

Program

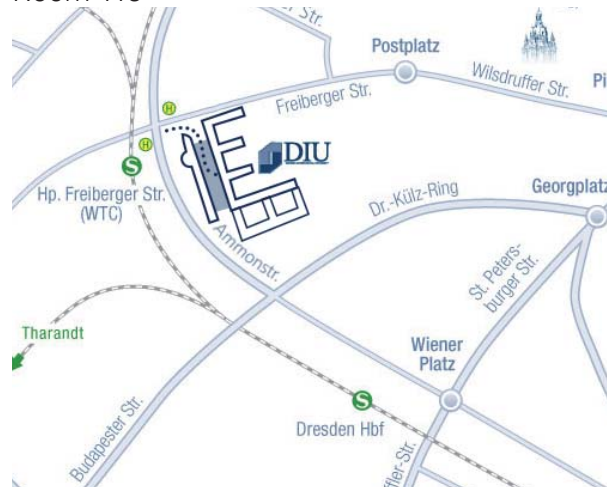
Endorsement

- 11:30–11:45 Welcome
- 11:45–12:30 Keynote presentation
- Short break*
- 12:45–13:15 The Misconception of Wood – Why the dated is more up-to-date than ever
- 13:15–13:45 The Future of Materials Science and Engineering
- Coffee break*
- 14:15–14:45 Cryogenics – The science of the super-cold!
- 14:45–15:15 The fifth generation (5G) wireless communication makes the future more than smart!
- Short break*
- 15:30–16:00 Coaching: An effective way to promote and develop performance
- 16:00–16:30 Start-up Companies – How German business culture needs to change
- 16:30–17:00 Finale

Attend the conference

on **July 6th, 2015**

Dresden International University (DIU)
World Trade Center Dresden
Freiberger Str. 37, 01067 Dresden
Room 119



Contact us
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THEORY MEETS PRACTICE

Interdisciplinary approaches
to master a smart future



Conference at Dresden
International University
on July 6th

Short Abstracts

See our website for complete versions

The Misconception of Wood – Why the dated is more up-to-date than ever

by Nils Knüppel, third-year student, Department of Forest Sciences

While wood as a commodity has accompanied mankind for some time, it is seldom accounted for as being high-tech. Modern forestry dates back to the 18th century, when the principle of sustainability was first introduced to the industrial society to counter wood shortage. Nowadays, *sustainability* is oft-cited, though with little consequences. It is the uniqueness of a biological production that prevents its adoption to the conventional industry. Renewable base materials that are otherwise inaccessible are transformed into usable biomass.

This talk leads the audience from the merits of forestal production to the old and the new management of forests and concludes with a discussion about the next generation of forestry, *forestry 4.0*.

The Future of Materials Science and Engineering

by Omar Oday Salman, PhD student, IFW Dresden

From the dawn of human existence materials have been fundamental to the development of civilization. Anthropologists define the historical epochs by the materials used by the different civilizations such as the Stone, Copper, Bronze and Iron ages.

Materials science and technology is a multidisciplinary approach to science that involves designing, choosing, and using three major classes of materials—metals, ceramics, and polymers.

Selective laser melting (SLM) is one of the newly developed additive manufacturing (AM) processes by which a product is built by melting selected areas of powder layers under a protective atmosphere, using a computer controlled laser beam. The presentation focuses on Selective Laser melting technology and its interdisciplinary character.

Cryogenics – The science of the super-cold!

by Marc Fuchs, fifth-year student, Energy Engineering

Cryogenics is the study of concepts and technologies with the aim of producing and applying very low temperatures. We are referring here to a temperature range below 120K (-153°C), a range in which permanent gases such as hydrogen, nitrogen, oxygen and helium begin to liquefy.

Cryogenics has various applications in different fields and consequently invites, even demands, interdisciplinary work and scientific cooperation. This talk will provide a general overview about this field of study and discuss some advantages and disadvantages. The main focus will be on the engineering part like material properties, liquefaction of permanent gases and their areas of application.

The talk will also discuss the dangers in dealing with cryogenic fluids and the question how potential hazards can be avoided.

The fifth generation (5G) wireless communication makes the future more than smart!

by Mohamed Ahmed, PhD student, Communications Laboratory

The demand for higher data rates in wireless communications due to extensive use of multimedia applications and video streaming is always on the rise. 5G is the fifth generation of wireless technology, which is completely wireless with almost no limitations, also can be called *real* wireless world. There are many features that 5G can offer: high resolution for crazy cell phone users, enhanced and available connectivity around the world. Right now, there are no 5G phones and devices to use the new technology, although manufacturers are experimenting with new designs. The 2G network focused on voice, 3G on data, and 4G on video; the new 5G network will be all about connections.

This talk will highlight the features of 5G technology, mark its challenges, will give an overview on recent research, as well as on the evolution from the first generation to the fifth generation.

Coaching: an effective way to promote and develop performance

by Ulrike Röthig, qualified psychologist and second-year student, Business Sciences

Employment relationships nowadays have become rather unsteady as formerly stable professional structures alter with rapid innovations in knowledge, changing work methods and new technologies. Mere technical knowledge of any profession is no longer sufficient to master the fast occurring social changes accompanied by new complexities of issues.

Here, coaching serves to identify these issues on a personal and/or structural basis. Coaches assist in a very individual manner in promoting skills to handle working relationships and thus they ultimately also aid to reach corporate goals in a better, more effective as well as faster way.

This talk will focus on possible scopes of coaching as well as its implications for teamwork and leadership. The effectiveness of coaching will be discussed and how to transfer the newly learnt skills into daily business routine.

Start-up companies – How German business culture needs to change

by Johannes Goldhan, second-year student, Business sciences

When it comes to taking economic advantage of innovative technologies, Germany is lagging behind in international comparisons. In spite of the fact that many promising technological concepts stem from the country well-known for its engineers, many inventors have been unable to come even remotely close to the success of e.g. the US-American corporations from "Silicon Valley". This circumstance has already led to a handicap for the German IT industry.

Company founders also often do not have applicable knowledge of management, accounting and organizational strategies, which leads to ill-advised decisions.

This talk will focus on what potential business founders should know beforehand about financial structures, management processes and their own mind set.