

## Publikationen des ITC im Jahr 2014 / Publications of ITC in 2014

Armand, L.; Biola-Clier, M.; Dilger, M.; Mülhopt, S.; Schlager, C.; Paur, H.R.; Collin-Faure, V.; Diabate, S.; Weiss, C.; Herlin-Biome, N.; Rabilloud, T.; Carriere, M.

Titanium dioxide nanoparticles toxicology: Towards more physiological in vitro exposure models?

4th International Conference on Safe Production and Use of Nanomaterials (NANOSAFE), Grenoble, F, November 18-20, 2014

Bergfeldt, B.; Pfrang-Stotz, G.; Reichelt, J.

The influence of ash preparation temperatures on the ash-melting behavior of different biomass fuels.

5th International Symposium on Energy from Biomass and Waste (Venice 2014), Venezia, I, November 17-20, 2014

Bergfeldt, B.; Pfrang-Stotz, G.; Reichelt, J.

The influence of ash preparation temperatures on the ash-melting behavior of different biomass fuels.

Proceedings of the 5th International Symposium on Energy from Biomass and Waste (Venice 2014), Venezia, I, November 17-20, 2014

Padova : Eurowaste Srl., 2014 CD-ROM

ISBN 978-88-6265-085-4

Bologa, A.; Paur, H.R.; Woletz, K.

High temperature high pressure gas cleaning by electrostatic precipitators. A brief review.

Jahrestreffen der ProcessNet-Fachgruppe Abfallbehandlung und Wertstoffrückgewinnung, Gasreinigung und Hochtemperaturtechnik, Karlsruhe, 17.-18. Februar 2014

Bologa, A.; Ecker, M.; Frei, U.; Rheinheimer, H.P.; Woletz, K.; Paur, H.R.

Influence of combustion process in wood-chips fired boiler on fine particle emissions.

Conference on Aerosol Technology, Karlsruhe, June 16-18, 2014

Bologa, A.; Aich, W.; Ecker, M.; Rheinheimer, H.P.; Frei, U.; Woletz, K.; Paur, H.R.

Integration of an electrostatic precipitator into the wood combustion boiler.

Conference on Aerosol Technology, Karlsruhe, June 16-18, 2014

Bologa, A.; Aich, W.; Ecker, M.; Rheinheimer, H.P.; Woletz, K.; Paur, H.R.

Reduction of particle emissions from small scale wood combustion boilers by use of electrostatic precipitators (ESP). From 'stand-alone' to 'integrated' ESP solution.

22nd European Biomass Conference and Exhibition, Hamburg, June 23-26, 2014

Borges da Fonseca, M.; Poganietz, W.R.; Gehrman, H.J.

Environmental and economic analysis of SolComBio concept for sustainable energy supply in remote regions.

Applied Energy, 135(2014) pp.666-674

DOI:10.1016/j.apenergy.2014.07.057

[Volltext \(für Abonnenten\)](#)

Bublinski, M.; Leibold, H.; Seifert, H.  
Continuous removal of CO<sub>2</sub> under high temperature and high pressure conditions.  
Approach, current status and outlook.  
6th Internat.Freiberg Conf.on IGCC & XtL Technologies (IFC 2014), Dresden, May  
19-22, 2014

Bublinski, M.; Leibold, H.; Seifert, H.  
Development of CO<sub>2</sub> selective membranes for high temperature and high pressure  
applications.  
13th International Conference on Inorganic Membranes (ICIM), Brisbane, AUS,  
July 6-9, 2014

Bublinski, M.; Leibold, H.; Seifert, H.  
Development of CO<sub>2</sub> selective membranes for high temperature and high pressure  
applications.  
ProcessNet-Jahrestagung und 31. DECHEMA-Jahrestagung der Biotechnologen 2014,  
Aachen, 30. September - 2. Oktober 2014

Geigle, K.P.; Kutne, P.; Fleck, S.  
Development of laser-induced incandescence for monitoring the particle  
conversion in an atmospheric entrained flow gasifier operated with slurry.  
6th Internat.Freiberg Conf.on IGCC & XtL Technologies (IFC 2014), Dresden, May  
19-22, 2014

Graf, F.; Bajohr, S.; Köppel, W.; Kolb, T.  
Aktuelle Fragestellungen und Erkenntnisse bei der Umsetzung von Power-to-Gas-  
Konzepten in Deutschland.  
Jahrestreffen der ProcessNet-Fachgruppe 'Energieverfahrenstechnik', Karlsruhe,  
18.-19. Februar 2014

Grosu, F.P.; Bologa, A.M.; Paur, H.R.; Bologa, M.K.; Motorin, O.V.  
About the methods of theory of similarity in electrohydrodynamics of corona  
discharge.  
7th International Conference on Materials Science and Condensed Matter Physics  
(MSCMP 2014), Chisinau, MD, September 16-19, 2014

Grosu, F.P.; Bologa, A.M.; Paur, H.R.; Bologa, M.K.; Motorin, O.V.  
Generalization of the townsend current-voltage characteristics of a corona  
discharge.  
Surface Engineering and Applied Electrochemistry, 50(2014) pp.306-310

Grosu, F.P.; Bologa, A.M.; Bologa, M.K.; Motorin, O.V.  
On the simulation of a corona discharge by the similiarity theory methods.  
Surface Engineering and Applied Electrochemistry, 50(2014) pp.141-148  
DOI:10.3103/S1068375514020057  
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Hunsinger, H.  
Formation and fate of pollutants in WtE plants based on combustion and  
gasification. (eingeladen)  
8th International Conference on Combustion, Incineration/Pyrolysis, Emission  
and Climate Change (8th i-CIPEC), HangZhou, China, October 15-18, 2014

Hunsinger, H.; Anderson, S.  
The potential of SO<sub>2</sub> for reducing corrosion in WtE plants.  
Journal of Material Cycles and Waste Management, 16(2014) pp.657-664  
DOI:10.1007/s10163-014-0271-9  
[Volltext \(für Abonnenten\)](#)

Kolb, T.; Eberhard, M.; Seifert, H.; Zimmerlin, B.  
BtL - The bioliq process at KIT.  
Berliner Abfallwirtschafts- und Energiekonf., Berlin, 27.-28. Januar 2014

Kolb, T.  
Mit Gas-Innovationen in die Zukunft - Power-to-Gas, PtG.  
4. Statuskonferenz der BMBF-Fördermaßnahme 'Technologien für Nachhaltigkeit und Klimaschutz - Chemische Prozesse und stoffliche Nutzung von CO<sub>2</sub>', Königswinter, 8. April 2014

Kolb, T.; Weiss, M.; Zimmerlin, B.; Weigand, P.  
The bioliq process chain.  
COORETEC-AG2 Treffen 'Vergasung kohlenstoffhaltiger Energieträger', Darmstadt, 13. November 2014

Kolb, T.; Zimmerlin, B.  
The entrained flow gasifier in the KIT bioliq process.  
SGC International Seminar on Gasification, Malmö, S, October 15-16, 2014

Kutne, P.; Geigle, K.P.; Fleck, S.  
Measurements of atomic species concentration in an atmospheric entrained flow gasifier using laser induced breakdown spectroscopy.  
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Liesen, I.M.; Baumann, W.; Hauser, M.; Mätzing, H.; Paur, H.R.; Seifert, H.  
Freisetzung von Nanopartikeln bei der thermischen Abfallentsorgung. Stabilität von Nanopartikeln in Flammen.  
4.Wissenschaftskongress 'Abfall- und Ressourcenwirtschaft', Münster, 27.-28.März 2014

Liesen, I.M.; Baumann, W.; Hauser, M.; Mätzing, H.; Paur, H.R.; Listner, U.; Beyer, J.; Seifert, H.  
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Liesen, I.M.; Baumann, W.; Hauser, M.; Mätzing, H.; Paur, H.R.; Seifert, H.  
Stability of nanoparticle agglomerates in flames.  
Conference on Aerosol Technology, Karlsruhe, June 16-18, 2014

Liesen, I.M.; Baumann, W.; Hauser, M.; Mätzing, H.; Paur, H.R.; Seifert, H.  
Stability of nanoparticle agglomerates in flames. Investigations on the release during waste incineration.  
Jahrestreffen der ProcessNet-Fachgruppe Abfallbehandlung und Wertstoffrückgewinnung, Gasreinigung und Hochtemperaturtechnik, Karlsruhe, 17.-18. Februar 2014

Mätzing, H.; Gehrmann, H.J.; Kolb, T.; Seifert, H.  
A numerical model for biomass and solid recovered fuel combustion on a reciprocating grate.  
33rd International Conference on Thermal Treatment Technologies (It3),  
Baltimore, Md., October 13-15, 2014

Morgano, M.T.; Leibold, H.; Richter, F.; Seifert, H.  
Pyrolyse von Biomasse im STYX-Reaktor.  
Berliner Abfallwirtschafts- und Energiekonf., Berlin, 27.-28. Januar 2014

Morgano, M.T.; Leibold, H.; Richter, F.; Seifert, H.  
Screw pyrolysis with integrated sequential hot gas filtration.  
20th International Symposium on Analytical & Applied Pyrolysis (PYRO 2014),  
Birmingham, GB, May 19-23, 2014

Mülhopt, S.; Krebs, T.; Paur, H.R.  
Air-liquid interface exposure for in vitro toxicological studies - Numerical simulation of particle deposition for dose assessment.  
2014 International Aerosol Conference (IAC 2014), Busan, Korea, August 28 - September 2, 2014

Mülhopt, S.; Dilger, M.; Schlager, C.; Diabate, S.; Braakhuis, H.; Weiss, C.; Paur, H.R.  
Air-liquid interface exposure system for in vitro toxicological studies of airborne nanoparticles.  
7th International Nanotoxicology Congress (NanoTox 2014), Antalya, TR, April 23-26, 2014  
Book of Abstracts p.129

Mülhopt, S.; Dilger, M.; Schlager, C.; Zimmermann, R.; Diabate, S.; Weiss, C.; Paur, H.R.  
Air-liquid interface exposure system for in vitro toxicological studies of combustion derived ultrafine aerosols.  
Conference on Aerosol Technology, Karlsruhe, June 16-18, 2014  
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[http://www.gaef.de/AT2014/AT2014\\_abstracts/APP%20V\\_Air\\_Liquid%20Interfaces/abstracts.pdf](http://www.gaef.de/AT2014/AT2014_abstracts/APP%20V_Air_Liquid%20Interfaces/abstracts.pdf)

Mülhopt, S.; Paur, H.R.; Adelhelm, C.; Diabate, S.; Forsgren, J.; Mahon, E.; Bagaria, J.P.; Puentes, V.; Schneider, R.; Wilkins, T.; Jiang, Y.; Weiss, C.  
Batch-to-batch reproducibility - a challenge for safety assessment and regulation.  
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Mueller, A.; Stoesser, P.; Kolb, T.  
Biomass char gasification: study on reaction kinetics using a high-pressure thermogravimetric analyzer.  
39th Internat. Technical Conf. on Clean Coal and Fuel Systems, Clearwater, Fla., June 1-5, 2014

Mueller, A.; Stoesser, P.; Kolb, T.  
Reaktionskinetische Charakterisierung von Brennstoffen für die Hochdruck-

Flugstromvergasung.

Jahrestreffen der ProcessNet-Fachgruppe Abfallbehandlung und Wertstoffrückgewinnung, Gasreinigung und Hochtemperaturtechnik, Karlsruhe, 17.-18. Februar 2014

Panas, A.; Comouth, A.; Saathoff, H.; Leisner, T.; Al-Rawi, M.; Simon, M.; Seemann, G.; Dössel, O.; Mülhopt, S.; Paur, H.R.; Fritsch-Decker, S.; Weiss, C.; Diabate, S.

Silica nanoparticles are less toxic to human lung cells when deposited at the air-liquid interface compared to conventional submerged exposure.

Beilstein Journal of Nanotechnology, 5(2014) pp.1590-1602

DOI:10.3762/bjnano.5.171

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Paur, H.R.; Bologna, A.; Ecker, M.; Rheinheimer, H.P.

Control of ultrafine particle emissions from small-scale wood combustion boilers by optimized combustion and electrostatic precipitation.

2014 International Aerosol Conference (IAC 2014), Busan, Korea, August 28 - September 2, 2014

Pfrang-Stotz, G.; Reichelt, J.; Bergfeldt, B.; Seifert, H.; Seitz, M.; Ruck, S.

Correlation between biomass fuel and slagging in the combustion chamber as well as formation of deposits on heat exchanger surfaces using the example of the BMHP plant Pforzheim, Germany.

5th International Symposium on Energy from Biomass and Waste (Venice 2014), Venezia, I, November 17-20, 2014

Pfrang-Stotz, G.; Reichelt, J.; Bergfeldt, B.; Seifert, H.; Seitz, M.; Ruck, S.

Correlation between biomass fuel and slagging in the combustion chamber as well as formation of deposits on heat exchanger surfaces using the example of the BMHP plant Pforzheim, Germany.

Proceedings of the 5th International Symposium on Energy from Biomass and Waste (Venice 2014), Venezia, I, November 17-20, 2014

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ISBN 978-88-6265-085-4

Pudasainee, D.; Paur, H.R.; Fleck, S.; Seifert, H.

Mercury emission and speciation in syngas from biomass gasification: preliminary results.

11th International Conference on Mercury as a Global Pollutant (ICMGP), Edinburgh, GB, July 28 - August 2, 2013

Pudasainee, D.; Paur, H.R.; Fleck, S.; Seifert, H.

Trace metals emission in syngas from biomass gasification.

Fuel Processing Technology, 120(2014) pp.54-60

DOI:10.1016/j.fuproc.2013.12.010

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Schnelle-Kreis, J.; Dittmar, T.G.; Kanashova, T.; Buters, J.; Öder, S.; Paur, H.; Schlager, C.; Mülhopt, S.; Dilger, M.; Weiß, C.; Diabate, S.; Harndorf, H.; Stengel, B.; Rabe, R.; Hirvonen, M.R.; Jokiniemi, J.; Torvela, T.; Hiller, K.; Sapccariu, S.C.; BeruBe, K.A.; Wlodardczyk, A.J.; Sippula, O.; Michalke, B.; Krebs, T.; Kelbg, M.; Tiggesbäumker, J.; Streibel, T.; Karg, E.; Scholtes, S.; Lintelmann, J.; Matuschek, G.; Sklorz, M.; Arteaga Salas, M.; Klingbeil, S.;

Orasche, J.; Richthammer, P.; Müller, L.; Elsasser, M.; Rheda, A.; Passig, J.; Gröger, T.; Abbaszade, G.; Radischat, C.; Zimmermann, R.  
A comprehensive study on the composition of aerosol emissions from ship-diesel engines operated with diesel fuel or heavy fuel oil.  
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Seifert, H.  
Energy from biomass and low rank fuels.  
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Vehlow, J.  
Alternative energy status and perspectives in Europe.  
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Vehlow, J.  
From major pollution to environmental compatibility. A short history of APC in waste incineration.  
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Vehlow, J.  
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Vehlow, J.; Hunsinger, H.  
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Vosteen, B.W.; Funcke, W.; Vehlow, J.  
The Influence of fuel chlorine and bromine on dioxins and furans at waste incinerators and coal-fired power plants as related to bromine enhanced mercury abatement.  
11th International Conference on Mercury as a Global Pollutant (ICMGP), Edinburgh, GB, July 28 - August 2, 2013

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Toxic effects of nanoparticles from biomass combustion.  
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A comprehensive study on the composition and the biological/health-effects of aerosol emission from ship-diesel engines operated with diesel fuel of heavy fuel oil.

2014 International Aerosol Conference (IAC 2014), Busan, Korea, August 28 - September 2, 2014