

The former Margravian residence Bayreuth is today world famous for the annual Richard Wagner Festival, its baroque old city and its modern University. The largest city in Upper Franconia has a strong economy and is well on its way to becoming the high-tech centre of the region, with many "hidden champion" specialized companies located in close vicinity to Bayreuth.

Bayreuth's Margravian Opera House is the most beautiful baroque theatre in Europe and was appointed as a UNESCO World Heritage site in 2012. Visitors are welcome to visit fascinating palaces, the historic gardens of the Eremitage with its mysterious caves and water fountains, the Richard-Wagner-Festspielhaus with its unique acoustics and more than 20 unique museums. Bayreuth is the gateway to the tourist regions Fichtelgebirge and the romantic Fränkische Schweiz, and to other famous cities like Bamberg, Nürnberg and Munich.

Comfortable hotels and guesthouses invite you to relax and to forget everyday troubles. Franconian and international restaurants provide a variety of gastronomic delights.

The conference will be hosted on the modern campus of the University of Bayreuth.

Read more about sights and history of Bayreuth at:

http://www.bayreuth.de/english/welcome_to_bayreuth_357.html

KEY DATES

Deadline for abstract s: January 15th 2016 (oral),
February 15th, 2016 (Poster)

Notification of acceptance April 2016

Deadline for early-bird registration: May 2016

Deadline for 4-page manuscript August 31st, 2016



The University of Bayreuth is a public research university, re-established in 1975 as a campus university focusing on international collaboration and interdisciplinarity.

The university has an outstanding reputation in a broad range of disciplines and currently maintains a network of more than 450 international co-operations with research institutes and universities around the world. It is broadly organized into six undergraduate and graduate faculties, with each faculty defining its own admission standards and academic programs in near autonomy.

The university is participating in the Elite Network of Bavaria, a coalition of leading research universities jointly offering graduate programs and international doctorate programs. Since 2013 the worldwide Times Higher Education ranking „100 under 50“ granted a top ranking to University Bayreuth among the participating German universities.



CONTACT

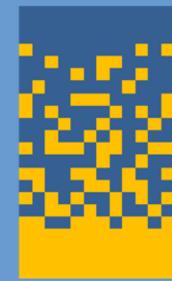
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<https://www.isfgms2016.org>



Lehrstuhl für
Werkstoffverarbeitung
Prof. Dr. M. Willert-Porada



14th International Symposium
Functionally Graded Materials

Multiscale & Multifunctional Structures

ISFGMS^S

Preliminary
Announcement

18th - 21st September 2016
University Bayreuth,
Germany



The increasing demand for improved performance of materials under severe conditions, for expanding application areas of known materials and for reduction of the material and energy footprint of advanced products calls for materials with *unique structures* in addition to a specific chemical composition. Tailoring the structure with the help of *functional gradients or unique building blocks in metamaterials* enables specific functionalities at different geometrical scales. Such materials are designed with embodied continuous spatial variations in composition and microstructure for the specific purpose, e.g., for adjusting their mechanical, thermal, optical, electrical, biological or multi-functional response to specific application conditions.

The desired functional profile is often achieved with multi-material composites, characterized by a specific distribution of different materials and microstructures, with different sizes and shapes, with passive and active functionalities. Such materials can even include autonomous energy harvesting, storage and conversion properties, in addition to adequate mechanical, thermal, electromagnetic, chemical or biologic responses, configuring a so called multifunctional behavior. These structure-dominated multi-phase materials are best understood through a comprehensive multiscale modelling approach. Their processing and characterization requires new methodologies and techniques. They have a wide range of application including, for example, biomedical, automotive, aerospace, mechanical, civil, energy and transportation engineering applications.

The main objective of the 14th International Symposium on Functionally Graded Materials (ISFGM^s) is to provide opportunities for exchange of ideas, discussion and improvement of the state of the art theory, modelling and synthesis techniques, applications and recent developments in the areas of functionally graded materials and metamaterials, through plenary lectures, oral presentations and posters.



Ermitage Bayreuth

The 14th International Symposium of the Functionally Graded Materials held at Bayreuth, Germany (2016) will continue the series started with international symposia on FGM held in

Sendai, Japan (1990),	San Francisco, USA (1992),
Lausanne, Switzerland (1994),	Tsukuba, Japan (1996),
Dresden, Germany (1998),	Estes Park, USA (2000),
Beijing, China (2002),	Leuven, Belgium (2004),
Hawaii, USA (2006),	Sendai, Japan (2008),
Guimaraes, Portugal (2010)	Beijing, China (2012),
Sao Paulo, Brazil (2014).	

TOPICS

The conference topics will include the following aspects of Functionally Graded Materials and Metamaterials for Multiscale and Multifunctional Structures:

- Material concepts & design criteria for FGMs and Metamaterials
- Synthesis and Processing
- Characterization, structure and functionality
- Mechanical and thermo-mechanical properties
- Modelling and Simulation
- Bio-inspired & Biomaterials
- Applications
- Life Cycle Analysis (LCA)

PROGRAMME

Sun., Sep. 18 th	Mon., Sep. 19 th	Tue., Sep. 20 th	Wed., Sep. 21 st	Thu. Sep. 22 nd
Registration	Opening Ceremony	Oral Sessions	Oral Sessions	Visit of the FRM II (neutron source) and Tokamak facility Garching
Short Courses	Oral Sessions			
IACFGM meeting	Poster Session & Bavarian Evening	Poster Session	Closing Ceremony	Visit of Oktoberfest Munich
Welcome Reception		Conference Dinner & Award Ceremony	Visit to Bamberg	



New Castle Bayreuth

Chairwoman: Prof. Dr. Monika Willert-Porada, University of Bayreuth, Germany

Co-Chair: Prof. Dr. Omer van der Biest, KUL, Belgium

Local Organizing Committee

Dr. Thorsten Gerdes (University of Bayreuth)

Kerstin Söllner (University of Bayreuth)

Dipl.-Ing. Andreas Rosin (University of Bayreuth)

Dipl.-Ing. Achim Schmidt (InVerTec)

Dipl.-Ing. Daniel Leykam (InVerTec)

International Advisory Committee on FGM (IACFGM)

Chairman Prof. Dr. Akira Kawasaki, Tohoku University, Japan

Co-Chairman: Prof. Glaucio H. Paulino, University of Illinois, USA

Prof. Omer Van Der Biest, Katholieke Universiteit Leuven, Belgium

International Scientific Committee Members & Technical Committee Members:

see: <https://www.isfgms2016.org>.



Old Town Bamberg