

PROGRAMME

**14th ITG Conference on
Electronic Media Technology**

Dortmunder Fernsehseminar

23-24 March 2011

TU Dortmund University, Germany

About ITG

The ITG – An Outline

The Information Technology Society within the VDE (ITG) was founded in 1954 by the VDE. Its main tasks are to promote research, development and application of information technology, to initiate exchange of knowledge between universities, manufacturers and users of information technology, to protect professional interests of engineers and scientists working with information technology and to provide a public discussion forum for these technologies.

The ITG's work covers both the technical-scientific field of development and production and the transfer of technology knowledge – a role which is increasing in importance and relevance. The society's ambit also includes monitoring education, training and the job market and, not least, public relations work. The ITG organises national and international conferences, seminars and workshops. It publishes and edits the "Nachrichtentechnische Zeitschrift" and, in conjunction with the GMM, the technical journal F + M Mechatronic, the it-Information technology, the ETT - European Transactions on Telecommunications and Related Technologies, the AEÜ International Journal of Electronics and Communication and presents awards for scientific achievements and outstanding publications. The ITG currently has 11,000 members. The specialised activities are carried out in nine specialist divisions with about 40 technical committees and 60 workgroups.

The specialist fields are:

- Information Society and Focus Projects
- Services and Applications
- Broadcasting, Movie Technology and Electronic Media
- Audio Communication
- Communication Systems
- Technical Informatics
- High Frequency Technologies
- Nano- and Microelectronics
- Shared Concepts and Components

www.vde.com/ITG/

About the Conference / Greeting

This year the ITG Conference on Electronic Media Technology is held for the 14th time. The conference is sponsored by FKTG, IEEE, ITG, Informatik Centrum Dortmund and TU Dortmund University. It is my pleasure to invite you to two exciting days in Dortmund, filled with recent scientific results and fruitful discussions all around the broad field of electronic media technology.

Due to the extremely fast development of communications on the one hand and display technology on the other hand, we are facing breathtaking changes in the way people enjoy electronic media. New paradigms of networking and broadcasting as well as enhanced algorithms for signal processing and source coding are developed in our scientific community. Mobile media, 3D vision, convergence of networks, intelligent and networked homes are achievements enabled by our research work.

In the conference new research results will be presented and intensively discussed. Within eight technical sessions, an integrated poster and technical demonstration session and by three invited talks the attendees have the opportunity to learn about the current state-of-the-art and to discuss new results and developments. Furthermore, there will be plenty of time for intensive discussions and socialising during the coffee breaks and a social event on first day's evening.

I feel confident that the Technical Programme Committee selected the most promising contributions from the large number of submissions and succeeded in setting up an attractive conference programme. I am looking forward to meeting you here at TU Dortmund University!

Sincerely yours,

Rüdiger Kays
Conference chair

Organisers

Information Technology Society (ITG) within the Association for Electrical, Electronic & Information Technologies (VDE) in cooperation with

- IEEE Consumer Electronics Society, German Chapter
- TU Dortmund University, Communication Technology Institute
- FK TG, Fernseh- und Kinotechnische Gesellschaft e.V.
- Informatik Centrum Dortmund e.V.

Conference Chair

Rüdiger Kays, TU Dortmund University

Technical Programme Committee

Martial Bellec, Orange Labs, France Telecom
Holger Blume, Leibniz University of Hannover
Stephan Breide, South Westphalia University of Applied Sc.
Oliver Erdler, Sony Deutschland
Dietmar Hepper, Technicolor
Thorsten Herfet, Saarland University
André Kaup, University of Erlangen-Nuremberg
Ulrich Reimers, Technische Universität Braunschweig
Albrecht Rothermel, Ulm University
Klaus Ruelberg, Cologne University of Applied Sciences
Ralf Schäfer, Fraunhofer Heinrich Hertz Institute
Hartmut Schröder, TU Dortmund University
Joachim Speidel, University of Stuttgart
Walter Tengler, Nokia Siemens Networks
Andrea M. Tonello, University of Udine

Local Organisation

Stefan Nowak
TU Dortmund University
Communication Technology Institute
Otto-Hahn-Straße 4
D-44221 Dortmund, Germany

Phone: +49-231-755-3999, Fax: +49-231-755-3196
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Stresemannallee 15, D-60596 Frankfurt am Main
Phone: +49-69-6308-360/362, Fax: +49-69-9631-5233
E-mail: itg@vde.com

Conference Programme

Wednesday, 23 March 2011

Hörsaalgebäude II / Hörsaal 5 (HG II/ HS 5)

9:30 **Greeting**

Metin Tolan

Prorector Research, TU Dortmund University

Klaus Ruelberg

President FKTG / President of ITG specialist field

Broadcasting, Movie Technology and Electronic Media

Introduction

Rüdiger Kays

TU Dortmund University

9:50 **Media Distribution I**

Session chair: Rüdiger Kays

Keynote speech

Dynamic Broadcasting - The Future of Broadcast?

Ulrich Reimers

TU Braunschweig

Hybrid Broadcast Broadband TV,

The New Way to a Comprehensive TV Experience

Klaus Merkel

11:00 Coffee break

11:30 **Media Distribution II**

Session chair: Ralf Schäfer

Dynamic Broadcast

Junge Qi, Peter Neumann

Performance Analysis of Time Frequency Slicing

Mariem Makni, Jörg Robert

**Reliable Distribution of Electronic Media in
Vehicular Networks Based on Fountain Codes**

Robert Budde, Stefan Nowak, Rüdiger Kays

**Performance Analysis in Cable Networks Based on
Channel Measurements with SDRs**

Phillip Hasse, Jan Zöllner, Jörg Robert

13:10 Lunch break

- 14:15 **Systems and Applications**
Session chair: Klaus Ruelberg
- TV Community eyeBreeze, A New Concept of Modern Internet and TV Convergence**
Johannes Bortz, Oliver Bartholmes, Bernhard Gross
- Virtual File System for Scalable Media Formats**
Heiko Sparenberg, Alexander Schmitt, Robert Scheler, Siegfried Foessel, Karlheinz Brandenburg
- STAN - An Assistance System for 3D Productions**
Frederik Zilly, Marcus Müller, Peter Kauff, Ralf Schäfer
- 15:30 Coffee break
- 16:00 **Converging Home Networks**
Session chair: Ulrich Reimers
- Keynote speech
Convergent Home Networks
Rüdiger Kays
TU Dortmund University
- Towards a Multiservice & Multiformat Optical Home Area Network**
Joffray Guillory et al.
- Inter-MAC - From Vision To Demonstration, Enabling Heterogeneous Meshed Home Area Networks**
Marcin Brzozowski, Stefan Nowak, Falk-Moritz Schaefer, Ralf Jennen, Andi Palo
- 17:35 End of the session
- 18:00 **Social Event**
An evening out in the "Castle of Labour"...
- Bus transfer to Zollern colliery
- 18:30 Guided tour at Zollern colliery
- 19:30 Dinner at Zollern colliery / Lohnhalle
- 22:30 End of the Social Event
 Bus transfer to the university and selected hotels

The Zollern Colliery

The "Castle of Labour" is undoubtedly one of the most beautiful and extraordinary testimonies to Germany's industrial past. The outstanding representative features and colliery buildings are only one of the many facets presented in the Museum of Social and Cultural History of Mining in the Ruhrgebiet. The exhibitions will take you back to a world full of harsh working conditions that are highlighted by using individual men's and women's lives as examples.

No other branch of industry has left its mark on people in the Ruhrgebiet as heavily as coal mining. Coal fed the insatiable hunger for energy from industry and people alike. Coal was the basic material for the chemical and steel industries. Coal was the vital elixir of the Ruhrgebiet.

The Zollern colliery is a fascinating example of the rise and fall of the mining industry between the 19th century German Empire and the economic miracle of the 1950s, the boom years of industry and the age of structural transformation. Here you can find out more about the particular living and working conditions of colliers and their families on their housing estates and at work. Here you get to know all the things which affected coal miners most closely: their gloomy working conditions in the gritty air, their health and safety problems, including fatal accidents, their fear of wage cutting and the increase in working pressures.

But the exhibition also reminds you of the progress towards better working conditions thanks to better lighting, longer life expectations through good medical care, the decline in the number of accidents thanks to the introduction of proper protective clothing, colliery fire fighters, and above all the comprehensive training measures offered to apprentice miners. Here you will experience at first-hand how an apprentice miner became a fully-fledged collier. You can try your hand at working with a pneumatic pick and experience for yourself what a collier had to endure for eight hours a day every day before he went home to tend his garden or allotment, and his domestic animals.

14th ITG Conference on Electronic Media Technology "Dortmunder Fernsehseminar"

Programme Overview

Wednesday, 23 March 2011		Thursday, 24 March 2011	
8:30			8:30
9:00			9:00
	Greeting and Introduction		Source Coding Session chair: <i>André Kaup</i>
10:00	Media Distribution I Session chair: <i>Rüdiger Kays</i>		Coffee break
11:00	Coffee break		Video Quality Enhancement Session chair: <i>Holger Blume</i>
12:00	Media Distribution II Session chair: <i>Ralf Schäfer</i>		Poster Session and Technical Demonstrations
13:00			
14:00	Lunch break		Lunch break
15:00	Systems and Applications Session chair: <i>Klaus Ruelberg</i>		Signal Processing I Session chair: <i>Albrecht Rothermel</i>
16:00	Coffee break		Coffee break
17:00	Converging Home Networks Session chair: <i>Ulrich Reimers</i>		Signal Processing II Session chair: <i>Hartmut Schröder</i>
18:00			Summary and Closing Words
19:00	Social Event: Bus transfer to Zollern colliery		
20:00	Social Event: Guided tour at Zollern colliery		
22:30	Social Event: Dinner at Zollern colliery / Lohnhalle Bus transfer back to the university and selected hotels from 22:30		

Thursday, 24 March 2011

Hörsaalgebäude II / Hörsaal 5 (HG II/ HS 5)

8:30

Source Coding

Session chair: André Kaup

Keynote speech

Recent Advances in Video Coding - AVC, SVC, MVC and HEVC

Ralf Schäfer

*Fraunhofer Institute for Telecommunications -
Heinrich Hertz Institute*

Performance Evaluation of Feature-Based Image Alignment Techniques for Inter-Sequence Error Concealment

Tobias Tröger, Martin Hirschbeck, André Kaup

Highly Efficient Video Coding based on Quadtree Structures, Improved Motion Compensation, and Probability Interval Partitioning Entropy Coding

Martin Winken et al.

10:05

Coffee break

10:35

Video Quality Enhancement

Session chair: Holger Blume

Motion Blur Reduction for High Frame Rate LCD-TVs

Frank H. van Heesch, Gerard de Haan

Adaptive Directional Filter Kernels for Ringing and Staircase Artifact Reduction

*Matthias Brüggemann, Martin Richter,
Hartmut Schröder, Paul Springer, Oliver Erdler*

Feature Analysis Based Super-Resolution for Video Signal Processing

*Martin Richter, Matthias Brüggemann,
Hartmut Schröder, Rüdiger Kays*

11:50

Introduction to poster session

12:00

Lunch break/

Poster Session and Technical Demonstrations

2D to 3D Conversion Based on Depth From Edge Defocus

Matthias Brüggemann, Stefan Eickelberg

A Framework for Nonlinear Broadcasting Using Web Technologies

Frederik Beer, Andreas Mull, Christian Forster

A Modified IEEE 802.11 PHY for Transmission at Very Low SNR

Rafael Reinhold, Rüdiger Kays

A Scalable Open Source Framework for Live Media Production and Distribution

Albrecht Kurze, Robert Knauf

Components of a Wireless Smart Home

Nils Langhammer, Rüdiger Kays

Consistency Analysis for Documentation of Optical-Fiber Networks through Linked Data

Claas Richter, Tanaka Yuzuru, Patricio Vallejo

Efficient Laser Projection Using Phase-only Holograms

Marc Bernau

Multiple Technology Management for Convergent Home Networks

Stefan Nowak, Falk-Moritz Schaefer, Oliver Hoffmann, Rüdiger Kays

MXF Streaming Over IP Networks

Matthias Laabs, Christoph Nufer

OMEGA: A User-friendly System for Heterogeneous Home Networks

Marcin Brzozowski, Rolf Krämer

The Effect of Image Compression on Automotive Optical Flow Algorithms

Julian Forster, Xin Jiang, Anestis Terzis, Albrecht Rothermel

Ultra-broadband Converged Radio Communication for Future Home Networks

Oliver Hoffmann, Hendrik Koetz, Stefan Nowak, Rafael Reinhold, Rüdiger Kays

14:00

Signal Processing I

Session chair: Albrecht Rothermel

Real Versus Realistically Rendered Scenes for Optical Flow Evaluation

Stephan Meister, Daniel Kondermann

Automatic Film Restoration, Metadata Driven Detection and Removal of Scratch and Dirt

Oliver Theis, Ralf Köhler

Diffraction-based Laser Projection Using Liquid Crystal Displays

Marc Bernau, Rüdiger Kays

15:15

Coffee break

15:45

Signal Processing II

Session chair: Hartmut Schröder

GPU-based Acoustic Feature Extraction for Electronic Media Processing

Ingo Schmädecke, Holger Blume

Temporal Properties of Error Handling for Multimedia Applications

Michael Engel, Florian Schmoll, Andreas Heinig, Peter Marwedel

Optical Channel Modeling for InSb-based Super-Resolution Disc Storage

Dietmar Hepper

17:00

Summary and Closing Words

Rüdiger Kays

TU Dortmund University

General Information

Conference Office

The conference office is directly located in front of the conference hall. Until 22 March 2011, it is represented by the ITG general management:

Volker Schanz	Phone: +49-69 - 6308 -360
Stresemannallee 15	Fax: +49-69-9631-5233
D-60596 Frankfurt am Main	E-mail: itg@vde.com

Conference Hall (see map below)

Technische Universität Dortmund	Phone: +49-231-755-2101
Campus Nord	Fax: +49-231-755-3196
Hörsaalgebäude II	E-mail: info@
Otto-Hahn-Str. 4	fernsehseminar.de
D-44221 Dortmund	

Registration

Attendees as well as presenters are asked to register as early as possible. This will save money and assures inclusion in the index of participants. For registration, please use the attached registration form. Each attendee has to sign her or his own registration form. In case you need more forms, please copy it accordingly.

Furthermore, there is also the possibility to register electronically on the conference website

www.fernsehseminar.de

In this case, only payments by credit card are accepted.

Technical Demonstrations

At this conference the presentation of new devices and experimental demonstrations is highly appreciated. The poster and technical demonstration session still provides room for a limited number of such contributions. In case of interest, please contact the conference local organisation team.

Lunch

Each attendee of the conference except for students is provided with lunch vouchers for the university canteen (Mensa Campus Nord) which offers a large variety of meals and snacks including vegetarian food. The canteen is accessible from the venue within walking distance.

Social Event

The ticket for participating in the social event comprising transfer by bus, buffet, drinks and a guided tour is included in the conference fees except for students. Additional tickets can be purchased for 50 Euro at the conference office at the venue.

Conference Proceedings, Badges and List of Attendees

The registration desk in the conference office will open one hour before the conference begins. It is recommended to collect the proceedings, the badge and the list of attendees from the registration desk timely, in order to ensure an efficient distribution for all attendees.

Conference Fees

Conference proceedings, coffee breaks, lunch and participation in the social event are included, if not mentioned otherwise.

	before 28 February 2011	after 28 February 2011
Standard fee	EUR 350,--	EUR 400,--
Personal Members (VDE/IEEE/FKTG) *	EUR 300,--	EUR 350,--
Corporate Members (VDE/IEEE/FKTG) *	EUR 325,--	EUR 375,--
Academia Affiliates, Presenters ⁺	EUR 195,--	EUR 245,--
Students (full time)*/**/***	EUR 40,--	EUR 90,--
Students (full time, VDE/IEEE/FKTG members)*/**	free	free

+ only one presenter per accepted paper

* Copy of student certification/membership proof is required with the registration!

** Student fee does not include the conference proceedings, lunch and participation in the social event! Those extras can be booked on-site.

*** When signing up for membership, participation is free of charge.

Cancellation

When cancelling until 28 February 2011 (date stamp), the registration fee less 25 Euro service charge will be refunded. When cancelling after 28 February 2011 full registration fee will be charged. Proceedings will be delivered after completion.

Accommodations

For conference attendees we have prepared a list of recommended hotels. This list can be found on the conference website

www.fernsehseminar.de

You can find further accommodations within Dortmund and the surrounding area by means of the local tourist information:

Dortmund Tourismus
Königswall 18a
D-44137 Dortmund

Phone: +49-231-18999-0
Fax: +49-231-18999-333
E-mail: info@dortmund-tourismus.de
Internet: www.dortmund-tourismus.de

Conference Language

For the first time, this conference will solely be held in English.

Directions

TU Dortmund University can be reached within a few minutes from Dortmund main station ("Dortmund Hbf") with a suburban train (S-Bahn, line S1).

The Dortmund airport offers flight connections to many major cities within Germany and to a few cities in Europe. From the airport TU Dortmund University can be reached by public transport or Taxi (approx. 20 min.).

From Airport Düsseldorf International you approximately need 80 min. to TU Dortmund University (S-Bahn or DB).

Current Information

Additional and the latest information with respect to the conference can be found on the conference website:

www.fernsehseminar.de

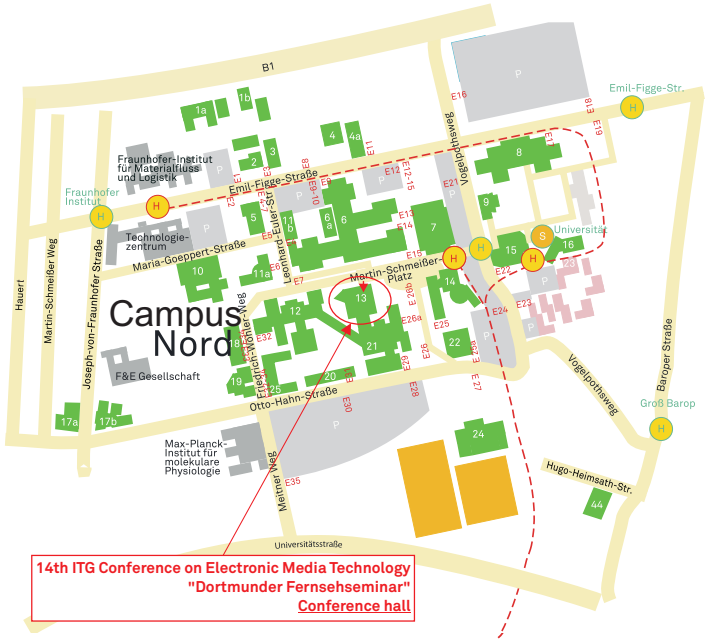
Here you find hotel recommendations, registration forms and further information which was not available before printing.

Acknowledgement



Map of the Area

TU Dortmund University Campus Nord (northern campus)



Campus Nord

- | | |
|--|--|
| <ul style="list-style-type: none"> 1a. Lehrstuhl für Förder- und Lagerwesen (EF 73) 1b. Halle Fluidenergiemaschinen (EF 71b) 2. Blockheizkraftwerk BHKW, Leitwarte (EF 71C) 3. Verwaltung (EF 71) 4. Verwaltung: Studierendensekretariat (EF 61) 4a. Internationales Begegnungszentrum IBZ (EF 59) 5. Maschinenbauhalle (LE 1) 6. Bio- und Chemieingenieurwesen, AHS (EF 70) 6a. Verwaltung: Zentrum für Information und Beratung, Akademisches Auslandsamt (EF 72) 7. Mensa, Studentenwerk (Vogelpothsweg 85) 8. Erziehungswiss. u. Soziologie, Rehabilitationswissenschaften, Humanwissenschaften und Theologie, Kulturwissenschaften, Kunst- und Sportwissenschaften, ITMC, ASTA (EF 50) 9. Unicenter (Vogelpothsweg 74) 10. DELTA (Maria-Goeppert-Mayer-Straße 2) 11a. Maschinenbau (LE 5) 11b. Maschinenbau (LE 2) 12. Chemie / Zentrale Vervielfältigung (OH 6) 13. Hörsaalgebäude II (OH 4) | <ul style="list-style-type: none"> 14. Audimax, Mathematik, Statistik, Wirtschafts- und Sozialwissenschaften (Vogelpothsweg 87) 15. Bibliothek (Vogelpothsweg 76) 16. CDI-Gebäude, HDZ - Hochschuldidaktisches Zentrum, IFS - Institut für Schulentwicklungsforschung (Vogelpothsweg 78) 17a. Informatik (OH 16) 17b. Informatik (OH 14) 18. Elektrotechnik u. Informationstechnik (Friedrich-Wöhler-Weg 4) 19. Institut für Roboterforschung (OH 8) 20. Wirtschafts- u. Sozialwiss. (OH 6a) 21. Physik, Elektrotechnik und Informationstechnik (OH 4) 22. Erich-Brost-Institut (OH 2) 23. Campus Treff (Vogelpothsweg 120) 24. Sportinstitut (OH 3) 25. Institut for Analytical Science (ISAS) (OH 6b) |
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EF: Emil-Figge-Straße

OH: Otto-Hahn-Straße

MSP: Martin-Schmeißer-Platz

LE: Leonhard-Euler-Straße

AS: August Schmidt Straße