

Curriculum Vitae

Eduard Arzt

Professor (W3) for New Materials
Saarland University, Saarbrücken, Germany
and Scientific Director and Chairman (CEO)
INM – Leibniz-Institut für Neue Materialien
gGmbH, Saarbrücken

PERSONAL DETAILS

Birth date: May 1, 1956
Birth place: Linz, Austria

Nationality: Austria
married, 3 children

ADDRESS

INM - Leibniz-Institut für Neue Materialien gGmbH
Campus D2 2, 66123 Saarbrücken
Phone +49 681 9300 500
email: eduard.arzt@inm-gmbh.de, www.inm-gmbh.de

PRIVATE

Kaiserslauterer Straße 42
66123 Saarbrücken

EDUCATION

1966 - 1974	High School (Gymnasium), Linz, Austria
1972/73	<i>Rotary Exchange Student, Coral Gables High School and University of Miami, Florida (USA)</i>
1974 - 1980	Student of Physics and Mathematics, <i>University of Vienna</i>
1980	Doctor of Philosophy (Dr. phil.), <i>University of Vienna</i>

PROFESSIONAL EXPERIENCE

1977 - 1980	Research Assistant, Institute for Physical Metallurgy and Materials Testing, <i>Montanuniversität Leoben, Austria</i>
1981 - 1982	Research Associate, Department of Engineering, <i>Cambridge University, England</i>
1982 - 1989	Group leader, <i>Max Planck Institute for Metals Research, Stuttgart, Germany</i>
1989 - 1990	Visiting Professor, Department of Materials Science and Engineering, <i>Stanford University, USA</i>
1990 - 2007	Professor (C4) for Physical Metallurgy/Metal Physics, <i>University of Stuttgart</i> , joint appointment as Director at <i>Max Planck Institute for Metals Research, Stuttgart</i>
1996/97	Visiting Professor, <i>Massachusetts Institute of Technology</i> , Department of Materials Science and Engineering, USA
1999	Sabbatical, <i>Massachusetts Institute of Technology and Stanford University, USA</i>
2000 – 2002	Deputy Managing Director, <i>Max Planck Institute for Metals Research, Stuttgart</i>
2003 and 2004	Managing Director, <i>Max Planck Institute for Metals Research, Stuttgart</i> (rotating function)
2005	Sabbaticals, <i>University of California, Santa Barbara and San Diego</i>
since October 2007	present position

HONORS

- 1980 Ph.D. with highest distinction ("*sub auspiciis praesidentis rei publicae*")
- 1985 *Masing Award*, Deutschen Gesellschaft für Materialkunde, Frankfurt
- 1988 *Heinz Maier-Leibnitz Prize*, Bundesministerium für Bildung und Wissenschaft, Bonn
- 1989 Offer of a C4 professorship, *Technical University Darmstadt* and of a C4 professorship, *Technical University Berlin* (both declined)
- 1990 Offer of a Full Professorship, *University of California at Santa Barbara* (declined)
- 1990 *Acta Metallurgica Outstanding Paper Award*
- 1991 *Max Planck Research Award* (together with Professor W.D. Nix, Stanford University)
- 1995 Offer of a Full Professorship, *Ecole Polytechnique de Lausanne, Lausanne*, Switzerland (declined)
- 1996 R.S. Williams Lecturer, *Massachusetts Institute of Technology*, USA
- 1996 *Gottfried Wilhelm Leibniz Award*, Deutsche Forschungsgemeinschaft, Bonn
- 1997 Corresponding Member, *Austrian Academy of Sciences*, Vienna
- 2002 Member, *Deutsche Akademie der Naturforscher Leopoldina*, Halle, Germany
- 2003 Highly Cited Materials Scientist, *Institute for Scientific Information (ISI)*
- 2005 Donaldson Lecturer, *University of Minnesota*, Minneapolis, MN, USA
- 2005 Science Award, *Stifterverband für die Deutsche Wissenschaft* (together with H. Gao, S. Gorb and R. Spolenak)
- 2009 Distinguished award from THERMEC 2009, International Materials Conference, Berlin
- 2009 Highly cited paper award, *Acta Biomaterialia*, Vol 1

RESEARCH INTERESTS (past and present)

Fundamentals of powder metallurgy
High temperature alloys and creep behavior
Electromigration in thin metallic films
Mechanical size effects in constrained materials
Mechanics of biological materials
Bio-inspired functional surfaces
Adhesion mechanisms and control
Nanomaterials and nanotoxicity

MEMBERSHIPS IN COMMITTEES

- o Chairman, Scientific Advisory Board, NANOMICRO Programme, Karlsruhe Institute of Technology (since 2010)
- o Member, Expert Committee for the Audit of the School of Engineering, Ecole Polytechnique Fédérale de Lausanne, Switzerland
- o Scientific Advisory Board, CCMX - Competence Centre for Materials Science and Technology, Lausanne, Switzerland
- o Review Panel, Department of Energy, Basic Energy Sciences, Los Alamos, NM, USA (Nov 2007)

- o National Committee and Professorial Committee, *Institute of Science and Technology - Austria*, Bundesministerium für Bildung, Wissenschaft und Kunst, Wien (since 2006)
- o Member, Advisory Group, *Volkswagen Foundation*, for the selection of Lichtenberg professorships
- o Member, Advisory Board, *Max Planck Innovation GmbH (formerly Garching Innovation GmbH)*, patenting and licensing office of the Max Planck Society (2004-07)
- o Member, Corporate Research and Technology Board, *Böhler Uddeholm AG*, Vienna, Austria (2004-06)
- o Member, Scientific Advisory Board, *Netherlands Institute for Metals Research (2001-07)*
- o Member, Scientific Advisory Board, *Alfried Krupp von Bohlen und Halbach Foundation, Essen*
- o Member, Board of Trustees, *Erich Schmid Institut for Materials Science*, Austrian Academy of Sciences, Leoben, Austria (- 2008)
- o Member, International Advisory Board, *Christian Doppler Society*, Vienna
- o Chairman, Visiting Committee, Evaluation in the field Solid State and Geophysics Research, Austrian Academy of Sciences (2003/04)
- o Member, *Expert Advisory Group (EAG)* "Innovative Products, Processes and Organisation" und der Advisory Group for the Thematic Priority Area "Nanotechnologies and Nanosciences, Knowledge-based Multifunctional Materials and New Production, Processes and Devices" , European Commission, Brussels (2000-2002)
- o Member, Scientific Advisory Board, *Institute for Solid State and Materials Research*, Dresden (- 2001)
- o Main Reviewer (Fachgutachter), *Deutsche Forschungsgemeinschaft* (1992-96)
- o Coordinator, Excellence Initiative Materials Research, University of Stuttgart (2006)
- o Member, Presidential Committee for the Research Center Caesar, Bonn, Max Planck Society (2005)
- o Chairman, Studienkommission und Prüfungsausschuss "Werkstoffwissenschaft", University of Stuttgart (1990-1993)
- o Member, Perspektivenkommission der Chemisch-Physikalisch-Technischen Sektion der Max-Planck-Gesellschaft
- o Founding member, *Sonderforschungsbereich 381* „Charakterisierung des Schädigungsverlaufs in Faserverbundwerkstoffen mittels zerstörungsfreier Prüfung“, University of Stuttgart (till 2003)
- o Spokesman, AG "*Materials science and technology*", University of Stuttgart (1993-96)

SCIENTIFIC SERVICE ACTIVITIES (selection)

Organisation of numerous international Workshops and Meetings, e.g.

- o Chairman, 2nd International Volkswagen Symposium on *Complex Materials* (with J. Spatz, 2005)
- o Chairman, International Ringberg Workshop "*Contact Phenomena in Materials and Biological Systems*", Juli 2005 (with S. Gorb and J. Spatz)
- o Chairman, Gordon Research Conference „*Thin Film and Small-Scale Mechanical Behavior*“, Waterville, Maine, USA (July 2004)
- o Chairman, 313. Heraeus-Seminar, "*Fiber Systems in Materials Science and Biology/Medicine*", Weingarten, October 2003 (with J. Spatz and C. Mohrdieck)
- o Chairman, International Ringberg Workshop "*Micro-Nano-Bio*", July 2000 (with P. Gumbsch)
- o Intersektionelles Forum, Max Planck Society, Berlin, February 2001

EDITORIAL ACTIVITIES

- o Editor, *Progress in Materials Science*, Elsevier, Oxford, UK
- o Current memberships in Editorial Boards/Advisory Boards: "*Advanced Engineering Materials*", Weinheim, "International Journal of Materials Research" (früher *Zeitschrift für Metallkunde*), Munich; „*Materials Science and Engineering C: Materials for Biological Applications*“
- o Referee for numerous international journals, i.a. *Nature*, *Nature Materials*, *Science*, *Acta Materialia*, *Scripta Materialia*, *Nanotechnology*, *Journal of Applied Physics*, *Applied Physics Letters*, *Advanced Materials* etc.

LECTURE COURSES TAUGHT AT UNIVERSITY OF STUTTGART

- o Mechanical Properties of Materials (lecture + problem solving class)
- o Electronic Properties of Materials (lecture + problem solving class)
- o Introduction to Materials Physics (lecture + problem solving class)
- o Metallic Materials (lecture)
- o Proseminar Materials Physics
- o Seminar for Advanced Students
- o Practical Laboratory Work Materials
- o Practical Laboratory Work Materials Physics
- o Materials Science Colloquium

INVITED TALKS (since 2004)

Plenary Talk, 10. Kolloquium Klebtechnik, DECHEMA Frankfurt (Feb 2010)

Invited Talk, COST Workshop on Principles and Development of Bio-inspired Materials, Vienna (April 2010)

Keynote Lecture, World Conference on Adhesion (WCARP 2010), Arcachon, France (Sept 2010)

Plenary Talk, Researcher Round Table, TGM Upper Austria, Linz (Sept 2009)

Plenary Talk, 13. Österreichische Chemietage, Vienna (August 2009)

Plenary Talk, THERMEC 2009, Berlin (August 2009)

Invited Contribution, STS Symposium on Science, Technology and Society, Kyoto, Japan (Oct 2009)

PlenaryTalk, 34. Münchner Klebstoff- und Veredelungssymposium, Munich (Oct 2009)

Invited Talk, Merton C. Flemings Honorary Symposium, Pittsburgh, PA (USA)

Invited Talk, ECI Conference on Nanomechanical Testing, Barga, Italy (Oct 2009)

Invited Session Chair, Gordon Research Conference on Adhesion, New London, NH, USA (July 2009)

Invited Lecture, International Building Exhibition, Hamburg (May 28, 2009)

Keynote Lecture, Opening Ceremony of Saarland Technology Corporation, Chicago, IL (USA) (April 23, 2009)

Invited Lecture at German Surgery Congress, Munich (April 30, 2009)

Colloquium Talk, Weizman Institute, Rehovot, Israel (March 22, 2009)

Invited Lecture at DFG Junior Academy, Aachen (March 30, 2009)
 Invited Lecture, Self-Assembly Workshop, Cambridge, UK (Dec 12, 2008)
 Invited Lecture, KWT Saarbrücken (Nov. 24, 2008)
 German Scholar Organization, Berkeley, CA (USA)
 GDCh Colloquium, Dresden (Nov. 2008)
 Invited Plenary Talk, Roche, Beatenberg, Switzerland (Nov. 2008)
 Invited Plenary Talk, Vaalsbroek Synthetic Fiber Talks, Vaalsbroek (NL) (May 8, 2008)
 Inaugural Lecture, Saarland University, Saarbrücken (April 18, 2008)
 Invited Talk, 54. Metallkunde-Kolloquium, Lech/Arlberg, Austria (April 14, 2008)
 Invited Talk, Physics Colloquium, Saarland University (Jan. 24, 2008)
 Invited Plenary Lecture, AutoUni Wolfsburg (Nov. 21, 2007)
 Plenary Opening Lecture, Annual Meeting of the German Colloid Society, Mainz (2007)
 Invited Lecture, Minerva School on Biological and Bio-inspired Materials, Berlin (2007)
 Invited Evening Lecture, aed e.V. Stuttgart, Art Museum, Stuttgart (May 23, 2007)
 Plenary Lecture, German Physical Society (DPG), Annual Meeting, Regensburg
 Invited Talk, TMS Spring Meeting, Orlando, FL, USA (March 2007)
 Invited Lecture, Symposium „Nano and Microscale Mechanics of Engineering Materials and Biological Systems“, Cambridge, MA, USA (Nov. 2006)
 Leuven Visionary Seminar – Surfaces: getting smarter?, Leuven, Belgium
 Invited Lecture, Gordon Research Conference on Adhesion, Tilton, NH, USA (Aug. 2006)
 Invited Rapporteur, Gordon Research Conference on Thin Film and Small Scale Mechanical Behavior (July 2006)
 Colloquium, Lawrence Berkeley National Laboratory, Berkeley, CA, USA (March 2006)
 Colloquium, Stanford University, Stanford, CA, USA (March 2006)
 Colloquium, Max Planck Institute for Biophysics, Frankfurt (Jan. 2006)
 Colloquium, University of Karlsruhe (Jan. 2006)
 Colloquium, University of Regensburg (Jan. 2006)
 Invited Lecture, Graduiertenkolleg "Innere Grenzflächen", Stuttgart (Dec. 2005)
 Invited Lecture, Procter & Gamble Company, Schwalbach/Taunus
 Invited Talk, Workshop on Adhesion, BASF, Ludwigshafen
 Plenary Lecture, EUROMAT 2005, Prague (Aug. 2005)
 Keynote Lecture, Alpbacher Technologiegespräche, Alpbach/Tirol (Aug. 2005)
 Plenary Lecture, International Conference on Metallurgical Coatings and Thin Films ICMCTF 2005, San Diego, CA, USA (March 2005)
 Donaldson Lecture Series (2 Lectures), Departments of Chemistry, Chemical Engineering and Materials Science, and Mechanical Engineering, University of Minnesota, Minneapolis, MN, USA (2005)
 Colloquium, The Scripps Research Institute, La Jolla, CA, USA (March 2005)
 Colloquium, Burnham Institute, La Jolla, CA, USA (March 2005)
 Colloquium, University of California at San Diego, La Jolla, CA, USA (March 2005)
 Keynote Talk, TMS Annual Meeting, Keynote Lecture, San Francisco, CA, USA (2005)
 Colloquium, University of Mainz (2004)
 Colloquium, Max Planck Institute for Mathematics in the Sciences, Leipzig (2004)
 Invited Lecture, ResearchNet Upper Austria, Linz, Austria (2004)
 Plenary Talk, Dislocation 2004, La-colle-sur-loup, France (2004)
 Invited Special Interest Lecture, Electron Microscopy Conference EMC 2004, Antwerp (2004)
 Invited Lecture, National Science Foundation Nanomechanics Workshop, Asilomar, CA, USA

Invited Lecture, Max Planck Institute for Biochemistry, Martinsried (2004)

Invited Lecture, Workshop on Frontiers of Materials Research, University of California at Santa Barbara, CA, USA (2004)

FORMER PhD STUDENTS AND CO-WORKERS NOW IN ACADEMIA

T.J. Balk	<i>Assistant Professor, Department of Chemical and Materials Engineering, University of Kentucky, Lexington, KY USA</i>
S.P. Baker	<i>Full Professor, Department of Materials Science and Engineering, Cornell University, Ithaca, NY, USA</i>
H. Clemens	<i>Professor and Chair, Department Physical Metallurgy and Materials Testing, Montanuniversität Leoben, Austria</i>
A. del Campo	<i>Minerva Fellow (W2), Max Planck Institute for Polymer Research, Mainz, Germany</i>
G. Dehm	<i>Professor and Chair, Department Materials Physics, Montanuniversität Leoben, and Director, Erich Schmid Institute for Materials Science, Austrian Academy of Sciences, Leoben, Austria</i>
D. Elzey	<i>Associate Professor, Department of Materials Science and Engineering, University of Virginia, Charlottesville, VA, USA</i>
C. Frick	<i>Assistant Professor, Department of Mechanical Engineering, University of Wyoming, Laramie, WY, USA</i>
B. Gore Clark	<i>Staff Scientist, Sandia National Laboratories, Albuquerque, NM, USA</i>
P. Gumbsch	<i>Professor, Institute for Reliability of Components and Systems, University of Karlsruhe, Germany, and Director, Fraunhofer Institute for Mechanics of Materials (IWM), Freiburg, Germany</i>
S. Gorb	<i>Professor and Chair, Department of Zoology, University of Kiel, Germany</i>
A. Hartmaier	<i>Professor and Chair, Interdisciplinary Centre for Advanced Materials Simulations, University of Bochum, Germany</i>
Y.-C. Joo	<i>Associate Professor, Department of Materials Science and Engineering, Seoul National University, Korea</i>
O. Kraft	<i>Professor and Chair, Institute for Reliability of Components and Systems, University of Karlsruhe, and Director, Institute for Materials Research, Research Center Karlsruhe, Germany</i>
D. Kwon	<i>Professor, Department of Materials Science and Engineering, Seoul National University, Korea; Policy Advisor to the Ministry of Science and Education of Korea</i>
P. Müllner	<i>Associate Professor, Department of Materials Science and Engineering, Boise State University, Boise, ID, USA</i>
J. Rösler	<i>Professor and Chair, Department for Materials, University of Braunschweig, Germany</i>
R. Spolenak	<i>Assistant Professor, Department for Materials, ETH, Zurich</i>
C. Volkert	<i>Professor and Chair, Department of Materials Physics, University of Göttingen, Germany</i>
A. Wanner	<i>Professor for Materials Science and Engineering, Department of Mechanical Engineering, University of Karlsruhe</i>
U.G.K. Wegst	<i>Assistant Professor, Department of Materials Science and Engineering, Drexel University, Philadelphia, PA, USA</i>

PhD THESES ADVISED

E. Kroner	<i>Size and shape effects in fibrillar adhesives, 20XX</i>
D. Paretkar	<i>Active adhesive surfaces, 20XX</i>
P. Sonnweber-Ribic	<i>In-situ observation of texture evolution in thin films, 20XX</i>
E. Wohlfart	<i>Template-less patterning of polymer surfaces, 20XX</i>
A. Schneider	<i>Compression experiments with bcc micropillars, 20XX</i>
J. Deuschle	<i>Mechanics of soft polymer indentation, 2008</i>
T. Schmidt	<i>Mechanical properties and microstructure of epitaxial Ag/Ni multilayers, 2007</i>
E. J. De Souza	<i>The effect of capillary forces on adhesion of biological and artificial attachment devices, 2007</i>
C. Greiner	<i>Size and shape effects in bioinspired fibrillar adhesives, 2007</i>
P. A. Gruber	<i>Mechanical properties of ultra thin metallic films revealed by synchrotron techniques, 2007</i>
G. Wiederhirn	<i>The strength limits of ultra-thin copper films, 2007</i>
L. X. Sauter	<i>Microstructural and film thickness effects on the thermomechanical behavior of thin Au films, 2006</i>
C. Otto	<i>Synthesis and characterization of carbon nanotube-reinforced copper thin films, 2006</i>
G. Huber	<i>Nanoscale adhesion of the gecko explored by atomic force microscopy, 2006</i>
H. Pfaff	<i>Synthesis and adhesion of biomimetic contact elements, 2006</i>
S. Orso	<i>Structural and mechanical investigations of biological materials using a focussed ion beam microscope, 2005</i>
C. Eberl	<i>Fatigue of Al thin films at ultra high frequencies, 2004</i>
N. Barbakadze	<i>Mechanical behavior of biological materials, 2004</i>
J. Böhm	<i>In situ tensile testing at the limits of X-ray diffraction - a new synchrotron-based technique, 2004</i>
P. Wellner	<i>Thermo-mechanical behavior of NiAl thin films, 2003</i>
R. Mönig	<i>Thermomechanical fatigue of micro metal structures, 2003</i>
F. Kauffmann	<i>Microstructure and properties of titanium nitride/silicon nitride coatings, 2003</i>
H. Edongué	<i>Plasticity of metal thin films on substrates and interaction between dislocations and film-substrate interfaces, 2003</i>
C. Haag	<i>High temperature strength of metallic foams, 2002</i>
H. Hesemann	<i>Martensitic phase transformation in Co thin films, 2002</i>
R. Schwaiger	<i>Fatigue behavior of sub-micron silver and copper films, 2002</i>
J. von der Hagen	<i>Mechanical spectroscopy of copper thin films, 2001</i>
S. Kirchner	<i>Precipitation strengthening in Al-0.6Si-0.6Ge thin films: transferring a bulk material alloying concept, 2001</i>
C. Witt	<i>Electromigration in bamboo aluminium interconnects, 2000</i>
A. Flaig	<i>Thermal cycling creep of a fiber reinforced aluminium alloy, 2000</i>
A. Straub	<i>Factors influencing the critical product in electromigration, 2000</i>
D. Weiss	<i>Deformation mechanisms in pure and alloyed copper films, 2000</i>
R. Spolenak	<i>Alloying effects in electromigration, 1999</i>
J. Greiser	<i>Application of orientation imaging microscopy to microstructure development in thin films, 1999</i>
T. Bidlingmaier	<i>Application of acoustic emission analysis to the characterization of damage in composites with ductile matrix, 1999</i>
T. Cramer	<i>Experimental investigation of the dynamic crack propagation in brittle</i>

- materials, 1999*
- M. Hommel *X-ray investigation of the monotonic and cyclic deformation behavior of thin metallic films on substrates, 1999*
- B. Damson *Internal friction in FeAl with B2 structure, 1998*
- R. Behr *TEM investigation of the interaction of split superdislocations and particles in crept intermetallic compounds, 1998*
- E. Göhring *High temperature creep in dispersion strengthened intermetallic compounds with split dislocations, 1997*
- A. Kretschmann *Investigation of the mechanical properties of Cu thin films by X-ray stress measurement, 1997*
- M. Knauß *Investigation of micromechanical properties of thin films and micro-components by nanoindentation, 1996*
- A. Brintzinger *Modeling of mechanical alloying for short milling times, 1996*
- R.-M. Keller *Thermo-mechanical behavior and microstructure of polycrystalline copper thin films, 1996*
- O. Lang *Extrusion and recrystallization of the γ' -free ODS nickel base alloy PM 1000, 1996*
- C. Grün *Crack initiation and propagation in high temperature materials under cyclic thermal loading, 1996*
- B. Schietinger *Influence of ductile inclusions on the toughness and the deformation behavior of NiAl-matrix materials, 1995*
- P. Grahle *Mechanical alloying, microstructure and creep behavior of dispersion strengthened NiAl materials, 1995*
- O. Kraft *Investigation and modeling of electromigration damage in miniaturized aluminum conductor lines, 1995*
- H. Schröpf *Microstructure and mechanical properties of mechanically alloyed and milled NiAl/NbNiAl materials, 1995*
- V. Banhardt *Influence of grain structure and texture on high temperature fatigue of ODS superalloys, 1994*
- R. Joos *Thermo-mechanical fatigue of ODS superalloys, 1994*
- J. Kinder *Connection between special deformation behavior and powder consolidation of titanium aluminides, 1992*
- A. Pichler *Damping in dispersion strengthened aluminum alloys, 1992*
- K. Lempenauer *Secondary recrystallization of γ' -rich ODS superalloys, 1991*
- D. Elzey *Mechanisms of fatigue and creep-fatigue in dispersion strengthened superalloys, 1989*
- H.-J. Rösler *High-temperature creep in dispersion strengthened aluminum alloys, 1988*
- J. Schröder *TEM investigation of the high-temperature strengthening mechanism in an ODS superalloy, 1987*
- H. Zeizinger *Material damage in an ODS superalloy by high-temperature fatigue and creep, 1986*

Diploma theses

- S. Heinze *Schaltbare Oberflächen auf der Basis von Nickel-Titan-Formgedächtnislegierungen, Stuttgart 2007*
- K. Hillerich *Metallische Whisker: Wachstum und Eigenschaften, Stuttgart 2007*
- M.W.R. Mayer *Herstellung und Charakterisierung dünner Niob-Schichten auf verschiedenen Substraten, Stuttgart 2007*

- P. Menner *Entwicklung einer mobilen Lockin-Shearografie-Anlage für die zerstörungsfreie Werkstoffprüfung, Stuttgart 2007*
- P. Jüllig *Untersuchung der mechanischen Eigenschaften dünner Chromschichten, Stuttgart 2007*
- E.M. Knoche *Fibrillare Oberflächen mittels Plasmabehandlung von Polymeren: Einfluss der Polymermikrostruktur, Stuttgart 2007*
- E. K. Kroner *Einfluss des Substrats auf das Kontraktionsverhalten von Herzmuskelzellen, Stuttgart 2007*
- J.P. Heinemann *Betriebsfestigkeit eines Turbinenläufers für einen Einsatz im Abgasturbolader, Stuttgart 2007*
- S. Buhl *Einfluss der Luftfeuchtigkeit auf die Adhäsionseigenschaften mikrostrukturierter Elastomeroberflächen, Stuttgart 2007*
- C. Spießberger *Frequenzabhängigkeit bei der akustischen Anregung von Materialfehlern in der zerstörungsfreien Werkstoffprüfung, Stuttgart 2006*
- A. Schneider *Herstellung und Charakterisierung dünner Eisenschichten, Stuttgart 2006*
- N. Schlatterer *Zerstörungsfreie Charakterisierung kurzfaserglasverstärkter Polymere während des Zugversuchs, Stuttgart 2006*
- M. Rössle *Magnetismus und Transport in Manganat/Cuprat-Heterostrukturen, Stuttgart 2006*
- A. M. Huber *Untersuchung der mechanischen Eigenschaften dünner Molybdänfilme, Stuttgart 2006*
- F. Rödl *Mechanische und mikrostrukturelle Charakterisierung von zwei TiAl-Legierungen für die Verwendung als Turbinenrad im Abgasturbolader, 2005*
- E. Wohlfart *Kraftmessungen am Haftsystm der Spinnenbeine von Cupiennius salei Keyserling (Arachnida, Ctenidae), 2005*
- F. Zimmer *Haptik und Mechanik von strukturierten Polymeroberflächen, 2005*
- F. Onuseit *„Bulge-Test“ an freistehenden Kupferschichten, 2005*
- J. Riethmüller *Mikrostruktur und mechanische Eigenschaften von Haftvermittlerschichten auf NiAl-Basis, 2004*
- J. Schwertfeger *Fundamentals of waxing and surfaxe topography on ski friction, 2004*
- M. Flume *Vergleichende Untersuchung verschiedener Werkstoffe in Bezug auf ihre Eignung für das Thixo-Schmieden und das New-Rheo-Forging, 2004*
- S. Oberhoff *Bögen für Streichinstrumente: Das elastische und anelastische Verhalten von Fernambukholz und alternativen Materialien, 2003*
- L. Sauter *Dünnschichtmechanik mittels in-situ Röntgenbeugung, 2003*
- C. Schurr *Schallemissionsuntersuchungen an Metallmatrix-Verbundwerkstoffen, 2003*
- T. Schmidt *Einfluß der Haftung auf das thermo-mechanische Verhalten dünner Cu-Schichten, 2003*
- O. Meyer *Laserpyrolyse von präkeramischen Polymeren, 2003*
- P. Sonnweber-Ribic *Bruchverhalten von Titan-Implantaten, 2003*
- J. Wackerl *Einsatzmöglichkeiten nichtlinearer Akustik für die zerstörungsfreie Prüfung faserverstärkter Kunststoffe, 2003*
- S. Orso *Schädigungsverhalten von Kupfer-Leiterbahnen unter Wechselstrombelastung, 2002*
- H. Pfaff *Nichtlinearer Ultraschall zur Charakterisierung von Schadensverläufen in faserverstärkten Polymeren, 2002*
- M. Selten *Ultraschallcharakterisierung von Metallschäumen, 2001*
- C. Eberl *Substrat-Krümmungsmessungen mit einem neuen kapazitiven Messsystem, 2001*

- J. Böhm *Der Einfluss von Legierungselementen auf die Elektromigration in Submikrometer Al-Leiterbahnen, 2001*
- V. Küstner *Fe-Mo-Cr-Werkstoffe für verschleißbeanspruchte Motorkomponenten, 2000*
- P. Wellner *Untersuchung zum Ermüdungsverhalten dünner Kupfer-Schichten auf Polyimid-Substraten, 1998*
- F. Kauffmann *Schallemission bei der Raumtemperatur-Druckverformung einer γ -TiAl-Basislegierung, 1998*
- S. Bähr *Einfluss von Druckspannungen auf das Kornwachstum in dünnen Al-Schichten, 1998*
- A. Wolf *Untersuchung des Kriechverhaltens der faserverstärkten Gußlegierung M124 unter Druckbelastung, 1997*
- P. Thwaite *Untersuchung der mechanischen Eigenschaften von Silizium mit Hilfe der Nanohärteprüfung, 1996*
- M. Gerst *Untersuchung der Craze-Bildung in ABS-Proben bei längerer statischer Vorbeanspruchung und deren Auswirkung auf das Werkstoffverhalten, 1995*
- S. Gollhofer *Gefügeuntersuchungen an ODS-Werkstoffen zum Einfluß von Diffusionskriechphänomenen, 1995*
- H. Huang *Einfluß der Ultraschallüberlagerung auf die Entfestigung bzw. Umformkraft bei Metallen, 1995*
- U. Klotz *Untersuchung des Hochtemperatur-Kriechverhaltens von sekundär rekristallisiertem ODS-Ni₃Al, 1995*
- D. Loebich *Quantifizierung der Fasertextur dünner Aluminiumschichten und die Auswirkung der Elektromigration auf die Textur, 1995*
- M. Plew *Anisotropiephänomene bei der Fertigung einer ausscheidungsgehärteten Cu-Ni-Si-Legierung, 1995*
- A. Rennet *Durchstrahlungselektronenmikroskopische Untersuchung von Zeitstandproben des Stahles X 20 CrMoV 12 1, 1995*
- S.-M. Sun *Wachstumskinetik von CuInSe₂-Dünnschichten, 1995*
- J. Schäfer *Life-Cycle Engineering of Alloying Elements in Stainless Steels, 1995*
- S. Schmidt *Einfluß von Seigerungszone – in Abhängigkeit des Gießverfahrens – auf die Biegedauerfestigkeit von 38MnSiVS5BY, 1995*