FSG ACADEMY ON SITE

21 workshops free of charge for 25 students each, provided by our sponsors. Please register for each on the booth of the sponsor.

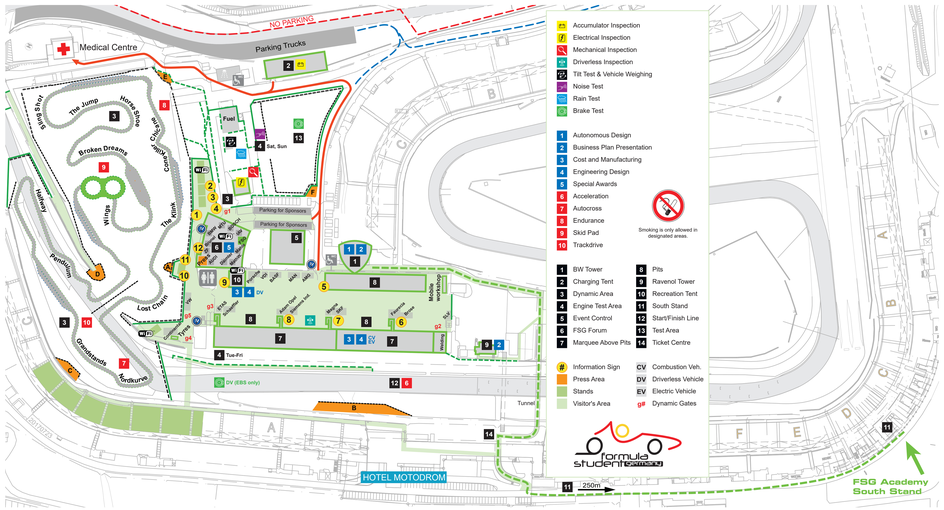
FSG Academy - a successful story...

The FSG Academy organises workshops and lectures for the students throughout the year.

Since 2016 there will also be workshops at the FSG event! These workshops will be offered to this years' participants by the sponsors of Formula Student Germany.

They will give students even more opportunities for further training and to gain expertise on various topics. So take the chance and sign up for these free workshops!

Any Questions? Please ask for Helena Reinke in the FSG Forum or write an email to academy@formulastudent.de.



Wednesday, 9th of August

16:30 - 18:00 - South Stand Room 1 — **Siemens PLM**

Using CFD for analyzing and optimizing external aerodynamics

- STAR-CCM+ Overview
  - o CFD workflow in STAR-CCM+
  - o Geometry preparation - surface wrapping
  - o Live demo: Dual wing element optimization
- Best practice and case studies
  - o Meshing and boundary conditions
  - o Formula Student race car / driver body
- Questions & Answers

Peter Altmann, Siemens PLM Software

16:30 - 18:00 - South Stand Room 2 — **Porsche**

Development of Lightweight Concepts for Future Battery Electric Vehicles

Intelligent weight-saving concepts are essential for the development of battery electric vehicles. After a short introduction to body engineering, lightweight design and vehicle safety, the participants will work on identifying and designing different battery configurations.

and give you helpful hints on how to make a successful start to your career.

Dominik Klaiber, Entwicklung Aufbau Vorentwicklung Philipp Knothe, Entwicklung Aufbau Sicherheit Sportwagen

Thursday, 10th of August

09:00 - 10:30 - South Stand Room 2 — **BASF**

Numerical Optimization and Simulation Technology in BASF – focus automotive industry

BASF uses simulation technologies for automotive industry addressing different disciplines. Main focus are simulations for mold filling, structural static, crash and optimization of parts as well as fluid flow simulations in chemical plants including multiphase and reacting flows

Patrick Frey, Andreas Wüst, Arne Hoffmann, Stefan Lipp

10:45 - 12:15 - South Stand Room 1 — **Faurecia**

How to business automotive innovation

This is a how to ideate new technical options, considering the external market forces, how to select most promising options and go into the next development phase.
We will analyze how to incubate new ideas in terms of technical concept and business viability including a case study.

Edoardo Morra

10:45 - 12:15 - South Stand Room 2 — **Porsche**

Challenges in Vehicle Safety for Highly Automated Driving

The evolution of autonomous driving is unstoppable. Porsche is actively pursuing the subject. But there are still a few legal and technical issues that need to be clarified prior to series maturity. After a short introduction to body engineering and vehicle safety, the challenges for highly automated driving will be discussed.

Dr. Simon Maurer, Aufbau Entwicklung Passive Fahrzeugsicherheit Sportwagen Dr. Nino Andricevic, Aufbau Entwicklung Passive Fahrzeugsicherheit Sportwagen

12:30 - 14:00 - South Stand Room 1 — **Siemens PLM**

Using CFD for analyzing and optimizing external aerodynamics

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Peter Altmann, Siemens PLM Software

12:30 - 17:30 - South Stand Room 2 — **MathWorks**

Physical Modeling Training with Simscape

This training will help you get started with modeling and simulating physical systems. You will learn how to use Simscape components to create a model of the longitudinal vehicle dynamics.
Using hands-on examples you will add a powertrain model and vehicle control to further analyze behavior like lap time or fuel consumption. You will need to bring your own computer with MATLAB, Simulink, Simscape, Simscape Driveline and Simscape Electronics installed. And make sure to download the training material.

Eva Pelster

14:15 - 15:45 - South Stand Room 1 — **Brose**

Successful Presentations - How to convince your audience

In this workshop you will learn more about successful presentations and things you have to observe while preparing and holding your presentation. Any questions are very welcome and will be answered while giving you valuable tips.

Claudia Desselmann, HR Brose Group

16:00 - 17:30 - South Stand Room 1 — **Porsche**

Engine Development and Design of the Porsche 919 Hybrid

With the 919 Hybrid, Porsche has developed a new field of technology at racing speed. The 919 Hybrid is the result of a carefully balanced overall concept: from the combustion engine to the energy recovery systems, chassis and running gear, aerodynamics and driver ergonomics.
How the technology of the 919 Hybrid works will be explained by engineers of the LMP1 Team.

Hendrik Steurer, Porsche Motorsport

Friday, 11th of August

09:00 – 10:30 - South Stand Room 1 — **Faurecia**

Acoustics of exhaust systems

In this workshop you will learn and practice Acoustics Basics, get to know Exhaust System Noise and System Components.
Also you will get in touch with Backpressure and how Development Tools look like. Last but not least we will introduce you to the Exhaust System Design.

Thorsten Linde

09:00 – 10:30 - South Stand Room 2 — **Magna**

Validation of autonomous vehicles – How to identify validation gaps

The validation of autonomous vehicles will be a key factor for safe & secure ADAS functions.
The experience in validation of complex systems shows that there is a risk that small but important issues are overseen.
This might lead to fatal accidents. Let´s take a closer look at validation processes.

Gerhard Krachler / Christian Payerl

10:45 - 12:15 - South Stand Room 1 — **Volkswagen**

Futures of Racing – reloaded

The VW Group Research Foresight-Team together with participants will create new perspectives for the future of racing based on last years´ experience and future trends.
Our Futures Thinking Process will be used to develop and present innovative ideas and concepts.

Julian Kattinger, Mark Hartmann

10:45 - 12:15 - South Stand Room 2 — **SKF**

Automotive Business @ SKF

Everything that keeps a car rolling.
From wheel ends to transmission, clutch, suspension, engine and e-powertrain.

Daniel Back + Julian Veeh, Automotive Application Engineers

12:30 - 14:00 - South Stand Room 1 — **Daimler**

Deep Learning for Visual Perception in Self-Driving Cars

The basic concepts of deep learning for visual perception of traffic scenes and their application to the domain of self-driving cars.

Markus Enzweiler, Daimler AG

14:15 - 15:45 - South Stand Room 1 — **Brose**

Racing Careers for Engineers

Lamborghini GT3 factory driver and automotive engineer Christian Engelhart will give insights into career paths in racing and the automotive industry.

Christian Engelhart, Grasser Racing Team and Brose Brand Ambassador

14:15 - 15:45- South Stand Room 2 — **Continental**

Let's get the job - an application training

In this workshop we will focus on the basics regarding a successful application. You will also learn more about the structure of an Assessment Center and how to approach it.

Janina Wruck, Recruiting Specialist

16:00 - 17:30 - South Stand Room 2 — **Siemens PLM**

Introduction to Electrical System & Harness Design – Save Time, Increase Reliability

How to cut the time and improve quality

- Overview on creating
  - o Electrical systems design and schematics data
  - o Wiring designs including data exchange to MCAD 3D
  - o Harness design including data exchange to MCAD 3D
  - o Formboard design
  - o Required documentation
- Questions & Answers"

Karin Jung, Siemens PLM Software

Saturday, 12th of August

09:00 - 10:30 - South Stand Room 1 — **Daimler**

Mercedes-Benz Intelligent Drive Next Level

Introduction of the new Driver Assistance Systems in the new E-Class and the Mercedes-Benz Remote Parking Pilot Live - Workshop on the Vehicle

Alexander Brunker, Daimler AG

09:00 - 14:00 - South Stand Room 2 — **MathWorks**

Multibody Modeling Training with Simscape

This training session will introduce you to modeling rigid-body mechanical systems with Simscape Multibody.
Learn how to create components, build an assembly and import data from CAD. With this knowledge you will create and analyze a 3D suspension model. You will need to bring your own computer with MATLAB, Simulink, Simscape, Simscape Multibody and Simscape Electronics installed. Also make sure to download the training material.

Eva Pelster

10:45 - 12:15 - South Stand Room 1 — **Continental**

Optimize your eDrive Performance

Join this workshop to learn more about important robustness, safety & performance aspects of different electrical drivetrain solutions. Discuss with eDrive experts from Continental the system design aspects of your eDrive package, in particular design & performance issues of power electronics.

Thomas Heckner, System Engineer, E-Drivetrain + Josef Engl, System Engineer, Power Electronics

14:15 - 15:45 - South Stand Room 2 — **Siemens PLM**

Introduction of mechatronic system simulation

- Mechatronic system simulation overview
- LMS Amesim overview
  - o Modeling of a simple mechatronic system
  - o Analyzing your model
  - o Customization of the model input data and user interface
  - o Interfaces to other software tools
- Cooling system
- Application Examples
- Questions & Answers

Eric Link, Siemens PLM Software

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INTERNATIONAL DESIGN COMPETITION