

BIOMEDICAL TECHNOLOGY CONFERENCE:
Speeches & Keynotes



OPENING CEREMONY AND GREETINGS

on September 17, 2012

Welcome speeches of the conference chairmen

Prof. Dr. med. Dipl.-Ing. Thomas Schmitz-Rode
Chairman of the German Society for Biomedical Engineering

Prof. Dr. Thorsten Heinzel
Vice-Rector for Research of the Friedrich Schiller University Jena

Prof. Dr. Thomas Deufel
State Secretary of Thuringian Ministry of Education, Science and Culture

Frank Schenker
Mayor of Jena

Dr. Arnulf Wulff
Landesentwicklungsgesellschaft Thüringen mbH

MAIN SPEECH

Prof. Dr. Klaus Dicke
Rector of the Friedrich Schiller University Jena

**MAIN SPEECH DURING THE SOCIAL EVENT AT THE
ZEISS-PLANETARIUM JENA** on September 18, 2012

Matthias Machnig
Minister of Thuringian Ministry of Economy, Employment and Technology

KEYNOTES on September 17 – 19, 2012

Prof. Dr. med. Hans-Reiner Figulla, MD
Clinic for Internal Medicine I, Jena University Hospital, Germany

Prof. Dr. Jari Hyttinen, Ph.D
Tampere University of Technology and BioMEdiTech,
Tampere, Finland

Dr. Michael Kempe, Ph.D
Carl Zeiss AG Corporate Research & Technology, Jena

Prof. Dr. Dr. h.c. Roland Sauerbrey
Helmholtz Association of German Research Centres, Germany

Prof. Dr. Phyllis K. Stein, Ph.D
Washington University School of Medicine, USA

Prof. Dr. Zang-Hee Cho, Ph.D
Gachon University of Medicine and Science, Republic of Korea

ORGANIZERS

**German Society for Biomedical Engineering
(DGBMT) within VDE**
www.vde.com/dgbmt

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**BMT – Biomedical Technology/
Biomedical Engineering**

SHORT PROGRAMME

BMT
2012
46th DGBMT ANNUAL CONFERENCE
September 16-19, 2012
JENA



September 16-19, 2012
Friedrich Schiller University Jena
University Campus
Carl-Zeiss-Straße 3, 07743 Jena
www.bmt2012.de



BIOMEDICAL TECHNOLOGY CONFERENCE:
Dates & Facts



From 16 to 19 September 2012, the leading experts in the field of Biomedical Technology at universities, research institutes and industrial companies will meet at the BMT 2012, the most important German medical technology conference. About 800 participants are expected to come, discussing the latest research results and recent trends in Biomedical Technology presented in 560 conference papers and posters.

Registration:

For participation in the BMT 2012 please register online at www.bmt2012.de. The conference fee includes free online access to abstracts and conference papers and the printed conference programme. It also includes the daily coffee-breaks and lunches, the get-together on September 17 and free entry to the BMT 2012 gala concert on September 18. As a social event of the BMT 2012, we offer a special evening at the Zeiss-Planetarium in Jena on September 18.

Trade Exhibition:

The conference is accompanied by a trade exhibition. Exhibition areas can be booked online at www.bmt2012.de.

Side Events 2012:

- DGBMT members' meeting
- Meetings of the DGBMT Technical Committees
- VDE MedTech Tutorial
- Young Forum BMT 2012*
- BMBF session "Human-machine interaction in health care"
- EU session "Horizon 2020 – EU Funding of Biomedical Engineering"
- DGBMT student competition
- Award ceremonies: Klee-Prize, Patient Safety in Medical Technology award, best poster awards, technology award of the city of Jena

Further Education Event for Doctors:

Certification of the lecture programme of the BMT 2012 – 46th DGBMT annual conference is granted by the Medical Association of Thuringia based on the current further training regulations of the Medical Association and the uniform assessment criteria.

*separate registration required; details at www.bmt2012.de

Friedrich-Schiller-University Jena

 **Ernst-Abbe-Fachhochschule Jena**
Hochschule für angewandte Wissenschaften

 **ILMENAU UNIVERSITY OF TECHNOLOGY**

DGBMT GERMAN SOCIETY FOR BIOMEDICAL
ENGINEERING WITHIN VDE

VDE

BMT 2012 – Programme overview

Conference Venue:
Friedrich Schiller University Jena, University Campus
Carl-Zeiss-Str. 3; 07743 Jena, Groundfloor/1st Floor



Sunday, September 16, 2012 ■ 9:30–19:00 h Young Forum BMT* ■ 16:00–18:00 h Registration (foyer)

Tuesday, September 18, 2012 ■ 13:00–14:00 h DGBMT member's meeting ■ 17:00–18:30 h VDE MedTech Tutorial

Monday, September 17, 2012

7:30	Registration (foyer) 7:30–18:30 h							
8:30	Room: HS1	Room: HS2	Room: HS3	Room: HS4	Room: HS5	Room: HS6	Room: HS7	Room: HS8
9:15	KEYNOTE (ROOM HS1) In-vivo Human Molecular Imaging Using PET-MRI Fusion Imaging Technology Prof. Dr. Zang-Hee Cho, Ph.D							
9:30	BREAK – TRADE EXHIBITION							
11:00	COFFEE BREAK – TRADE EXHIBITION							
11:30	Biosignal Processing – Central Nervous System/Sleep Analysis	Electrical Stimulation and Neuro-technology	Imaging: MR, CT, and Ultrasound	Modeling and Simulation of Spine and Hip, FEM-Modeling	FS: Training and Further Education	FS: Application of magnetic nanoparticles in biomedicine	Personalized Medical Technology	EU Project: Autoscreen (2)
13:00	LUNCH BREAK – TRADE EXHIBITION – RECRUITING							
14:00	KEYNOTE (ROOM HS1) Bioelectric environments for stem cell derived neurons and cardiomyocytes Prof. Dr. Jari Hyttinen, Ph.D							
14:45	BREAK – TRADE EXHIBITION							
15:00	Biosignal Processing – Methods and Application	Intelligent Implants (1): Devices for Cataract and Glaucoma	Ultrasound Imaging	Modeling and Simulation in Oncology ...	Young Forum gains knowledge from experienced colleagues	FS: Ultra-Low-Field NMR/MRI	FS: Horizon 2020 – EU Funding of Biomedical Engineering	FS: Complementary Mamma Diagnosis
16:30	COFFEE BREAK – TRADE EXHIBITION							
17:00	Biosignal Processing – Miscellaneous topics	Intelligent Implants (2): Technologies and System Approaches	FS: Imaging and Pattern Recognition	Modeling and Simulation of Drug Release and of Eye and Ear	Ophthalmology Techniques, Optical and Photonic Methods	FS: Field modeling in the human head	BMBF Session: Human-machine interaction in health care	
18:30	CONFERENCE OPENING (ROOM HS1) Main speech Prof. Dr. Klaus Dicke Award ceremony of the Klee-Prize and the Award for Patient Safety in Medical Technology							
20:30	GET TOGETHER							
22:00								

Tuesday, September 18, 2012

8:00	Registration (foyer) 8:00 – 18:30 h							
8:30	Room: HS1	Room: HS2	Room: HS3	Room: HS4	Room: HS5	Room: HS6	Room: HS7	Room: HS8
9:15	KEYNOTE (ROOM HS1) Information from Graphical Analysis of HRV Prof. Dr. Phyllis K. Stein, Ph.D							
9:30	BREAK – TRADE EXHIBITION							
11:00	COFFEE BREAK – TRADE EXHIBITION							
11:30	FS: Analysis of Oscillatory Brain Activity (1)	Intelligent Implants: Clinical Research and Approval	Optical Imaging	Modeling and Simulation of Brain and Heart	Biosensors and Bio-analytics (1)	New Development in Unobstructive Monitoring	Endoscopy	FS: New Biomedical Engineering Perspectives ...
13:00	LUNCH BREAK – TRADE EXHIBITION – RECRUITING							
14:00	KEYNOTE (ROOM HS1) Perkutan implantierbare Herzklappen: Patientenfreundliche Therapie durch Medizintechnik Prof. Dr. med. Hans-Reiner Figulla, MD							
14:45	BREAK – TRADE EXHIBITION							
15:00	POSTER SESSION							
16:30	COFFEE BREAK – TRADE EXHIBITION							
17:00	Image Based Intervention	FS: Cardiovascular Implants	Biomaterials and Biocompatibility	VDE MedTech Tutorial	Biosensors and Bio-analytics (3)		Home Health care and AAL	Ergonomics and Risk Management
18:30	GALA CONCERT of the impulse region Erfurt Weimar Jena (Auditorium, Friedrich Schiller University Jena) After the concert: "Very special kind of night time city walk"							
20:30	SOCIAL EVENT Dinner at the Zeiss-Planetarium Jena Main speech Matthias Machnig							
22:30								

Wednesday, September 19, 2012

8:00	Registration (foyer) 8:00 – 15:30 h							
8:30	Room: HS1	Room: HS2	Room: HS3	Room: HS4	Room: HS5	Room: HS6	Room: HS7	Room: HS8
9:15	KEYNOTE (ROOM HS1) Strahlentherapie von Krebs mit laserbeschleunigten Ionen – eine Vision Prof. Dr. Dr. h.c. Roland Sauerbrey							
9:30	BREAK – TRADE EXHIBITION							
11:00	COFFEE BREAK – TRADE EXHIBITION							
11:30	KEYNOTE (ROOM HS1) Optical coherence tomography – from research to routine medical diagnostics Dr. Michael Kempe, Ph.D							
12:15	LUNCH BREAK – TRADE EXHIBITION – RECRUITING							
13:00	FS: A psychiatric perspective on autonomic function	FS: MR guided Interventions and Surgery (2)	Quality Management and Regulations in Regenerative Medicine	FS: Intelligent Sensors	Biosensors and Bio-analytics (5)	FS: Assistance Systems for Orthopaedic Applications	Clinical Engineering	
14:30	CLOSING CEREMONY (ROOM HS1) Award ceremonies							
15:30	EXCURSIONS							

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| A Training and Further Education | K Home health care and AAL |
| B Imaging and Image Processing | L Clinical and Ambulatory Monitoring |
| C Image Based Intervention | M Magnetic Methods in Medicine |
| D Biomaterials and Biocompatibility | N Medical Information Systems, Telemedicine, eHealth, mHealth |
| E Biosensors and Bioanalytics | O Modelling and Simulation |
| F Biosignal Processing | P Ophthalmology Techniques, Optical and Photonic Processes |
| G Cellular-, Tissue- und Bioengineering | Q Personalized Medical Technology |
| H Surgical Technique and Endoscopy | R Prevention and Rehabilitation Engineering |
| I Clinical Engineering | S Prosthetics and Implants |
| J Ergonomics and Risk Management | Z Special Sessions |

FS: Focus session
* separate registration required; details at www.bmt2012.de