

## Publications (115) and Citations (4640)

Professor Dr. Ralf Busch  
(as of April 02, 2014; H-Index: 38)

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### I. Journals [80]:

*Evolution of shear bands, free volume and hardness during cold rolling of a Zr-based bulk metallic glass.*

M. Stolpe, J.J. Kruzic, and **R. Busch**, Acta Materialia **64**, 231 (2014).

*On the kinetic and thermodynamic fragility of the  $Pt_{60}Cu_{16}Co_2P_{22}$  and  $Pt_{57.3}Cu_{14.6}Ni_{5.3}P_{22.8}$  bulk metallic glasses.*

I. Gallino, O. Gross, G. Dalla Fontana, Z. Evenson, and **R. Busch**, Journal of Alloys and Compounds (in press) (2013).

*On the abnormal room temperature tarnishing of an 18 karat gold bulk metallic glass alloy.*

M. Eisenbart, U. E. Klotz, **R. Busch**, and I. Gallino, Journal of Alloys and Compounds (in press) (2013).

*Improving participation of engineering students studying abroad: an international dual-degree program in materials science and mechanical engineering.*

W.H. Warnes, J.J. Kruzic, C.C. Pratt, C. Stehr, D.P. Cann, B.J. Gibbons, I. Gallino, F. Soldera, **R. Busch**, L. Wallström, JOM **65**, 840 (2013).

*Liquid-liquid transition in a strong bulk metallic glass-forming liquid*

S. Wei, F. Yang, J. Bednarcik, I. Kaban, O. Shuleshova, A. Meyer and **R. Busch**, Nature Communications **4**, art. No. 2083 (2013).[\(2\)](#)

*Co-continuous porosity formation on thin oxide films: transition metal oxides ( $Ti=2$  and  $Nb_2O_5$ ) versus  $SiO_2$*

S. Stanojevic, A. Ochsenbein, and **R. Busch**, J. Sol-Gel Science and Technology **66**, 518 (2013).

*Co-continuous morphology on spin coating produced thin  $TiO_2$  films*

S. Stanojevic, A. Ochsenbein, and **R. Busch**, J. Sol-Gel Science and Technology **64**, 390 (2012).

*Oxidation and corrosion of highly alloyed Cu-Fe-Ni as inert anode material for aluminium electrowinning in as-cast and homogenized conditions.*

I. Gallino, M.E. Kassner, and **R. Busch**, Corrosion Science, **63**, 293 (2012).

*High temperature melt viscosity and fragile to strong transition in Zr-Cu-Ni-Al-Nb(Ti) and  $Cu_{47}Ti_{34}Zr_{11}Ni_8$  bulk metallic glass*

Z. Evenson, T. Schmitt, M. Nicola, I. Gallino, **R. Busch**, Acta Mater. **60**, 4712 (2012). [\(6\)](#)

*Processing of a bulk metallic glass forming alloy based on industrial grade Zr.*

J. Heinrich, **R. Busch**, B. Nonnenmacher, Intermetallics **25**, 1 (2012). [\(0\)](#)

Role of aluminium as an oxygen-scavenger in zirconium based bulk metallic glasses.

J. Heinrich, **R. Busch**, F. Müller, S. Grandthyll, S. Hüfner, Appl. Phys. Lett. **100**, 071909 (2012). (2)

*Enthalpy recovery and free volume relaxation in a  $Zr_{44}Ti_{11}Ni_{10}Cu_{10}Be_{25}$  bulk metallic glass.*

Z. Evenson and **R. Busch**, Journal of Alloys and Compounds **509**, S38-S41 (2011). (3)

*Equilibrium viscosity, enthalpy recovery and free volume relaxation in a  $Zr_{44}Ti_{11}Ni_{10}Cu_{10}Be_{25}$  bulk metallic glass.*

Z. Evenson and **R. Busch**, Acta Mater. **59**, 4404 (2011). (11)

*Glass transition with decreasing correlation length during cooling of  $Fe_{50}Co_{50}$  superlattice and strong liquids.*

S. Wei, I. Gallino, **R. Busch**, and C.A. Angell, Nature-Physics **7**, 178 (2011). (13)

*Fatigue crack growth behavior of a  $Zr_{58.5}Cu_{15.6}Ni_{12.8}Al_{10.3}Nb_{2.8}$  bulk metallic glass-forming alloy.*

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*Investigation of mechanical, corrosion and optical properties of an 18 carat Au-Cu-Si-Ag-Pd bulk metallic glass.*

S. Mozgovoy, J. Heinrich, U.E. Klotz, and **R. Busch**, Intermetallics **18**, 2289 (2010). (2)

*Kinetic and thermodynamic studies of the fragility of bulk metallic glass forming liquids.*

I. Gallino, J. Schroers, and **R. Busch**, J. Appl. Phys. **108**, 063501 (2010). (13)

*Equilibrium viscosity of Zr-Cu-Ni-Al-Nb bulk metallic glasses.*

Z. Evenson, S. Raedersdorf, I. Gallino, and **R. Busch**, Scripta Mater. **63**, 573 (2010). (10)

*The effect of cooling rates on the apparent fragility of Zr-based bulk metallic glasses.*

Z. Evenson, I. Gallino, and **R. Busch**, J. Appl. Phys. **107**, 123529 (2010.) (15)

*Metallurgy beyond iron.*

I. Gallino and, **R. Busch**, Publications of the Astronomical Society of Australia **26**, pp. iii-vii (2009).

*Improving endothelial cell adhesion and proliferation on titanium by sol-gel derived oxide coating.*

F. Chai, A. Ochsenein, M. Traisnel, **R. Busch**, J. Breme, and H.F. Hildebrandt; J. Biomedical Materials Research **92A**, 754 (2010). (2)

*Prediction of spinodal wavelength in continuously cooled metallic liquid.*

Christine Borchers, Jan Schroers and **R. Busch**, Annalen der Physik **18**, 4 (2009). (3)

*Homogenization of highly alloyed Cu-Fe-Ni: A phase diagram study.*

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*Effect of free volume changes and residual stresses on the fatigue and fracture behavior of a Zr-Ti-Ni-Cu-Be bulk metallic glass.*

M. E. Launey und J. J. Kruzic, **R. Busch**, Acta Mater. **56**, 500 (2008). (38)

*Quantification of free volume differences in a  $Zr_{44}Ti_{11}Ni_{10}Cu_{10}Be_{25}$  bulk amorphous alloy.*

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*Thermodynamics and kinetics of bulk metallic glass.*

R. Busch, J. Schroers, and W.H. Wang, MRS Bulletin **32**, 620 (2007). (75)

*The influence of shear rate and temperature on the viscosity and fragility of the  $Zr_{41.2}Ti_{13.8}Cu_{12.5}Ni_{10.0}Be_{22.5}$  metallic-glass-forming liquid.*

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*Enthalpy relaxation and its relation to the thermodynamics and crystallization of the  $Zr_{58.5}Cu_{15.6}Ni_{12.8}Al_{10.3}Nb_{2.8}$  bulk metallic glass-forming alloy.*

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*Thermodynamics, kinetics, and crystallization of  $Pt_{57.3}Cu_{14.6}Ni_{5.3}P_{22.8}$  bulk metallic glass.*

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**R. Busch**, A. Masuhr, and W. L. Johnson, Materials Science and Engineering A – Struct **304**, 97 (2001). (70)

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## II. Proceedings [35]:

*Polyamorphous transformation in bulk metallic glass-forming liquid and its implication to strong liquids.*

S. Wei, F. Yang, J. Bednarcik, I. Kaban, A. Meyer, and **R. Busch**, AIP Conference Proceedings **1518**, 260 (2013)

*High temperature melt viscosity and fragile-to-strong transition in Zr-Cu-Ni-Al-Nb(Ti) and Cu<sub>47</sub>Ti<sub>3</sub>Zr<sub>11</sub>Ni<sub>8</sub> bulk metallic glasses.*

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