


Institute of Geodesy and Navigation
Institut für Erdmessung und Navigation

organised by

of **Universität ^{der Bundeswehr} München**

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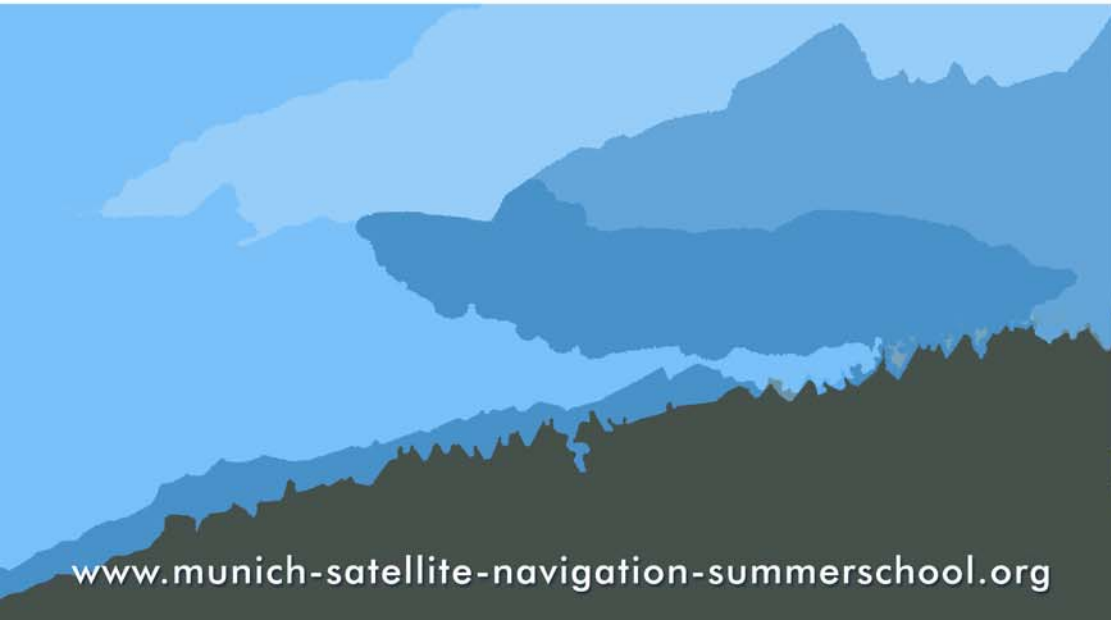


European GNSS Supervisory Authority



TOLL COLLECT
service on the road

**FIRST INTERNATIONAL SUMMER
 SCHOOL ON GLOBAL SATELLITE
 NAVIGATION SYSTEMS:
 A WORLDWIDE UTILITY**



2 - 9 September 2007
 in the GATE test area
 Berchtesgaden

www.munich-satellite-navigation- Summerschool.org

2nd ANNOUNCEMENT

THE TOPIC

The US Global Positioning System (GPS) is becoming a global utility used in various applications in the daily life of the citizens: cars are equipped with a navigation system, base stations in telecommunications are synchronized with GPS time, scientists are using the satellite signals in ionospheric and tropospheric research – to mention just a few applications. With the initiative of the European Union in 2004 to build up another global satellite navigation system, called Galileo, worldwide accelerating activities in this field can be observed. Europe is presently in the middle of the Galileo developments, the GPS system started with its modernization, the restoration of the Russian system GLONASS was started last year, Japan and India want to establish regional satellite navigation systems and China started the first satellite for another global satellite navigation system. In summary, we may come to a "worldwide system of systems" in near future. Universities educate still the students in single engineering fields. Satellite navigation, however, requires interdisciplinary knowledge. Thus, there is a need to educate students, PhD candidates and young researchers in universities, various agencies and industry in the design and development of satellite navigation systems as well as in applications.

Preliminary Program

Sunday, 2 Sep 2007

17.00 Opening

Welcome Cocktail Reception

A Short History of GPS – A few Snares, Traps and Surprises

- Satellite Cost Estimating Observations and the Young 80% Rule -

Parkinson

Opening Dinner

Monday, 3 Sep 2007

Satellite Navigation

Basics of Satellite Navigation Enge

GNSS Under Development and Modernization Enge/Hein

Constellations and Orbit Determination Hein

Business and System Engineering

Opening of the Students' Project Work and Competition All

Venture Capital and Good Business Plans Levin

Tuesday, 4 Sep 2007

Satellite Navigation

Clocks in Satellite Navigation Tavella

Frequencies, Signals and Signal Processing Akos

GNSS Receiver Technology Eissfeller

Business and System Engineering

"So, You Really Want To Start A Business?" Levin

From Ideas to Successful Businesses – What are the Traps? Parkinson

Wednesday, 5 Sep 2007

Industry Day

Presentations and Demonstrations from Industry

Job Market

Lectures on Applications of Satellite Navigation

Positioning & Navigation Algorithms and Processing Hegarty

Aviation Enge

Marine, Land, Surveying TBC

Unconventional and Scientific Applications Axelrad

The Future of Satellite Navigation Parkinson

Thursday, 6 Sep 2007

Business and System Engineering

Managing and Funding International Projects Grohe

Satellite Navigation

GNSS Indoor Positioning Eissfeller

GNSS/INS Sensor Fusion Calmettes

Communication in Satellite Navigation

Basics of Satellite Communications Bousquet

Integration of Communication Systems with GNSS Bousquet

Friday, 7 Sep 2007

GATE & Demonstrations Day

- GATE Demonstrations

- GPS S/W Receiver Demos Borre

- Satellite Tool Kit (Constellation, Orbit S/W, etc.)

Farewell Dinner

Saturday, 8 Sep 2007

Student Presentations on Project Work

Awards of Student Competition

Closing Panel Discussion:

Future of Satellite Navigation All

Sightseeing in Berchtesgaden and Surroundings

Sunday, 9 Sep 2007

Sightseeing Tours

Departure

THE LECTURERS

Prof. Dr. Dennis Akos,

University of Colorado at Boulder, CO, USA
Currently he is an Assistant Professor with the Aerospace Engineering Science Department and holds a visiting professor appointment at Lule University of Technology and a consulting professor appointment with Stanford University.

Prof. Dr. Penina Axelrad,

University of Colorado at Boulder, CO, USA
She is Professor and Associate Chair of Aerospace Engineering Sciences (AES) with the Colorado Center for Astrodynamics Research. Her contributions to the GPS field have been recognized by the 1996 Lawrence Sperry Award from the AIAA and the 2003 Tycho Brahe Award from the ION.

Prof. Dr. Kai Borre,

Aalborg University, Denmark
He is Head of the Danish GPS Center at Aalborg University since its establishment in 1996. He is the (co-)author of several textbooks, among others "Linear Algebra, Geodesy, and GPS" and "A Software-Defined GPS and Galileo Receiver; A Single-Frequency Approach".

Prof. Dr. Michel Bousquet, Programme Committee

SUPAERO (Aerospace Engineering Institute of Higher Education), Toulouse, France
His research interests cover many aspects of satellite communications and navigation (physical and access layers, system engineering...) within the TeSA co-operative research laboratory (www.tesa.prd.fr).

Dr. Vincent Calmettes,

SUPAERO (Aerospace Engineering Institute of Higher Education), Toulouse, France
He is Head of the Laboratory of Electronics and Physics, at SUPAERO. His work includes the research, for applications in Digital communications and Signal processing, of solutions with DSP processors and programmable logic devices or ASICs.

Prof. Dr. Bernd Eissfeller,

Institute of Geodesy and Navigation, University FAF Munich, Germany
He is Professor and Vice-Director of the Institute. He is responsible for teaching and research in the field of Galileo/GPS/GLONASS and inertial technology. He was the leading investigator of the GPS experiment on the EQUATOR-S space mission.

Prof. Dr. Per Enge, Programme Committee

Stanford University, Palo Alto, CA, USA
He is Professor of Engineering and directs the GPS Research Laboratory, which pioneers GPS-based navigation systems for the U.S. Coast Guard, U.S. Navy and the Federal Aviation Administration.

Rainer Grohe,

Former Executive Direktor of the Galileo Joint Undertaking, Brussels, Belgium
He received a master degree in Electrical Engineering specializing in Telecommunications at the Rheinisch-Westfälische Technical University Aachen. After his studies and until 1977 he had been Head of Section in several companies.

Dr. Christopher J. Hegarty,

MITRE corporation, Ma, USA
He is a director with The MITRE Corporation, where he has worked mainly on aviation applications of GNSS since 1992. He received his D.Sc. in electrical engineering from The George Washington University. He is currently the Chair of the Program Management Committee of RTCA, Inc., and co-chairs RTCA Special Committee 159 (GNSS).

Prof. Dr. Guenter W. Hein, Programme Committee

Institute of Geodesy and Navigation, University FAF Munich, Germany
He is Professor and Director of the Institute.
His present research activities include high-precision positioning and navigation using satellites and the combination with other terrestrial sensors. Prof. Hein's main interest is the development of Galileo, Europe's global navigation satellite system, where he serves as German delegate in the EC Galileo Signal Task Force.

Dr. Peter L. Levin,

DAFCA, Inc., Framingham, MA, USA
He is the founder, President, and CEO of DAFCA, Inc. a design automation company that focuses on semiconductor device validation. He was previously general partner with the Munich-based venture capital company Techno Venture Management, where he focused on infrastructure technologies.

Prof. Dr. Bradford W. Parkinson,

Prof. Emeritus, Stanford University, Palo Alto, CA, USA
As the first program director of Navstar/Global Positioning System, he led a group of military officers and a team of engineers to design GPS, the most revolutionary navigation tool since the invention of the chronometer.

Dr. Patricia Tavella,

National Institute of Metrological Research, Turin, Italy
She is senior scientist with the Italian Metrology Institute. Her main interests are mathematical and statistical models mostly applied to atomic time scale algorithms. She is currently involved in the development of the European Navigation System Galileo.

The International Summer School will be held in the Berchtesgaden Convention Center, Bavaria. Lecturers and students will be accommodated in the same hotel. Various social events like excursions to the mountains, sightseeing to the famous Austrian city Salzburg and evening receptions are planned.

Berchtesgaden in Bavaria:



Source:
www.berchtesgadener-land.com

Berchtesgaden is a beautiful town in the south of the Free State of Bavaria. It is famous for its extensive mines of rock salt, eagle's nest, the national park and especially for its old churches.



Source:
www.berchtesgadener-land.com

For real recreation you can visit the Watzmann therme or take a walk along the idyllic lake Königssee.

Salzburg in Austria:



Source:
www.salzburg-rundgang.at

A trip to the Austrian town Salzburg is a great experience. You can walk through the famous Getreidegasse with its little shops and cafes or visit the Salzburg cathedral.

Participants

- * Students (more than 3 yrs studies, Ph. D. students)
- * Postdoctoral researchers
- * Engineers < 33 yrs from industry

Number of participants is limited, admission on a "first come - first serve" basis.

Date: 02 to 09 Sept. 2007

Location:

Berchtesgaden (about 150km south-east of Munich, Germany),

Hotel accommodation: Will be provided by the organizer.

Participation Fee: € 500,00

Fee includes participation in all lectures and demonstrations, lecture material, accommodation in 3* hotel in Berchtesgaden (mainly double rooms), full board, social events (sightseeing tours not included).

More information and registration:

- * <http://www.munich-satellite-navigation-summer-school.org>
- * Institute of Geodesy and Navigation
University FAF Munich
c/o Antje Tucci
85577 Neubiberg / Germany
Phone: +49-89-6004-2545, -3425
Fax: +49-89-6004-3019

Email: Antje.Tucci@unibw.de or
info@munich-satellite-navigation-summer-school.org

Each attendee will get a certificate after successful participation (corresponding to 2 ECTS points).