Pico-Satellites in Germany

UWE-1 2005

COMPASS-1 2008

UWE-2 2009

BEESAT 2009

Educational Pico-Satellites in Germany
UWE Roadmap

(University Würzburg’s Experimental satellites)

2016 NetSat-1 to -4 Formation Flying Mission
- Higher Data Rates
- Formation Control
- DTNs, MANets
- ...

2016 UWE-5
- Relative Navigation

2015 UWE-4
- Position Control

2013 UWE-3
- Attitude Control

2009 UWE-2
- Attitude- and Orbit Determination

2005 UWE-1
- Telecommunication “Internet in Space”

Research Perspectives in Würzburg
SpaceMaster is supported by scholarships within the "ERASMUS MUNDUS"-Program of the EU for European elite-curricula. It is offered at University Würzburg in cooperation between Computer Science and Physics/Astronomy, and by the partner universities:
- Luleå University of Technology, Sweden
- Cranfield University, United Kingdom
- Czech Technical University, Czech Republic
- Helsinki University of Technology, Finland
- Université Paul Sabatier Toulouse III, France
- University Siegen, Germany

www.spacemaster.eu
spacemaster.uni-wuerzburg.de
International students:
~ 25 from outside EU
~ 15 Europeans outside Germany
~ 10 German students

University partners outside the EU:
Stanford University, USA
University of Tokyo, Japan
University of Toronto, Kanada
Shanghai Jiao Tong Uni, China

Recent awards of Würzburg students:
• ZARM Award 2006
• 1st price in Student Contest at Internat. Astronautical Conference 2006 Valencia
• Award of the British Interplanetary Soc.
• IABG-Award 2008 for Oliver Kurz
• Silver medal at Student Contest IAC 2008 Glasgow
• Rotary Award 2011
• Gold medal at IAC 2013 in Beijing
• 2013 Amelia Earhart Fellowship by Zonta
UNISEC Europe (application)

Objectives

- joint proposals for space outreach activities to be funded by European Union, ESA
- contributions to CanSat educational programs
- joint CubeSat conferences and exchange of experiences
- organization of small satellite ground station networks to support the CubeSat community
- standardization of electrical and software interfaces

Members

- UNISEC Germany
- UNISEC Lithuania
- UNISEC Samara
- UNISEC Turkey
- …
Offers for cooperations

- International missions emphasizing distributed networked small satellites for applications in Earth observation and telecommunications
- Support in small satellite design
- International cooperation for networked ground stations
- Intensive classes on small spacecraft design (Tunisia, Russia, USA, Turkey, Brasil, China, …)
- Participation of students in the „SpaceMaster“ program (http://www.spacemaster.uni-wuerzburg.de/)
- Information exchange at Pico- and Nano-Satellite conference (alternating in Berlin and in Würzburg, already 8 conferences, > 100 participants)

Contact: Prof. Dr. Schilling schi@informatik.uni-wuerzburg.de
8th Pico and Nano Satellite Workshop
Technology for Small Satellite Research

September 15-16, 2015
Würzburg, Germany

Topics
- In orbit experiences
- Small satellite missions
- Distributed small satellite systems
- Subsystem technologies for small satellites
- Payloads for small satellites
- Applications
- Flight opportunities and launchers for Pico satellites
- Educational aspects

Call for Papers and Detailed Information
The call for papers and other information will be provided on the following website:

www7.informatik.uni-wuerzburg.de/pina2015

Würzburg
The city is located near the center of Germany, offers a wide range of recreation and leisure activities together with theaters, open-air concerts, and wine festivals. Located at the shores of the river Main, vineyards, castles, medieval cities and baroque residence palace are characteristic for the region. Würzburg offers a broad range of accommodations facilities at all costs.

Approach
Würzburg can be easily approached by frequent trains directly from Frankfurt airport in about one hour. Two ICE high speed train routes cross pass through Würzburg, as well as three important German motorways, the A3, A7 and A81. Thus access by train or car is very efficient and easy.