

# Publications

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## Journal publications:

- 2013 P. Seiler, M. Bäker, and J. Rösler, Multi-Scale Failure Mechanisms of Thermal Barrier Coating Systems, *Computational Material Science*, 80:27–34, 2013, DOI: 10.1016/j.commatsci.2013.04.02 [[online](#)]
- 2012 P. Seiler, M. Bäker, and J. Rösler, Influence of creep and cyclic oxidation in thermal barrier coatings, *International Journal of Materials Research*, 103(01):50–56, 2012, DOI: 10.3139/146.110629 [[online](#)]

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## Refereed conference proceedings with oral presentations:

- 2011 P. Seiler, M. Bäker, J. Rösler, M. Schweda, and T. Beck, Thermal barrier coatings on surfaces with micro-machined roughness profiles, *Proceedings International Thermal Spray Conference (ITSC)*, Hamburg, 2011 [[online](#)]
- P. Seiler, M. Bäker, and J. Rösler, Variation of Creep Properties and interfacial Roughness in Thermal Barrier Coating Systems, *Advanced Ceramic Coatings and Materials for Extreme Environments (35th International Conference and Exposition on Advanced Ceramics and Composites/ ICACC'11)*, Daytona Beach, 32:129–136, 2011, DOI: 10.1002/9781118095232.ch11 [[online](#)]
- 2010 P. Seiler, M. Bäker, and J. Rösler, FEM simulation of oxidation induced stresses in a simplified thermal barrier coating system, *Proceedings in Applied Mathematics and Mechanics (81st Annual Meeting of the International Association of Applied Mathematics and Mechanics/ GAMM)*, Karlsruhe, 1:329–330, 2010, DOI: 10.1002/pamm.201010157 [[online](#)]
- P. Seiler, M. Bäker, and J. Rösler, FEM simulation of oxidation induced stresses with a coupled crack propagation in a TBC model system, *IOP Conference Series: Materials Science and Engineering (World Congress on Computational Mechanics/ WCCM)*, Sydney, 10(012056), 2010, DOI: 10.1088/1757899X/10/1/012056 [[online](#)]
- P. Seiler, M. Bäker, and J. Rösler, FEM simulation of crack propagation and oxidation induced stresses in a TBC model system, *Proceedings of the 18<sup>th</sup> European Conference on Fracture (ECF)*, Dresden, 2010 [[online](#)]
- 2009 P. Seiler, M. Bäker, T. Beck, M. Schweda, and J. Rösler, FEM simulation of TBC failure in a model system, *Journal of Physics: Conference Series, (15<sup>th</sup> ICSMA)*, Dresden, 240(012069), 2009, DOI: 10.1088/1742-6596/240/1/012069 [[online](#)]

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## Refereed conference proceedings with poster presentations:

- 2011 P. Seiler, J. Rösler, D. Mukherji, and T. Kopka, Thermal barrier coatings on novel high temperature cobalt rhenium substrates, *Proceedings International Thermal Spray Conference (ITSC)*, Hamburg, 2011 [[online](#)]

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### Non-refereed conference proceedings with oral presentations:

- 2011 P. Seiler, M. Bäker und J. Rösler, Grenzflächenvariation und 3D-Simulation von Wärmedämmschichtsystemen, *Tagungsband Deutsche Simulia-Konferenz*, Bamberg, 2011
- 2010 P. Seiler, M. Bäker und J. Rösler, FEM Rissfortschrittssimulation mit zyklischer Oxidation in Wärmedämmschichtsystemen, *Tagungsband Deutsche Simulia-Konferenz*, Heidelberg, 2010
- 2008 P. Seiler and M. Bäker, Identifikation von Materialparametern aus Indenterversuchen, *Tagungsband 20. Abaqus-Benutzerkonferenz*, Bad Homburg, 2008

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### Oral or poster presentations:

- 2013 M. Bäker and P. Seiler, Multi-scale failure mechanisms of thermal barrier coating systems, *5<sup>th</sup> GACM (German Association for Computational Mechanics) Colloquium on Computational Mechanics*, Poster presentation, Hamburg, 2013
- 2011 P. Seiler and M. Bäker, Simulation of crack propagation in thermal barrier coatings, *ESIS TC8 Meeting (Cohesive Elements)*, Oral presentation, Ecole de Mines, Paris, 2011
- 2010 P. Seiler, M. Bäker, and J. Rösler, Coating technologies and high temperature applications at the IfW/ TU Braunschweig, *Mecafuture Workshop (French-German InPlas Network)*, Oral presentation, Hannover, 2010
- 2009 P. Seiler, M. Bäker, and J. Rösler, FEM simulation of TBC failure in a model system, *colloquium "Mechanische Eigenschaften von Hochtemperaturschutzschichten"*, Oral presentation, Ruhr Universität Bochum/ Institut für Werkstoffe, 2009