limited.**