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APPENDIX

Organigramm

Organization Chart

Biomaterials Director: Prof. Peter Fratzl · Secretary: Kerstin Gabbe

- Biological Materials**
- Hierarchical Connective Tissues/Dr. Himadri S. Gupta (Until 2008)
Since October 2008 Lecturer in Biomaterials in the School of Engineering and Materials Science, Queen Mary University of London (UK)
 - Bone Regeneration/Dr. Inderchand Manjubala
 - Mechanobiology/Dr. Richard Weinkamer
 - Biomimetic Actuation and Tissue Growth/Dr. John Dunlop (from 2009)
 - Plant Biomechanics and Biomimetics/Dr. Ingo Burgert
 - Bone Material Quality and Osteoporosis/Prof. Peter Fratzl, Dr. Admir Mašić,
- Biological and Biomimetic Materials**
- Biological and Bio-Inspired Materials/Prof. Peter Fratzl, Dr. Notburga Gierlinger, Dr. Matt Harrington, Dr. Paul Zaslansky
 - Molecular Biomimetics and Magnet Biomineralization/Dr. Damien Faivre
- Bioinspired Materials**
- Biogenic Minerals and Bio-Inspired Nano-Composites/Dr. Barbara Aichmayer
 - Mesoscale Materials and Synchrotron Research/Dr. Oskar Paris
Since February 2009 Professor (W3) for Physics at the Montanuniversität Leoben (Austria)

Colloid Chemistry Director: Prof. Markus Antonietti · Secretary: Annette Pape

- Heterophase Polymerization**
- Heterophase Polymerizations/Dr. Klaus Tauer
- Self-organizing Polymers**
- Bioinspirierte Polymere und Blockcopolymere/Dr. Helmut Schlaad
 - Bioorganic-synthetic Hybridpolymers as molecularLEGO® -Bricks/Dr. Hans G. Börner
 - Biomimetic Mineralization/Dr. Helmut Cölfen
- Mesoporous Materials and Nanoparticles**
- Nanostructured Functional Materials for Energy Conversion, Catalysis and Separation/Dr. Arne Thomas
 - Functional Carbonaceous and Polymeric Materials as Energy Sources and Stationary Phases for Separation Science/Dr. Maria-Magdalena Titirici
 - De Novo Nanoparticles : Novel synthetic routes for nanoparticle production/Dr. Christina Giordano
- Modern Techniques of Colloid Analysis**
- Fractionating Colloid Analytics/Dr. Helmut Cölfen
 - Electron Microscopic Studies of Colloidal Systems and Biomaterials/Dr. Jürgen Hartmann
- MPI-FZU International Joint Laboratory**
- MPI-FZU International Joint Laboratory/Dr. Xinchen Wang

Interfaces Director: Prof. Helmut Möhwald · Secretary: Stefanie Riedel

- (Quasi) Planar Interfaces- Fluid Interfaces**
- Interactions at Interfaces: Langmuir Monolayers as Model Systems/Dr. Gerald Brezesinski
 - Dilational Rheology of Mixed Protein-Surfactant Adsorption Layers/Dr. Reinhard Miller
 - Thin Soft Films/Dr. Rumen Krastev
Since October 2008 Group Leadert at the NMI Natural and Medical Sciences Institute at the University of Tübingen
 - Ion Distribution at Interfaces/Dr. Hubert Motschmann
Since October 2008 Professor (W2) for Physical Chemistry at the University Regensburg
- Solid Interfaces**
- Nucleation, Interfacial Molecular Mobility and Ordering of Alkanes at Solid/Vapor Interfaces/Dr. Hans Riegler
- Non-Planar Interfaces**
- From Molecular Modules to Modular Materials/Dr. Dirk G. Kurth
Since October 2008 Professor (W2) for Chemical Technology of Material Synthesis at the University Würzburg
 - Active Coatings Based on Incorporated Nanocontainers/Dr. Dmitry Shchukin
 - Functional Multilayers and Capsules/Prof. Helmut Möhwald, Dr. Andre Skirtach
 - Ordering of Functional Nanoparticles/Dr. Dayang Wang
- International Joint Laboratories**
- Supramolecular Nanomaterials/Dr. Takashi Nakanishi
 - Molecular Assemblies of Biomimetic Systems and Nanostructures/Prof. Junbai Li
 - Laboratoire Européen Associé (LEA) on Sonochemistry/Dr. Dmitry Shchukin, Prof. Helmut Möhwald

Managing Director (2007-2008)

Prof. Reinhard Lipowsky

Theory & Bio-Systems Director: Prof. Reinhard Lipowsky · Secretary: Gudrun Conrad

- Polymers and Proteins**
- Charged Polymers and Polymer Brushes/[Dr. Christian Seidel](#)
 - Peptide Folding, Peptide Aggregation/[Dr. Volker Knecht](#)
 - Protein Folding and Folding Kinetics/[Dr. Thomas Weikl](#)
- Molecular Motors**
- Chemomechanical Coupling and Motor Cycles/[Prof. Reinhard Lipowsky](#)
 - Cooperative Transport and Motor Traffic/[Prof. Reinhard Lipowsky](#)
- Rods and Filaments**
- Semiflexible Rods and Filaments/[Dr. Jan Kierfeld](#)
Since October 2007 Professor (W2) for Theoretical Physics at the Technical University Dortmund
 - Phase Behavior of Rigid Rods/[Dr. Thomas Gruhn](#)
Since January 2008 Research Assistant at the Institute of Anorganic and Analytic Chemistry at the University Mainz
- Membranes and Vesicles**
- Membrane Lab/[Dr. Rumiana Dimova](#)
 - Molecular Dynamics of Membranes/[Dr. Volker Knecht](#)
 - Multicomponent Membranes/[Dr. Thomas Weikl](#)
- Networks in Bio-Systems**
- Activity Patterns/[Prof. Reinhard Lipowsky](#)
 - Network Theories of Evolution/[Dr. Angelo Valleriani](#)

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[Henryk Pitas](#), [Wolfgang Stein](#)

Glass Blowing Workshop

[Cliff Janiszewski](#)

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[Hagen Hannemann](#), [Dirk Nast](#),
[Marco Stetzmann](#), [Thomas Vogt](#)

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Head: [Peter Westermeier](#)

Fachbeirat Scientific Advisory Board

Name	Institution
Prof. Dr. Colin D. Bain	Department of Chemistry (University of Durham)
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Prof. Dr. Ruth Duncan	Welsh School of Pharmacy (Cardiff University)
Prof. Dr. Michael Grunze	Physikalisch-Chemisches Institut (Universität Heidelberg)
Prof. Dr. Rüdiger Iden	BASF Aktiengesellschaft
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Prof. Dr. Deborah E. Leckband	Department of Chemical & Biomolecular Engineering (The University of Illinois at Urbana Champaign)
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Kuratorium Board of Trustees

Name	Institution
Prof. Dr. rer. nat. Ulrich Buller	Senior Vice President Research Planning, Fraunhofer Society
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Prof. Dr. Detlev Ganten	Chairman of the Board of the Charité-Universitätsmedizin Berlin
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Dr. Wilhelm Krull	Secretary General of the Volkswagen Stiftung
Dr. rer. nat. Stefan Marcinowski	Board member of BASF SE
Dr. Wolfgang Plischke	Board member of Bayer AG
Prof. Dr. rer. nat. Frieder W. Scheller	Institute of Biochemistry and Biology, Potsdam University
Prof. Dr. Johanna Wanka	Minister of Science, Research and Cultural Affairs of the State of Brandenburg

Drittmittelprojekte

Third Party Funds

Öffentliche Zuwendungsgeber

Zuwendungsgeber	Thema	Projektleiter	Bewilligungszeitraum	Zusammenarbeit mit
BMBF	Bionik (2): Übertragung des Konzepts der Matrixeinbettung von Pflanzenfasern auf technische Faserverbundwerkstoffe	Dr. Burgert BM	01.07.2006-31.03.2007	Institut für Textil- und Verfahrenstechnik Denkendorf, Botanischer Garten der Universität Freiburg
BMBF	Bionik (2): Faserverbundwerkstoffe mit graduellen Matrixübergängen; Teilprojekt 1	Dr. Burgert BM	01.05.2008-30.04.2011	Albert-Ludwigs-Universität Freiburg, Universität Bayreuth
BMBF	Max-Planck-Forschungspreis 2008: Biological and Biomimetic Materials	Prof. Fratzl BM	01.09.2008-31.12.2013	
BMBF	Experimentelle und theoretische Untersuchungen zur Bildung und Deformation von Einzeltropfen Modell für Schäume und Emulsionen	Dr. Miller GF	01.01.2007-30.06.2009	
BMBF	Nanoskalige Hohlstrukturen mit eingebetteten Gastmolekülen für neue aktive Korrosionsschutz-Systeme	Dr. Shchukin GF	01.05.2007-30.04.2011	Capsulation NanoScience AG Berlin; PlasmaChem GmbH, Berlin; EADS Deutschland GmbH, München; BASF Coatings GmbH, Münster
BMBF	Planare Nanostrukturen an festen Oberflächen	Prof. Vollhardt GF	01.07.2007-31.12.2009	National Academy of Sciences of Ukraine
BMBF	SOHyb: Keimbildungsinduzierte Selbstorganisation zur Strukturierung organischer Hybridsolarzellen	Dr. Riegler GF	01.11.2008-30.04.2012	Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Chemtec Leuna, Fraunhofer-Institut für Angewandte Polymerforschung, Potsdam Justus-Liebig-Universität, Gießen
EU				
EU	Cellulose Architecture Systems Biology for Plant Innovation Creation	Prof. Fratzl Dr. Burgert BM	01.01.2007-31.12.2009	Wageningen Universiteit, Niederlande; Sticing voor Fundamenteel Onderzoek der Materie, Niederlande; Sveriges Lantbruksuniversitet, Uppsala; Institut National de Recherche Agronomique, Paris SweTree AB, Schweden
EU	Nanocapsules for Targeted Controlled Delivery of Chemicals	Dr. Sukhorukov Prof. Möhwald GF	01.03.2004-28.02.2007	SINTEF, Norwegen UFC, Frankreich ICSC, Poland CERTH/CPERI, Griechenland PlasmaChem, Mainz Coventya, Frankreich IFP, Frankreich KeraNor, Norwegen Coatex, Frankreich ICB, Polen

BM – Abteilung Biomaterialien/Department of Biomaterials
 GF – Abteilung Grenzflächen/Department of Interfaces
 KC – Abteilung Kolloidchemie/Department of Colloid Chemistry
 TH – Abteilung Theorie & Bio-Systeme/Department of Theory & Bio-Systems

EU

Zuwendungs- geber	Thema	Projektleiter	Bewilligungszeitraum	Zusammenarbeit mit
EU	Nanoengineered Chemical Synthesis Inside Restricted Volume of Nano- and Microsized Polyelectrolyte Capsules	Prof. Möhwald Dr. Sukhorukov GF	01.05.2005-30.04.2007	
EU	Development of Multifunctional Nanometallic Particles using a new Process-Sonoelectrochemistry	Prof. Möhwald Dr. Sukhorukov GF	01.03.2005-31.12.2007	Universität Padua, Italien Coventry University, UK University of Kent, UK Hebrew University of Jerusalem, Israel; POMETON S.p.A., Italien INKSURE Ltd., Israel; BASF AG, Deutschland; O.S.M.-DAN Ltd., Israel
EU	System for In-Situ Theranostic Using Microparticles Triggered by Ultrasound	Dr. Fery GF	01.10.2006-31.05.2007	Consorzio Roma Ricerche, Rom Universita degli Studi die Roma, Italien; Kungliga tekniska Högskolan, Stockholm University of Ireland, Dublin Karolinska Institute, Stockholm Istituto Nazionale per lo studio e la cura die Tumori, Mailand Medtronic bakken Reserach Center B. V., Niederlande Capsulation NanoScience AG EBIT AET S.P.A., Italien
EU	Novel Materials for Silicate-Based Fuel Cells	Prof. Möhwald Dr. Shchukin GF	01.12.2006-30.11.2009	University of Averio, Portugal Foundation of Research and Technology Hellas, Griechenland Katholieke Universiteit Leuven, Belgien; Borekov Institute of Catalysis, Russland; Ceramics and Refractories Technological Development Company, Griechenland; Technische Universität Clausthal; Ceramics Techniques et Industrielles, Frankreich
EU	Bioimaging with Smart Functional Nanoparticles	Prof. Möhwald Dr. Wang GF	01.11.2006-31.10.2009	ENEA, Rom; Commissariat a l'énergie atomique, Paris Consejo Superior de Investigaciones Cientificas, Madrid; Universidad Complutense de Madrid Universita delgi Studi die Padova Universita die Milana-Bicocca, Italien; Guerbet, Frankreich Russian Academy Institute of General Physics, Russian Academy of Science; Albert-Ludwigs-Universität Freiburg; Nanovector srl, Italien; TILL Photonics GmbH, Gräfelfing

EU

Zuwendungsgeber	Thema	Projektleiter	Bewilligungszeitraum	Zusammenarbeit mit
EU	Development of a New Biocoating-Multilayered Polyelectrolyte Film with Incorporated Drug-Loaded Liposomes	Prof. Möhwald GF	01.10.2007-30.09.2009	
EU	Open Tok: Development of Smart Polymer Surfaces	Prof. Möhwald GF	01.01.2007-31.12.2009	University of Maribor, Slovenien
EU	Novel Nanocomposites for Hydrogen Storage Applications	Prof. Möhwald Dr. Shchukin GF	01.01.2008-30.09.2011	Forschungszentrum Karlsruhe Consiglio Nazionale delle Ricerche, Rom; CNRS, Paris FutureCarbon GmbH, Bayreuth Institut for energiteknikk, Norwegen; National Center for Scientific Research "Demokritos", Griechenland; Universität Oslo
EU	Multi-Level Protection of Materials for Vehicles by "Smart" Nanocontainers	Prof. Möhwald Dr. Shchukin GF	01.06.2008-31.05.2012	EADS Deutschland GmbH Universidade de Aveiro, Portugal Stiftelsen Sintef, Norwegen Universität Paderborn; Mankiewicz Gebr.&Co. GmbH & Co KG, Hamburg Bayer Technology Services GmbH, Leverkusen; National Center for Scientific Research "Demokritos", Griechenland; Sika Technology AG, Schweiz; Instytut Katalizy i fizykochemii Powierzchni, Polska Akademia Nauk, Krakau Steinbeis Advanced Risk Technologies GmbH, Stuttgart; Istituto Superior Tecnico, Lissabon Centro Ricerca Fiat SCPA, Italien RE-TURN AS, Norwegen Varnish SRL, Italien; Daimler AG, Stuttgart; Chemetall GmbH, Frankfurt/M.; Helsingin Yliopisto, Finnland; European Virtual Institute on Knowledge-based Multifunctional Materials AISBL, Belgien
EU	Self-Organized Nanostructures of Amphiphilic Copolymers	Prof. Antonietti KC	01.01.2004-28.02.2007	TU Berlin; Wageningen Universiteit, Niederlande; Commissariat a l'energie atomique, Paris Centre National de la Recherche Scientifique, Paris; Univerzita Karlova v Praze, Prag BASF AG, Ludwigshafen Rhodia Recherches S.A., Frankreich Universität Basel, Schweiz Moscow State University, Russland
EU	Hydrothermal and Ionothermal Chemistry for Sustainable Materials	Prof. Antonietti KC	01.11.2008-31.10.2013	
EU	Early Stage Research Training on Biomimetic Systems	Prof. Lipowsky Dr. Valleriani TH	01.09.2004-31.08.2008	University of Copenhagen Politecnico di Milano; Université Paul Sabatier Toulouse; University of Edinburgh; University of Leoben

EU

Zuwendungs- geber	Thema	Projektleiter	Bewilligungszeitraum	Zusammenarbeit mit
EU	Active Biomimetic Systems	Prof. Lipowsky Dr. Valleriani TH	01.05.2005-30.10.2008	Stiching voor Fundamenteel Onderzoek der Materie, Niederlande; BASF AG, Deutschland; Institute Curie Section Recherche, Frankreich European Molecular Biology Laboratory, Deutschland Institut für Molekulare Biotechnologie, Deutschland; Centre National de la Recherche Scientifique, Frankreich; Politecnico di Milano, Italien; Universität Leipzig, Deutschland

DFG

DFG	Mesoskopisch strukturierte Verbundsysteme; Wandverformung bei Mesoporen bei der Kapillarkondensation von Fluiden	Prof. Fratzl Dr. Paris BM	01.01.2007-	Humboldt-Universität Berlin Freie Universität Berlin Technische Universität Berlin Fraunhofer-Institut für Angewandte Polymerforschung, Potsdam
DFG	DFG Graduate School 203: Berlin-Brandenburg School for Regenerative Therapies	Prof. Fratzl BM	01.11.2007 - 31.10.2012	Charité - Universitätsmedizin Berlin Freie Universität Berlin GKSS Research Center Humboldt-Universität zu Berlin Max-Planck-Institute for Molecular Genetics Technische Universität Berlin Universität Potsdam Zuse Institute Berlin
DFG	Biomechanics and Biology of Musculoskeletal Regeneration-From Functional Assessment to Guided Tissue Formation; The Micro-Mechanical and Structural Properties of Callus Tissue During Bone Healing	Prof. Fratzl Dr. Manjubala BM	01.01.2007-	Charité - Universitätsmedizin Berlin Freie Universität Berlin Max-Planck-Institut für molekulare Genetik; Deutsches Rheuma-Forschungszentrum Berlin Helmholtz-Gemeinschaft Deutscher Forschungszentren; Institut für Polymerforschung; GKSS-Forschungszentrums Geesthacht GmbH, Teltow; Zuse Institut Berlin
DFG	Biomechanics and Biology of Musculoskeletal Regeneration – From Functional Assessment to Guided Tissue Formation; Mechano-Biology of Bone Healing and Regeneration	Dr. Weinkamer BM	01.01.2007-	Charité - Universitätsmedizin Berlin Freie Universität Berlin Max-Planck-Institut für molekulare Genetik; Deutsches Rheuma-Forschungszentrum Berlin Helmholtz-Gemeinschaft Deutscher Forschungszentren; Institut für Polymerforschung; GKSS-Forschungszentrums Geesthacht GmbH, Teltow; Zuse Institut Berlin
DFG	Biomechanics and Biology of Musculoskeletal Regeneration – From Functional Assessment to Guided Tissue Formation; Regulation of the Biosynthesis of Extracellular Matrix Components by Biomaterial Scaffolds of Different Geometry and Stiffness	Prof. Fratzl BM	01.01.2007-	Charité - Universitätsmedizin Berlin Freie Universität Berlin Max-Planck-Institut für molekulare Genetik; Deutsches Rheuma-Forschungszentrum Berlin Helmholtz-Gemeinschaft Deutscher Forschungszentren; Institut für Polymerforschung; GKSS-Forschungszentrums Geesthacht GmbH, Teltow; Zuse Institut Berlin

DFG

Zuwendungs- geber	Thema	Projektleiter	Bewilligungszeitraum	Zusammenarbeit mit
DFG	Mesoskopisch strukturierte Verbundsysteme; Hierarchische Architekturen aus Modulen mit metallosupramolekularen Koordinations-Polyelektrolyten	Prof. Möhwald Dr. Kurth GF	01.01.2001-	Humboldt-Universität Berlin Freie Universität Berlin Technische Universität Berlin Fraunhofer-Institut für Angewandte Polymerforschung, Potsdam
DFG	Mesoskopisch strukturierte Verbundsysteme; Ordnungsstrukturen in Systemen aus stäbchenförmigen Molekülen	Prof. Lipowsky TH	01.01.2004-	Humboldt-Universität Berlin Freie Universität Berlin Technische Universität Berlin Fraunhofer-Institut für Angewandte Polymerforschung, Potsdam
DFG	Mesoskopisch strukturierte Verbundsysteme; Molekulare Prozesse in mesoskopisch strukturierten Polyelektrolytsystemen	Prof. Möhwald GF	01.01.2004-	Humboldt-Universität Berlin Freie Universität Berlin Technische Universität Berlin Fraunhofer-Institut für Angewandte Polymerforschung, Potsdam
DFG	Generation of Anisotropic Hydrogel Membranes, Mimicking Plant Cell Wall Structures, and Exploration of New Bio-Inspired Mechanical Devices Based on Gel Swelling	Dr. Burgert BM	01.01.2008-	
DFG	Dynamics of Interfaces between Drops with Miscible Liquids	Dr. Riegler GF	01.09.2008-	
DFG	Counterion Distribution in Aligned Lamellar Phases and on Monolayers at the Air/Water Interface	Prof. Möhwald GF	01.11.2004-30.11.2007	
DFG	Molecular Magnetism of Metallo-Supromolecular, Hierarchically Ordered Materials Containing Periodically Arranged Metal-Ligand-Complexes	Dr. Kurth GF	01.06.2005-30.06.2008	
DFG	Structure-Mechanical Property Relations of Polyelectrolyte Multilayer and Free-Standing Membranes	Dr. Fery GF	01.05.2006-03.02.2008	
DFG	Remote (Microwave) Activated Release from Composite Nanoparticle/Polymer Microcapsules (Deutsch-Russisches Kooperationsprojekt)	Prof. Möhwald GF	17.10.2006-14.04.2008	
DFG	Generation of Anisotropic Hydrogel Membranes, Mimicking Plant Cell Wall Structures, and Exploration of New Bio-Inspired Mechanical Devices Based on Gel Swelling	Dr. Wang GF	01.12.2007-	
DFG	Generation of Anisotropic Hydrogel Membranes, Mimicking Plant Cell Wall Structures, and Exploration of New Bio-Inspired Mechanical Devices Based on Gel Swelling	Dr. Krastev GF	30.04.2008-	
DFG	Zusammenarbeit mit Ägypten: Förderung des Gastaufenthaltes von Dr. M. Ryad Noor El-Din	Dr. Miller GF	03.05.2008-02.07.2008	

DFG

Zuwendungs- geber	Thema	Projektleiter	Bewilligungszeitraum	Zusammenarbeit mit
DFG	Intelligent Release Systems for Anticorrosion Self-Healing Coatings (Deutsch-Russisches Kooperationsprojekt)	Prof. Möhwald GF	17.07.2008-16.07.2011	
DFG	Structural and Morphological Characterization of Ceramide-1-Phosphate Model Membran	Dr. Brezesinski GF	01.09.2008-	
DFG	Charakterisierung von Grenzflächen zwischen zwei Flüssigkeiten unter hoch-dynamischen Bedingungen	Dr. Müller GF	01.08.2007-31.07.2009	
DFG	Complex Fluids: From 3 to 2 Dimensions (Deutsch-Französisches Netzwerk)	Prof. Möhwald GF	01.01.2003-31.12.2007	
DFG	Exzellenzcluster UniCat: Unifying Concepts in Catalysis	Prof. Antonietti KC Prof. Möhwald GF	01.01.2008-31.12.2010	Technische Universität Berlin Humboldt-Universität Berlin Freie Universität Berlin; Universität Potsdam; Fritz-Haber-Institut der Max-Planck-Gesellschaft Berlin
DFG	Emmy-Noether-Programm: Bioorganische und biomimetische Polymere zur programmierbaren Strukturierung synthetischer Polymermaterialien: Synthese, Charakterisierung und Anwendung der Polymerhybridsysteme	Dr. Börner KC	01.04.2005-31.03.2009	
DFG	Synthese von Nanodrähten und Nanoröhren durch kontrollierte Organisaion oberflächenfunktionalisierter Metalloxid-Nanopartikel	Dr. Niederberger KC	15.07.2004-14.04.2007	
DFG	Materials World Network to Study Liquid PrecursorFormation and Crystallization at Interfaces: Fundamentals Towards Applications	Dr. Cölfen KC	01.01.2008-	
DFG	Higher Levels of Self-Assembly of Ionic Amphiphilic Copolymers (SONS-AMPHI)	Dr. Schlaad KC	01.10.2003-31.01.2007	
DFG	SONS-Biofunctional Self-Organized Nano-Structures of Ionic/Non-Ionic Amphiphilic Copolymer, Biopolymer-Biomacromolecules and Nanoparticles: From Bioinspired to Biointegrated Systems	Dr. Schlaad KC	01.01.2007-	
DFG	Spektroskopische ellipsometrische Lichtstreuung an Flüssigkristall-Miniemulsionen	Dr. Sigel KC	01.01.2005-31.08.2007	
DFG	Retrosynthese von Biomineralien über mesoskopische Transformation von amorphen Precursorpartikeln in natürlichen organischen Matrizen	Dr. Cölfen KC	01.01.2006-15.08.2007	
DFG	Structure Elucidation of Shear Oriented Ionic Self-Assembled Materials (SISAM)	Prof. Antonietti KC	09.09.2003-14.02.2007	
DFG	Controlled Precipitation of Biominerals Using Catanionic Surfactant Self-Assembly Structures	Dr. Cölfen KC	15.08.2004-30.04.2008	
DFG	Adhäsion und Fusion von Lipid-Membranen	Dr. Dimova TH	01.01.2004-14.03.2007	

Unteraufträge/Weiterleitungen and deutsche Forschungseinrichtungen

Zuwendungsgeber	Thema	Projektleiter	Bewilligungszeitraum	Zusammenarbeit mit
Universität des Saarlandes	Neuartige Carrier zur Inhalation von Wirkstoffen basierend auf der Layer-by-Layer Technologie	Prof. Möhwald GF	01.01.2008-31.12.2010	Boehringer Ingelheim International GmbH
LIKAT	Unterauftrag zum AIF-Projekt: Mesoporöse Hybridsysteme	Prof. Antonietti Dr. Smarsly KC	01.09.2006-31.07.2007	Leibniz-Institut für Katalyse, Rostock
Deutsche Bundesumwelt Stiftung	Hydrothermale Carbonisierung	Prof. Antonietti KC	01.04.2008-31.03.2009	Hochschule Ostwestfalen-Lippe
BMBF/ Universität Potsdam	GoForsys Potsdam-Golm BMBF-Forschungseinrichtung zur Systembiologie. Photosynthesis and Growth: A Systems Biology based Approach	Prof. Lipowsky TH	01.01.2007-31.12.2011	Universität Potsdam MPI für molekulare Pflanzenphysiologie

Supranationale Einrichtungen

ESA	Bone Structure, Changes in Microgravity	Dr. Saporin BM	01.03.2007-29.02.2008	Charité, Berlin; Universität Potsdam ZIB Berlin; Ludwig Boltzmann Institute of Osteology, Wien Scanco Medical AG; Siemens AG
ESA/ESTEC	Fundamental and Applied Studies of Emulsion Stability	Dr. Miller GF	01.10.2003-31.12.2009	IENI, Genua, Italien Universität Aix-Marseille Universität Compiègne, France Universität Complutense Madrid Universität Florenz; IPF, Dresden Aristotele Universität Thessaloniki
ESA/ESTEC	Topical Team: Foam and Emulsion Technologies-Concerted Action Team	Dr. Miller GF	01.10.2003-30.12.2008	CNR, Genua, Italien Universität Lorence, Italien Universität Marseille, Frankreich Universität Compiègne, Frankreich IPF Dresden
NATO	Novel Feedback-Active Coatings based on Incorporated Nanocontainers	Dr. Shchukin GF	17.04.2007-03.07.2008	
HFSP	Polymerization of Actin filaments	Prof. Lipowsky TH	01.05.2005-31.03.2007	

Stiftungen

AvH-Stiftung	Forschungskostenzuschüsse an Gastinstitute von Stipendiaten der AvH	Prof. Fratzl Prof. Lipowsky Prof. Antonietti Prof. Möhwald	01.01.2007-	
Minerva-Stiftung	German-Israeli-Minerva-School 2007	Dr. Zaslansky BM	01.05.2007-30.06.2007	Weizmann Institute of Science, Israel; Ben Gurion University, Israel
Körber-Stiftung	Körber-Preis 2007	Prof. Seeberger BS	01.01.09.2007-	

Stiftungen

Zuwendungsgeber	Thema	Projektleiter	Bewilligungszeitraum	Zusammenarbeit mit
VW-Stiftung	Nanoengineered Polymer Capsules: Tools for Detection, Controlled Delivery and Site Specific Manipulation	Dr. Sukhorukov GF	01.07.2004-30.06.2007	Universität München Internationale Universität Bremen
VW-Stiftung	Formation of Bi-Functional Coatings on Metals based on Self-Locating Nano- and Microcontainers	Dr. Shchukin GF	01.08.2008-31.07.2011	Universität Paderborn Fraunhofer Institut für Schicht- und Oberflächentechnik
VW-Stiftung	Blockcopolymer Vesicles with Controlled Uptake/Release Functions for Drugs and Gen	Prof. Antonietti KC	15.07.2004-14.07.2007	Uni Hamburg Universität Duisburg Universität Freiburg

Ausländische Forschungsfinanzierer

FWF Wien	Charakterisierung unbehandelter und modifizierter Holzfasern	Dr. Burgert BM	01.11.2003-30.09.2007	
National Institute of Health (USA)	Matrix Protein Regulation of Enamel Mineral Formation	Prof. Fratzl BM	01.08.2005-31.07.2009	
GIF	Understanding the Toughness of Biological Mineralised Tissues	Prof. Fratzl BM	01.01.2005-31.12.2007	Weizmann Institute of Science, Rehovot
Japan Science and Technology Agency	Development of Novel Materials Employing Supramolecular Fullerenes with Controlled Dimensionality	Prof. Möhwald Dr. Nakanishi GF	01.04.2007-31.03.2010	
NCSU	Single-Step Protein Surface-Attachment to Electrospun Fibers	Dr. Börner KC	01.05.2004-30.04.2007	

Industrie

Servier	Bone Material Characteristic after 3 Years of Strontium Ranelate Treatment	Prof. Fratzl BM	01.09.2006-30.08.2009	I.R.I.S., Frankreich
BASF Coatings	Nanoskalige Hohlstrukturen mit eingebetteten Gastmolekülen	Prof. Möhwald Dr. Shchukin GF	01.02.2007-	
Bayer Vital GmbH	Mechanism of Action of Simethicone/Dimethicone as a Defoaming/Antifoaming Agent	Dr. Krastev GF	01.02.2008-31.07.2008	
Merck	Improvement and Development of New Monolithic Sol-Gel Materials/ Investigation of Model Systems for Thin Films of Hierarchical Meso-Structured Pore Systems and Transfer to Open Tubular Capillary Systems for Nano-LC	Prof. Antonietti Dr. Smarsly KC	01.03.2004-31.10.2008	
BASF	Mesoporöse Hybridsysteme	Prof. Antonietti Dr. Smarsly KC	01.05.2006-30.04.2007	

Industrie

Zuwendungsgeber	Thema	Projektleiter	Bewilligungszeitraum	Zusammenarbeit mit
Merck	Entwicklung mobiler Gasspeicher auf der Basis nanoporöser Kohlenstoffmaterialien	Prof. Antonietti KC	01.09.2007-31.08.2008	
Merck	Entwicklung neuartiger Elektrodenmaterialien auf der Basis von nanoporösen Kohlenstoffmaterialien zur Anwendung in elektrochemischen Speichern	Prof. Antonietti KC	01.08.2007-31.07.2009	
BASF	Synthese und Verwendung von Carbonnitrid	Prof. Antonietti KC	15.10.2007-31.12.2010	
BASF	Carbon Rich Polymer Colloids for Applications for Architectural Coatings, Adhesives, Fibre Bonding, Construction Chemicals and Paper Chemicals	Prof. Antonietti KC	01.01.2008-30.06.2010	
Bayer Schering Pharma	Nanotechnologie für das molekular-bildgeführte Gesundheitsmanagement (Eisenherz); Unterauftrag des BMBF: Synthese neuartiger Eisenoxidartikel mit kontrolliertem Verbleib	Prof. Antonietti KC	01.08.2005-31.07.2008	

Sonstige deutsche Forschungsfinanzierer

HMI Berlin GmbH	Wissenschaftliche und technische Zusammenarbeit auf dem Gebiet der Untersuchung von Oberflächen und dünnen Schichten mit Neutronenstreuung	Prof. Möhwald GF	01.01.1999-	
DAAD	Projektbezogener Austausch mit Portugal	Dr. Brezesinski GF	01.01.2006-31.12.2007	
DAAD	Projektbezogener Austausch mit Portugal	Dr. Shchukin GF	01.01.2007-31.12.2008	
DAAD	Projektbezogener Austausch mit Bulgarien	Dr. Miller GF	01.01.2005-31.12.2008	
DAAD	Projektbezogener Austausch mit Spanien	Dr. Miller GF	01.01.2007-31.12.2008	
DAAD	Projektbezogener Austausch mit Frankreich	Dr. Shchukin GF	01.01.2008-31.12.2009	
DAAD	Projektbezogener Austausch mit Griechenland	Dr. Sigel KC	01.01.2006-31.12.2007	

Ausgewählte Veranstaltungen

Selected Events

- **25. March 2007 „Potsdamer Köpfe“, Sunday Lectures in Potsdam**
Prof. Peter Fratzl: Wenn der Knochen bricht – Materialforscher für die Medizin (Altes Rathaus Potsdam)
- **24. May 2007 Kick-Off Colloquium**
Campus Project “Bioactive Surfaces” (Research Campus Potsdam-Golm)
- **29. May - 2. June 2007 Minerva School on Biological and Bioinspired Materials together with Minerva Students’ Symposium 2007**
(Harnack-Haus, Berlin)
- **8. June 2007 Alumni Meeting and Poster Session**
Research Campus Potsdam-Golm
- **19. July 2007 SommerMINTCollege**
Research Campus Potsdam-Golm
- **1. September 2007 Open Day at the Research Campus Potsdam-Golm**
Research Campus Potsdam-Golm, Campus Am Mühlenberg
- **19. October 2007 HerbstMINTCollege**
Research Campus Potsdam-Golm
- **26.-27. November 2007 Meeting of the Scientific Advisory Board**
Research Campus Potsdam-Golm
- **13. March 2008 1. Schüler-Campus Brandenburg**
Research Campus Potsdam-Golm
- **11.-14. March 2008 COST D43 - School on Surface Analytical Techniques**
Research Campus Potsdam-Golm
- **11. April 2008 ENERCHEM Evaluation**
Harnack-Haus, Berlin
- **16. April 2008 38. Meeting of the Committee of Science, Research and Culture of the Landtag of Brandenburg together with the Committee of Science and Research of the House of Deputies, Berlin**
Research Campus Potsdam-Golm
- **9. May 2008 1st Golm Workshop on Bioactive Surfaces**
Research Campus Potsdam-Golm
- **23. May 2008 Alumni Meeting and Poster Session**
- **24. July 2008 SommerMINTCollege**
Research Campus Potsdam-Golm
- **28. July 2008 Delegations visit of the Royal Thai Embassy in cooperation with the Nanonet of Thailand**
(Research Campus Potsdam-Golm)
- **17.-22. August 2008 17th SIS 2008 - 17th International Symposium on Surfactants in Solution**
Berlin, Germany
- **6. September 2008 Open Day at the Research Campus Potsdam-Golm**
Research Campus Potsdam-Golm, Campus University Potsdam
- **6. November 2008 Constitutive Meeting of the Board of Trustees**
(MPI of Molecular Plant Physiology, MPI of Colloids and Interfaces)

Wissenschaftliche Abschlüsse

Scientific Degrees

Diploma Theses

Department of Biomaterials:

Lange, Claudia: Quantitative und qualitative Analyse der Gewebeentstehung in vitro. Universität Potsdam (2007).

Kerschnitzki, Michael: Die Kontrolle der mechanischen Eigenschaften von Knochen durch die Veränderung der Temperatur, der Dehnrate, des pH-Wertes und des ionischen Mediums. Universität Potsdam (2008).

Department of Interfaces:

Christiane, Stage: Synthesen, Charakterisierung und Eigenschaften von supramolekularen Systemen. Universität Potsdam (2008).

Master Theses

Department of Interfaces:

Bai, Shu: Loading Hydrogel Microspheres with Inorganic Nanoparticles. Polymer Science Program: Free University Berlin, Humboldt University, Technical University, University Potsdam (2007).

Department of Colloid Chemistry:

Su, Qi: Synthesis of PBIs with Different Architectures (Master of Polymer Sciences), Free University Berlin, Technical University, University Potsdam (2007).

Yu, Yingchuan: Free Radical Polymerization on Crystal Templates (Master of Polymer Sciences, Free University Berlin, Technical University, University Potsdam (2007).

PhD Theses

Department of Biomaterials:

Eder, Michaela: Structure, Properties and Function of Single Wood Fibres of Norway Spruce. Universität für Bodenkultur in Wien (2007).

Ruffoni, Davide: Modeling of Material and Architectural Quality of Trabecular Bone. Universität Potsdam (2007).

Sapei, Lanny: Characterisation of Silica in Equisetum hyemale and its Transformation into Biomorphous Ceramics. Universität Potsdam (2007).

Jungnickl, Karin: The Macromolecular Structure of Wood Cell Walls and its Significance for Selected Hierarchical Levels. Universität Freiburg im Breisgau (2008).

Department of Colloid Chemistry:

Adelhelm, Philipp: Novel Carbon Materials with Hierarchical Porosity: Templating Strategies and Advanced Characterization. Universität Potsdam (2007).

Hartmann, Laura: Synthese monodisperser, multifunktionaler Poly(amidoamine) und ihre Anwendung als nicht-virale Vektoren für die Gentherapie. Universität Potsdam (2007).

Kaper, Helena: Structure Control of Nanoscaled Inorganic Matter by Ionic Liquids. Universität Potsdam (2007).

Sel, Özlem: Hierarchical Meso- and Macroporous Architectures by Liquid Crystalline and Polymer Colloid Templating. Universität Potsdam (2007).

Stocco, Antonio: Amphiphilic Block Copolymers at the Liquid-Fluid Interface, Investigated by Evanescent Light Scattering and Ellipsometry. Universität Potsdam (2007).

Weber, Jens: Meso- und Mikroporöse Hochleistungspolymere – Synthese, Analytik und Anwendung. Universität Potsdam (2007).

You, Liangchen: Synthesis and Characterization of Novel Glycopolymers. Universität Potsdam (2007).

Buha, Jelena: Nonaqueous Synthesis of Metal Oxide and Metal Nitride Nanoparticles. Universität Potsdam (2008).

Fischer, Anna: "Reactive Hard Templating" From Carbon Nitrides to Metal Nitrides. Universität Potsdam (2008).

- Greß, Anja: Funktionalisierte Poly(2-oxazoline): Kontrollierte Synthese, bioinspirierte Strukturbildung und Anwendungen. Universität Potsdam (2008).
- Gebauer, Denis: A Novel View on the Early Stage of Crystallization. Universität Potsdam (2008).
- Hentschel, Jens: Synthese und kontrollierte Mikrostrukturbildung funktionaler Peptid-Polymer-Konjugate in organischen Lösungsmitteln. Universität Potsdam (2008).
- Hernández Garcia, Hugo: Multiscale Simulation of Heterophase Polymerization: Application to Synth. of Multicomponent Colloidal Polymer Particles. Universität Potsdam (2008).
- Hordyjewicz-Baran, Zofia: Synthesis and Study of the Aggregation Behavior of Hydrophilically Modified Polybutadienes. Universität Potsdam (2008).
- Ide, Andreas: Self-Structuring of Functionalized Micro- and Mesoporous Organosilicas using Boron-Silane-Precursors. Universität Potsdam (2008).
- Kessel, Stefanie: Induktion und Kontrolle hierarchischer Ordnung durch selbstorganisierte, funktionale Polymer-Peptid-Nanostrukturen. Universität Potsdam (2008).
- Maier, Julia: Synthese und Anwendungen von FERR-*b*-PEO stabilisierten *SPIO* Partikeln als Kontrastmittelsystem für die Magnetresonanztomographie. Universität Halle-Wittenberg (2008).
- Nazaran, Pantea: Nucleation in Emulsion Polymerization - Steps towards a Non-micellar Nucleation Theory. Universität Potsdam (2008).
- Stark, Arne: CCD based Ellipsometric Light Scattering. Universität Potsdam (2008).
- Yagci, Yavuz Emre: Synthesis of Poly(tartar Amide)s and Poly(glucosamide)s as Antifreeze Additives. Universität Potsdam (2008).
- Department of Interfaces:**
- Alahverdijeva, Veneta: Experimental Study of Mixed Protein/ Surfactant Systems at the Aqueous Solution/Air Interface. Universität Potsdam (2007).
- Günther, Anja: Mikrokapseln aus biokompatiblen Polyelektrolytmultischichten als DNA- und Proteinvehikel. Universität Potsdam (2007).
- Köhler, Karen: Temperature-Induced Rearrangements of Polyelectrolyte Multilayer Capsules: Mechanisms and Applications. Universität Potsdam (2007).
- Müller, Renate: Einfluss der Temperatur auf die Nanomechanik von sphärischen und zylindrischen Polyelektrolyt-Multischicht-Hohlkörpern. Universität Potsdam (2007).
- Wagner, Kerstin: The Regulation of Phospholipase Activity by Lipid Membrane Structure. Universität Potsdam (2007).
- Borodina, Tatiana
Nikolaevna: Preparation and Examination of Biodegradable Polyelectrolyte Microcapsules with Control Release of Proteins, DNA and other Bioactive Substance". Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences (2008).
- Dronov, Roman: Assembly of Functional Biological Systems at Interfaces. Universität Potsdam (2008).
- Hermelink, Antje: Phosphatidylinositol 3-kinase gamma: Biophysical Approach on a Protein-Lipid Interaction. Humboldt-Universität zu Berlin (2008).
- Miyashita, Naoko: Molecular Assemblies on Surfaces. Universität Potsdam (2008).
- Olak, Claudia: Biophysikalische Studien zur Wechselwirkung des antimikrobiellen Peptides NK-2 mit membran-mimetischen Systemen. Universität Potsdam (2008).
- Schwarz, Guntram: Synthesen, Charakterisierung und Eigenschaften von supramolekularen Systemen. Universität Potsdam (2008).

Department of Theory and Bio-Systems:

- Beeg, J.: Cooperative Behavior of Motor Proteins. Universität Potsdam (2007).
- Chelakkot, G.R.: Structure in Systems of Chemically Heterogenous Rods. Universität Potsdam (2007).
- Grafmüller, A.: The Fusion of Membranes and Vesicles. Universität Potsdam (2007).
- Gutjahr, P.: Conformations of Semiflexible Polymers and Filaments. Universität Potsdam (2007).
- Gutleiderer, E.J.: On the Morphology of Vesicles. Universität Potsdam (2007).
- Korn, C.: Stochastic Dynamics of Cell Adhesion in Hydrodynamic Flow. Universität Potsdam (2007).
- Koseska, A.: Modeling and Control of Synthetic Gene Regulatory Networks. Universität Potsdam (2007).
- Kühne, T.: Wachsende Filamentbündel. Universität Potsdam (2007).
- Liepert, S.: Energy Transduction in Network Models of Molecular Motors. Universität Potsdam (2007).
- Merlo, C.: Ein einfaches Modell der Proteinfaltungskinetik. Universität Potsdam (2007).
- Richter, A.: Structure Formation and Fractionation in Systems of Colloidal Rods. Universität Potsdam (2007).
- Blecua, P.: Liquid Morphologies on Patterned Surfaces. Universität Potsdam (2008).
- Chai, Y.: Traffic of Molecular Motors. Universität Potsdam (2008).
- Müller, M.: Bidirectional Transport by Molecular Motors. Universität Potsdam (2008).
- Schwenk, B.: Two Notions of Membrane Tension. Universität Potsdam (2008).

Habilitations

Department of Biomaterials:

- Burgert, I.: On the Mechanical Design of Plant Cell Walls. Humboldt-Universität zu Berlin (2007).

Department of Theory and Bio-Systems:

- Gruhn, T.: Biomimetic self-assembling structures: From Systems of Colloidal Rods to Fluid Vesicles. Technische Universität Berlin (2008).
- Weikl, T.: Transition States and Loop-Closure Principles in Protein Folding. Universität Potsdam (2008).

Personalien

Appointments and Honors

2007

Ehrungen/Mitgliedschaften/Honorarprofessuren

Honors/Memberships/Honorary Professorships

- Prof. Dr. Markus Antonietti Director of the Colloid Chemistry Department, has been honored as Römer Lecturer (LMU München)
- Prof. Dr. Markus Antonietti Director of the Colloid Chemistry Department, has been honored as Staudinger-Durrer Lecturer (ETH Zürich)
- Prof. Dr. Peter Fratzl Director of the Department of Biomaterials, has been honored as Seidman Family Memorial Lecturer (Technion, Haifa, Israel)
- Prof. Dr. Peter Fratzl Director of the Department of Biomaterials, has been honored as Herbert Johnson Memorial Lecturer (Cornell University, Ithaca, USA)
- Prof. Dr. Helmuth Möhwald Director of the Interfaces Department, obtained the Prix-Gay-Lussac, which is awarded by the French Ministry for Research and Technology in collaboration with the Alexander Humboldt Foundation.
- Prof. Dr. Helmuth Möhwald Director of the Interfaces Department, obtained the Overbeek Medal of the European Colloid and Interface Society.

2007

Ruf an eine Universität

Appointments

- Dr. Jan Kierfeld Group Leader in the Department of Theory & Bio-Systems accepted a position as professor (W2) for Theoretical Physics at the Technical University Dortmund.

2008

Ehrungen/Mitgliedschaften/Honorarprofessuren

Honors/Memberships/Honorary Professorships

- Prof. Dr. Markus Antonietti Director of the Colloid Chemistry Department, received the ERC Advanced Grant, which is awarded with 2.5 million EUR, for a pioneering frontier research project in the area of sustainable chemistry.
- Prof. Dr. Peter Fratzl Director of the Department of Biomaterials, obtained together with the American chemical engineer Prof. Dr. Robert Langer, the Max Planck Research Award 2008 with prize money of, in total, 1.5 million Euros. They received the award for their research into structural-functional correlations in the development of biologically inspired materials and systems.
- Prof. Dr. Peter Fratzl Director of the Department of Biomaterials, has been honored as Erwin Uhlinger Memorial Lecturer (German Osteological Society)
- Dr. Steffen Liepelt Postdoc in the Department of Theory and Bio-Systems, received the Otto-Hahn Medal of the Max Planck Society.
- Prof. Dr. Helmuth Möhwald Director of the Department of Interfaces, obtained the degree of doctor honoris causa from the University Montpellier.
- Dr. Melanie Müller Member of the Department of Theory & Bio-Systems, obtained the Carl Ramsauer Award 2008 for dissertation on molecular motors.
- Dr. Takashi Nakanishi Group Leader in the Department of Interfaces, obtained the Award for Encouragement of Research in Polymer Science (The Society of Polymer Science, Yokohama, Japan).
- Dr. Takashi Nakanishi Group Leader in the Department of Interfaces, obtained the Outstanding Young Research Award on the Division of Colloids and Surface Chemistry (The Chemical Society of Japan, Fukuoka, Japan).
- Prof. Dr. Peter Seeberger Director of the Department of Biomolecular Systems, obtained the Karl Heinz Beckurts-Prize 2008 for the synthesis of antigens.
- Prof. Dr. Peter Seeberger Director of the Department of Biomolecular Systems, received the ERC Advanced Grant, which is awarded with 2.5 million EUR, for a pioneering frontier research project in the area of automated synthesis of heparin oligosaccharides.

2008

Ruf an eine Universität

Appointments

- Dr. Himadri Shikar Gupta Group Leader in the Department of Biomaterials, accepted a position as lecturer at the School of Engineering and Materials Science (Queen Mary University of London).
- Dr. Rumen Krastev Group Leader in the Department of Interfaces, accepted a position as .Group Leader for the development of new Biomaterials at the NMI Natural and Medical Sciences Institute at the University of Tübingen.
- Dr. Dirk G. Kurth Group Leader in the Department of Interfaces, accepted a position as professor (W2) for Chemical Technology of Material Synthesis at the University Würzburg.
- Dr. Hubert Motschmann Group Leader in the Department of Interfaces, accepted a position as professor (W2) for Physical Chemistry at the University Regensburg.
- Dr. Arne Thomas Group Leader in the Department of Colloid Chemistry, has been offered a professorship (W3) in Functional Materials at the Technical University Berlin.

2009

Ehrungen/Mitgliedschaften/Honorarprofessuren

Honors/Memberships/Honorary Professorships

- Prof. Dr. Peter Seeberger Director of the Department of Biomolecular Systems, obtained the Claude S. Hudson Award in Carbohydrate Chemistry (ACS)

Ruf an eine Universität

Appointments

- Dr. Oskar Paris Group Leader in the Department of Biomaterials, accepted a position as professor (W3) for physics at the Montanuniversität Leoben (Austria).

Wissenschaftliche Veröffentlichungen

Publications

Biomaterials 2007

Blunck, U. and P. Zaslansky: Effectiveness of all-in-one adhesive systems tested by thermocycling following short and long-term water storage. In: *Journal of Adhesive Dentistry* 9, 231-240 (2007).

Burgert, I., M. Eder, N. Gierlinger and P. Fratzl: Tensile and compressive stresses in tracheids are induced by swelling based on geometrical constraints of the wood cell. In: *Planta* 226, 4, 981-987 (2007).

Dunlop, J. W., Y. J. M. Brechet, L. Legras and Y. Estrin: Dislocation density-based modelling of plastic deformation of Zircaloy-4. In: *Materials Science and Engineering A-Structural Materials Properties Microstructure and Processing* 443, 1-2, 77-86 (2007).

Dunlop, J. W. C., Y. J. M. Brechet, L. Legras and H. S. Zurob: Modelling isothermal and non-isothermal recrystallisation kinetics: Application to Zircaloy-4. In: *Journal of Nuclear Materials* 366, 1-2, 178-186 (2007).

Elbaum, R., L. Zaltzman, I. Burgert and P. Fratzl: The role of wheat awns in the seed dispersal unit. In: *Science* 316, 5826, 884-886 (2007).

Faivre, D., L. H. Böttger, B. F. Matzanke and D. Schüler: Intracellular magnetite biomineralization in bacteria proceeds by a distinct pathway involving membrane-bound ferritin and an iron(II) species. In: *Angewandte Chemie-International Edition* 46, 44, 8495-8499 (2007).

Fery, A. and R. Weinkamer: Mechanical properties of micro- and nanocapsules: Single-capsule measurements. In: *Polymer* 48, 25, 7221-7235 (2007).

Fratzl, P.: Biomimetic materials research: what can we really learn from nature's structural materials? In: *Journal of the Royal Society Interface* 4, 15, 637-642 (2007).

Fratzl, P.: Ein Knochenjob für die Biomimetik. In: *Nachrichten aus der Chemie* 55, 6, 644-646 (2007).

Fratzl, P. and H. S. Gupta: Nanoscale mechanisms of bone deformation and fracture. In: *Handbook of biomineralization: Biological aspects and structure formation*. (Eds.) Bäuerlein, E. Wiley-VCH, Weinheim (2007) 397-414.

Fratzl, P., H. S. Gupta, F. D. Fischer and O. Kolednik: Hindered crack propagation in materials with periodically varying Young's modulus - Lessons from biological materials. In: *Advanced Materials* 19, 18, 2657-2661 (2007).

Fratzl, P., P. Roschger, N. Fratzl-Zelman, E. P. Paschalis, R. Phipps and K. Klaushofer: Evidence that treatment with risedronate in women with postmenopausal osteoporosis affects bone mineralization and bone volume. In: *Calcified Tissue International* 81, 2, 73-80 (2007).

Fratzl, P. and R. Weinkamer: Nature's hierarchical materials. In: *Progress in Materials Science* 52, 8, 1263-1334 (2007).

Fratzl, P. and R. Weinkamer: Hierarchical structure and repair of bone deformation, remodelling, healing. In: *Self healing materials: an alternative approach to 20 centuries of materials science*. (Eds.) van der Zwaag, S. Springer, Berlin 323-335 (2007).

Gierlinger, N. and M. Schwanninger: The potential of Raman microscopy and Raman imaging in plant research. In: *Spectroscopy-an International Journal* 21, 2, 69-89 (2007).

Gourrier, A., W. Wagermaier, M. Burghammer, D. Lammie, H. S. Gupta, P. Fratzl, C. Riekel, T. J. Wess and O. Paris: Scanning X-ray imaging with small-angle scattering contrast. In: *Journal of Applied Crystallography* 40, S78-S82 (2007).

Gupta, H. S., P. Fratzl, M. Kerschnitzki, G. Benecke, W. Wagermaier and H. O. K. Kirchner: Evidence for an elementary process in bone plasticity with an activation enthalpy of 1 eV. In: *Journal of the Royal Society Interface* 4, 13, 277-282 (2007).

Kazanci, M., H. D. Wagner, N. I. Manjubala, H. S. Gupta, E. Paschalis, P. Roschger and P. Fratzl: Raman imaging of two orthogonal planes within cortical bone. In: *Bone* 41, 3, 456-461 (2007).

Kolanczyk, M., N. Kossler, J. Kuhnisch, L. Lavitas, S. Stricker, U. Wilkening, I. Manjubala, P. Fratzl, R. Sporle, B. G. Herrmann, L. F. Parada, U. Kornak and S. Mundlos: Multiple roles for neurofibromin in skeletal development and growth. In: *Human Molecular Genetics* 16, 8, 874-886 (2007).

Loidl, D., O. Paris, H. Renzhofer, M. Müller and H. Peterlik: Skin-core structure and bimodal Weibull distribution of the strength of carbon fibers. In: *Carbon* 45, 14, 2801-2805 (2007).

Maier, G. A., G. M. Wallner, R. W. Lang, J. Keckes, H. Amenitsch and P. Fratzl: Fracture of poly(vinylidene fluoride): a combined synchrotron and laboratory in-situ X-ray scattering study. In: *Journal of Applied Crystallography* 40, S564-S567 (2007).

Marwan, N., J. Kurths and P. Saparin: Generalized recurrence plot analysis for spatial data. In: *Physics Letters A* 360, 4-5, 545-551 (2007).

Marwan, N., P. Saparin and J. Kurths: Measures of complexity for 3D image analysis of trabecular bone. In: *European Physical Journal-Special Topics* 143, 109-116 (2007).

Olsson, A. M., L. Salmen, M. Eder and I. Burgert: Mechano-sorptive creep in wood fibres. In: *Wood Science and Technology* 41, 1, 59-67 (2007).

Paris, O., C. H. Li, S. Siegel, G. Weseloh, F. Emmerling, H. Riesemeier, A. Erko and P. Fratzl: A new experimental station for simultaneous X-ray microbeam scanning for small- and wide-angle scattering and fluorescence at BESSY II. In: *Journal of Applied Crystallography* 40, S466-S470 (2007).

Presterl, E., A. Lassnigg, M. Eder, S. Reichmann, A. M. Hirschl and W. Graninger: Effects of tigecycline, linezolid and vancomycin on biofilms of viridans streptococci isolates from patients with endocarditis. In: *International Journal of Artificial Organs* 30, 9, 798-804 (2007).

Presterl, E., M. Suchomel, M. Eder, S. Reichmann, A. Lassnigg, W. Graninger and M. Rotter: Effects of alcohols, povidone-iodine and hydrogen peroxide on biofilms of *Staphylococcus epidermidis*. In: *Journal of Antimicrobial Chemotherapy* 60, 2, 417-420 (2007).

Raabe, D., A. Al-Sawalmih, S. B. Yi and H. Fabritius: Preferred crystallographic texture of alpha-chitin as a microscopic and macroscopic design principle of the exoskeleton of the lobster *Homarus americanus*. In: *Acta Biomaterialia* 3, 6, 882-895 (2007).

Ruffoni, D., P. Fratzl, P. Roschger, K. Klaushofer and R. Weinkamer: The bone mineralization density distribution as a fingerprint of the mineralization process. In: *Bone* 40, 5, 1308-1319 (2007).

Publications/Department of Biomaterials

- Rumpler, M., A. Woesz, F. Varga, I. Manjubala, K. Klaushofer and P. Fratzl: Three-dimensional growth behavior of osteoblasts on biomimetic hydroxylapatite scaffolds. In: *Journal of Biomedical Materials Research Part A* 81A, 1, 40-50 (2007).
- Sapei, L., N. Gierlinger, J. Hartmann, R. Noske, P. Strauch and O. Paris: Structural and analytical studies of silica accumulations in *Equisetum hyemale*. In: *Analytical and Bioanalytical Chemistry* 389, 4, 1249-1257 (2007).
- Schmidt, M., T. Wolfram, M. Rumpler, C. P. Tripp and M. Grunze: Live cell adhesion assay with attenuated total reflection infrared spectroscopy. In: *Biointerphases* 2, 1, 1-5 (2007).
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