

Juergen Heinz Martin Peterseim B.Eng (Industrial)

RESEARCH ASSISTANT

Juergen finished his Industrial Engineering Degree in 2003 in Germany and has since worked in the power industry in the field of industrial ecology with a focus on heat recovery systems, energy from biomass and waste, as well as concentrated solar power. This work required skills to assess technical, economic, environmental, and social aspects of projects in order to realise the best outcome for various clients.

In March 2011 Juergen started a PhD at the Institute for Sustainable Futures. The topic of his research is "Investigating the role of concentrating solar power hybrid plants using non-conventional back-up fuels in Australia".

AREAS OF EXPERTISE

- Industrial ecology with a focus on heat recovery systems
- Energy from biomass and waste
- Concentrated solar power
- Computational skills: Thermoflex, GT Pro, Steam Pro, AutoCAD, Microsoft Office and Project

LANGUAGES

- German - native speaker
- English - fluent
- Spanish - working knowledge
- Russian - basic knowledge

EDUCATION

PhD candidate	PhD with the Institute for Sustainable Futures, University of Technology, Sydney Subject: "Investigating the role of concentrating solar power hybrid plants using non-conventional back-up fuels in Australia" Thesis in cooperation with the University of Newcastle, Great Britain and La Mont-Kessel GmbH & Co. KG, Germany Subject: "Non Conventional Solid Combustion Systems in Power Plants"	2011 - present
B Eng	Bachelor of Industrial Engineering (Hons 1), University of Applied Sciences Wildau, Germany	1999-2003

ASSOCIATIONS

- ASME Australia Section Executive Committee (2012 - present)
- Technical advisor to Australian Solar Thermal Electricity Association (2012 - present)

EMPLOYMENT HISTORY

- 2007 – present** **ERK Eckrohrkessel GmbH, Berlin, Germany**
Australian Representative and Product Management
Fields of activities:
Natural circulation boiler design
Industrial Ecology, focus on waste heat recovery, Energy from Biomass and Waste
Project examples:
Design of solar tower receiver (confidential client)
Supporting local licensee Gasco Pty Ltd with boiler projects, e.g. cogeneration plant in NSW
Heat recovery system design for Austal highspeed ferries and United Rail locomotives
Boiler design for an Energy from Waste facility (confidential client)
- 2003 – 2007** **La Mont-Kessel GmbH & Co. KG, Wildau, Germany**
Product and Project Management
Fields of activities:
Forced and natural circulation boiler design,
Industrial Ecology, focus on waste heat recovery, Energy from Biomass and Waste, and ip tube®-technology
Project examples:
Project Manager for design and supply of a supercritical chemical heater, Germany; First installation worldwide
Design study to enhance performance and reduce fouling of 3x boilers in the WtE plant Bamberg, Germany, Units installed as per study
- 2007 – 2009** **Efficiency optimisation of a biomass power station in Germany using gasification technology in Taufkirchen, Germany**
Design and prototyping of a flue gas condenser for gas fired industrial boilers
Boiler optimisation for a new CCGT plant in Hamburg, Germany
- 2003 – 2003** **Thesis at the University of Newcastle, Great Britain**
Department: Civil Engineering/ Solid and Hazardous Waste Research
Unit and La Mont-Kessel GmbH & Co. KG, Germany
- 2002 – 2003** **Student employee at La Mont-Kessel GmbH & Co. KG, Wildau, Germany**
- 2001 – 2002** **Internship at the boiler manufacturing company Calderas Paradies Ltda., Santiago de Chile, Chile**

PUBLICATIONS

Project reports

[Baumann, C.](#), [Asker, S.A.](#), [Giurco, D.](#), Peterseim, J. & [White, S.](#) 2012, 'Eco-industrial transition: A vision for economic and socio-ecological renewal at Swanbank', [prepared for Thiess Services], Institute for Sustainable Futures, UTS, Sydney, Australia, pp. 1-29.

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Peterseim, J., [White, S.](#), Hellwig, U., Tadros, A. & Vanz, E. 2012, 'Pre-feasibility study for a multi-fuel / concentrated solar power hybrid plant at Swanbank, QLD', [prepared for Thiess Services], Institute for Sustainable Futures, UTS, Sydney, Australia.

Conference papers

J. H. Peterseim, U. Hellwig, and K. Endrullat, "Parallel flow boiler designs to minimise erosion and corrosion from dust loaded flue gases," in *ASME Power*, 2013.

J. H. Peterseim, A. Tadros, U. Hellwig, and S. White, "Integrated solar combined cycle plants using solar towers with thermal storage to increase plant performance," in *ASME Power*, 2013.

J. H. Peterseim, S. White, A. Tadros, and U. Hellwig, "Concentrating solar power hybrid plants - enabling cost effective synergies," in *World Renewable Energy Congress*, 2013.

J. H. Peterseim, A. Tadros, S. White, U. Hellwig, J. Landler, and K. Galang, "Solar tower-biomass hybrid plants – maximizing plant performance," in *SolarPACES Conference*, 2013.

Peterseim, J., [White, S.](#), Hellwig, U., Tadros, A. & Klostermann, F. 2012, 'Concentrated solar power / Energy from waste hybrid plants - Creating synergies', SolarPACES 2012 Conference - Concentrating Solar Power and Chemical Energy Systems, Marrakech, Morocco, September 2012 in *Proceedings of the SolarPACES 2012 Conference - Concentrating Solar Power and Chemical Energy Systems*, ed Blanco, M., SolarPACES (Solar Power and Chemical Energy Systems), Germany, pp. 1-10.

Peterseim, J., [White, S.](#), Hellwig, U., Tadros, A. & Klostermann, F. 2012, 'Concentrating solar power / energy from waste hybrid plants - creating synergies', SolarPACES 2012 Conference: Concentrating Solar Power and Chemical Energy Systems, Marrakech, Morocco, September 2012 in *Proceedings of the SolarPACES 2012 Conference: Concentrating Solar Power and Chemical Energy Systems*, ed Blanco, M., SolarPACES, Germany, pp. 1-10.

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Peterseim, J., [White, S.](#), Tadros, A. & Hellwig, U. 2012, 'Integrated Solar Combined Cycle plants using solar power towers to optimise plant performance', SolarPACES 2012 Conference - Concentrating Solar Power and Chemical Energy Systems, Marrakech, Morocco, September 2012 in *Proceedings of the SolarPACES 2012 Conference - Concentrating Solar Power and Chemical Energy Systems*, ed Blanco, M., SolarPACES, Germany, pp. 1-8.

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Peterseim, J., Hellwig, U., Guthikonda, M. & Widera, P. 2012, 'Quick start-up auxiliary boiler / heater - Optimizing solar thermal plant performance', SolarPACES 2012 Conference: Concentrating Solar Power and Chemical Energy Systems, Marrakech, Morocco, September 2012 in *Proceedings of the SolarPACES 2012 Conference: Concentrating Solar Power and Chemical Energy Systems*, ed Blanco, M., SolarPACES, Germany, pp. 1-8.

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Hellwig, U., Peterseim, J. & Widera, P. 2011, 'Water circulation calculation for concentrated solar thermal plants', SolarPACES 2011: Concentrating solar power and chemical energy systems, Granada, Spain, September 2011 in *Proceedings from SolarPACES 2011: Concentrating solar power and chemical energy systems*, ed Martinez, D., SolarPACES, Germany, pp. 1-8.

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[Memary, R.](#), [Giurco, D.](#), [Prior, T.D.](#), [Mason, L.M.](#), Mudd, G.M. & Peterseim, J. 2011, 'Clean energy and mining - future synergies', Second International Future Mining Conference, Sydney, Australia, November 2011 in *Proceedings of the Second International Future Mining Conference 2011*, ed Saydam, S., The AusIMM (The Mineral Institute), Sydney, Australia, pp. 217-226.

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Journal articles

Peterseim, J., [White, S.](#), Tadros, A. & Hellwig, U. 2013, Increasing the efficiency of parabolic trough plants using thermal oil through external superheating with biomass ', *Energy Conversion and Management* (Accepted)

Peterseim, J., [White, S.](#), Tadros, A. & Hellwig, U. 2013, 'Concentrated solar power hybrid plants, which technologies are best suited for hybridisation?', *Renewable Energy*, vol. 57, pp. 520-532.

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