



# NORSIG2000

IEEE NORDIC  
SIGNAL PROCESSING SYMPOSIUM

JUNE 13-15, 2000  
VILDMARKSHOTELLET KOLMÅRDEN, SWEDEN

ORGANISED BY  
ELECTRONICS SYSTEMS,  
LINKÖPING UNIVERSITY

## Welcome to NORSIG2000

On behalf of the organizing committee it is our pleasure to welcome you to the 2000 IEEE Nordic Signal Processing Symposium - NORSIG2000 Vildmarkshotellet, Kolmården. This is the fourth in a series of biannual signal processing symposia and the first one to take place in Sweden. The NORSIG2000 symposium is devoted to all aspects of theory, design, implementation, and applications of signal processing.

An excellent technical program has been put together from the large number of papers that were submitted to the conference. In total, 126 papers from more than 20 countries have been accepted. No distinction was made between oral and poster presentations. We thank the authors for their contributions, and the referees for carefully reviewing the papers.

We welcome all the participants to Kolmården and hope that you find the symposium fruitful.

Lars Wanhammar, General Chair NORSIG2000  
Håkan Johansson, Vice Chair NORSIG2000

## NORSIG2000 ORGANISATION

### General Chair

Lars Wanhammar (Linköping University)

### Vice Chair

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### Local Organization Committee

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Hans Ekberg (Linköping University)  
Thomas Johansson (Linköping University)  
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Greger Karlströms (Linköping University)  
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Cover Design by Tuula Falk

## Travel information

Take the Motorway E4 towards Norrköping. 20 km north of Norrköping, turn when you see the sign "Kolmårdensdjurpark och Vildmarkshotellet". Follow the signs for about 10 km. Pass by "Krokek" and "Kolmårdens camping". Vildmarkshotellet is suited next to the Zoo near the beach of Bråviken.

Distance to the hotel from	km
Gävle	290
Göteborg	350
Jönköping	200
Linköping	60
Norrköping	30
Stockholm	140
Västerås	170
Örebro	100
Norrköping Airport, Kungsängen	35
Railwaystation, Norrköping	30
Arlanda airport, Stockholm	170

## Transportation

Minibus transportation can be arranged from Norrköping Airport and Norrköping railway for those who arrive at Norrköping railway station or airport or are at the airport/railwaystation on specific hours. See the information below. Attendees from abroad which arrive at Arlanda, preferably takes the train to Norrköping. There are flights as well but the short distance to travel makes the train preferable due to high flight fees within Sweden.

Car Rentals are available at Norrköping Airport as well as Norrköping railway station if they are booked in advance.

If there is need for transport from the airport or railway station in Norrköping, notify us about this in advance. We will then arrange the transport to the conference hotel. We need this information in advance to have the transport ready when you arrive. If there are any problem, it is always possible to call or send a message to the conference secretariat.

## Further information

For any further information you should contact the symposium secretariat at:

NORSIG2000  
Electronics Systems  
Department of Electrical Engineering  
Linköping University  
SE-581 83 Linköping, Sweden

email: [norsig2000@isy.liu.se](mailto:norsig2000@isy.liu.se)  
fax: +46 (0)13 13 92 82  
www: <http://www.es.isy.liu.se/norsig2000/>

Conference secretariat during the conference. This information is valid only during the time June 12 to June 16.

fax: +46 (0)11 157195  
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www: <http://www.es.isy.liu.se/norsig2000/>

## Information on WWW

### NORSIG

<http://www.es.isy.liu.se/norsig2000> NORSIG2000 conference  
<http://www.norsig.no/norsig2001> NORSIG2001 conference  
<http://www.norsig.no/e-bunn.html> NORSIG

### Transport

[http://www.lfv.se/scaa/e\\_index.htm](http://www.lfv.se/scaa/e_index.htm) Luftfartsverket, Swedish airports  
<http://message.sj.se/peng/index.html> SJ, Swedish Railways

### Hosts for NORSIG2000

<http://www.liu.se/en/> Linköping University  
<http://www.es.isy.liu.se/> Electronics Systems

### Tourist info

[http://www.norrkoping.se/norrkoping\\_eng/](http://www.norrkoping.se/norrkoping_eng/) Norrköping  
<http://www.correnstorg.com/webhotell/linkguidenengelsk/> Linköping  
<http://www.sweden.com/travel/> Travel info Sweden  
<http://www.vildmarkshotellet.se/> The conference hotel

# Tutorial

NORSIG2000 is organized with one tutorial lecture which is given on Tuesday June 13, 0830 - 1200. The topic, given by leading experts within their research area, is:

## The Upcoming JPEG 2000 Still Image Compression Standard

Charilaos Christopoulos, Mathias Larsson, Joel Askelof  
Ericsson Research Ericsson Radio Systems AB,  
S-164 80 Stockholm, Sweden.

E-mail: {Charilaos.christopoulos, Mathias.Larsson,Joel.Askelof}  
@era.ericsson.se

### Brief description of the tutorial

JPEG 2000 is intended to be a new still image coding standard for different types of still images (bi-level, gray-level, color, multi-component, hypercomponent) with different characteristics (natural, scientific, medical, remote sensing, text, rendered graphics, etc.) allowing different imaging models (client/server, real-time transmission, image library archival, limited buffer and bandwidth resources, etc.) preferably within a unified and integrated system. This coding system is intended to provide low bit-rate operations with rate-distortion and subjective image quality performance superior to existing standards, without sacrificing performance at other points in the rate-distortion spectrum. In addition, this system could include many modern features such as error resilience, up-to-lossless embedded bitstream, region of interest coding, progressive coding by resolution and by accuracy, etc.

JPEG2000 technology is described in the Verification Model (VM; version 6.0). Committee Draft of the standard evolved in December 99. JPEG2000 will be international standard in March 2001.

The tutorial will give an introduction to the requirements and objectives of JPEG2000 and will present the algorithm used in this standard for compression of still images. It will also describe various features of the JPEG2000 standard and many examples of applications where it can be applied. The tutorial will cover mainly Part I of the standard but will also give short introduction to Part II that offers more advanced functionalities, as well as in the upcoming Motion JPEG2000 standard.

## Sessions

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### Invited Paper

Tuesday June 13, 1310 - 1340

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#### *Circuit Solutions for WCDMA Direct Conversion Receiver*

Aarno Parssinen, Jarkko Jussila, Jussi Ryyanen, Lauri Sumanen, Kalle Kivekas, Kari Halonen

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### Session 1A Medical Image and Signal Processing

Tuesday June 13, 1340 - 1500

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#### *Stochastic Optimization of Linear Sparse Arrays for Pulse-Echo Imaging Systems*

Gabriella Cincotti, Giovanni Cardone, Paul D Fox, Paola Gori, Massimo Pappalardo

#### *Neural System for Monitoring Non-Linear Foetal Measurements*

Adnan Khashman

#### *Tissue Characterization Using Radial Transform and Higher Order Statistics*

Munira Ahmed, A. Rahim Leyman

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### Session 1B Implementation of Signal Processing Algorithms

Tuesday June 13, 1340 - 1500

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#### *A Multiplierless Implementation Scheme for the JPEG Image Coding Algorithm*

Javier Bracamonte, Patrick Stadelmann, Michael Ansorge, Fausto Pellandini

#### *Spatio-Temporal Noise Reduction ASIC for Real-Time Video Processing*

Håkan Norell, Bengt Oelmann, Youshi Xu

#### *Application of Neural Networks to Wavelet Filter Selection in Multispectral Image Compression*

Arto Kaarna

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### Poster 1 Audio and Speech Processing

MultiMedia Signal and Information Processing

Demonstration of Systems for Applied Signal Processing

Statistical Signal and Array Processing

Tuesday June 13, 1400 - 1600

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#### *Gaussian Selection Using Multiple Quantisation Indexes*

Jesper Olsen

#### *A On-line Hierarchical Method of Speaker Identification for Large Population*

Zhibin Pan, Koji Kotani, Tadahiro Ohmi

#### *Estimation of Speaker Characteristics by Average Long-Time Spectrum*

Milan Sigmund

#### *Acoustic Echo Control and Noise Reduction In Non-Uniform Filter Bank: An Application of Oversampling Multirate Systems and All-Pass Transformation*

Krzysztof Bielański, Alexander A. Petrovsky

#### *Low Bit-Rate ABS Spectral Coding Based on the Harmonic Analysis of Speech Agreed Upon with Time-Varying Pitch Frequency and Psychoacoustical Optimization*

Alexander A. Petrovsky, Valentin Sercov

#### *On-Line Writer Recognition For Thai Cursive Script*

Takenobu Matsuura, Pitak Thumwarin

#### *Software Multimedia: System Platform Aspects*

Prakash Sastry, Irek Defee

#### *A Comparative Study on 3D Motion Estimation under Orthography*

Yiannis Xirouhakis, Anastasios Delopoulos

#### *An Interactive Software Demonstrator of Radar Array Processing*

Svante Björklund, Jouni Rantakokko

#### *Robust Angle of Arrival Estimation of Transient Signals*

Jari Yli-Hietanen, Teemu Saarelainen, Jussi Routakangas

#### *Adaptive Tracking Algorithms for Spatially Structured DOA Estimation Methods*

Petri Karttunen

#### *Design of 2-D Windows For Plane Antenna Pattern Statistical Optimization Under Specific Requirements*

V. V. Lukin, N. N. Ponomarenko, T. Saramäki, A. A. Zelensky

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### Session 2A Image Analysis and Multidimensional Signal Processing

Tuesday June 13, 1530 - 1650

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#### *A Wavelet Packet Transform Based Image Coding Algorithm*

Rusen Oktem, Levent Oktem, Karen Egiazarian

#### *Nonlinear M-Band Wavelet Filter Structures for SAR Image Compression*

A.M. Eaves, A.N. Evans

#### *Cluster Order Using Clustering Performance Index Rate, CPIR*

R. Lynn Kirilin, Reza M. Dizaji

#### *Spatial Fourier Matrices and Transforms With Different Properties of Orthogonality*

Karen Egiazarian, Jaakko Astola

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### Session 2B Signal Processing for Wireless Communications

Tuesday June 13, 1530 - 1650

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#### *A Digital Carrier Synthesizer and Modulator for WCDMA Basestation*

Marko Kosunen, Jouko Vankka, Kari Halonen

#### *Selective and Time-Shifted Transmission Diversity Techniques in DS-CDMA Systems*

Kimmo Kettunen

#### *Filter Partitioning and Wideband Analog-To-Digital Conversion in Multimode Mobile Terminals*

Juho Pirskanen, Markku Renfors

#### *A Multiple Description Image Coder for Packet Erasure Channels*

Esteban Rodriguez-Marek, Thomas R. Fischer

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### Session 3A Audio and Speech Processing

Wednesday June 14, 0900 - 1000

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#### *A Frequency Domain Method To Improve Modelling of Formants In Speech Coding Applications of Linear Prediction*

Paavo Alku and Susanna Varho

#### *Linear Prediction of Speech by Sample Grouping*

Susanna Varho and Paavo Alku

#### *An Improved MLS Measurement System For Acquiring Room Impulse Responses*

Søren Krarup Olesen, Jan Plogsties, Pauli Minnaar, Flemming Christensen, Henrik Møller

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### Session 3B Signal Processing for Wireless Communications

Wednesday June 14, 0900 - 1000

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#### *Iterative Decoding and Detection in a High Data Rate Downlink Channel*

Ari Hottinen

#### *Feedforward Approach for Estimating The Multipath Delays in CDMA Systems*

Elena-Simona Lohan, Markku Renfors

#### *Model Based Spectral Subtraction Used For Noise Suppression In Speech With Low SNR*

Uwe Hartmann, Kjeld Hermansen

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Poster 2 Image Analysis and Multidimensional Signal Processing

Wednesday June 14, 0930 - 1130

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*Reducing Quantization Error and Bit Rate Transmission Using Prediction/Quantization*

Khaled Asswad, Jacques Oksman

*Novel Fine Detail Preserving Filter In The Image Processing*

Volodymyr I. Ponomaryova, Francisco J. Gallegos Funesa, Oleksiy B. Pogrebnyakb

*Distance Transforms in RGB Color Image Compression*

Pekka J. Toivanen, Arto Kaarna, Heikki Kälviäinen

*Multichannel Filtering using Maximum Density Ordering*

A. Fotinos, E. Zigouris, S. Fotopoulos

*Context-based 4 Channel Lossless Image Coding*

Shuitsu Matsumura, Toyoji Matsumoto, Tsuyoshi Takebe

*First Step Towards "Optimal Wiener Filtration" in Invariant Domain*

V. Labunets, A. Maida, J. Astola, K. Egiazarian

*A Method of Color Histogram Creation for Image Retrieval*

Marius Tico, Pauli Kuosmanen

*Camera Motion Estimation Using 3D-to-2D Line Correspondences*

Yiannis Xirouhakis, Athanasios Drosopoulos, Anastasios Delopoulos

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Session 4A Filters and Filtering

Wednesday June 14, 1020 - 1200

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*Universal Current-Mode Filter Implemented With The Modified Third Generation Current Conveyor*

H. Kuntman, O. Çiçekoglu, S. Ozoguz, B. Karaçivi

*CMOS Realisation of Switched Current Discrete-Time Filter*

Mariusz Jankowski, Zygmunt Ciota, Andrzej Napieralski

*High Output Impedance Transadmittance Multifunction Filter with Minimum Active Elements*

Ali Toker, Oguzhan Cicekoglu, Hakan Kuntman, Sadri Özcan

*A Noise and Distortion Comparison of Analogue Active Filters*

K. A. Mezher, P. Bowron, A. A. Muhieddine

*Low-Power Narrow Transition-Band FIR Filters*

Tormod Njølstad, Tor A. Ramstad

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Session 4B Linear, Non-Linear and Adaptive Signal Processing

Wednesday June 14, 1020 - 1200

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*Optimization Based On ODIF*

Sari Peltonen, Pauli Kuosmanen

*A Novel Complementary Variable Step LMS Algorithm*

Radu Bilcu, Pauli Kuosmanen, Corneliu Rusu

*Locally-Adaptive Processing Of 1-D Signals Using Z-Parameter And Filter Banks*

V. V. Lukin, A. A. Zelensky, N. O. Tulyakova, V. P. Melnik, S. Peltonen, P. Kuosmanen

*Optimizing Euclidean Distance Transforms Values by Number-Theoretic Methods*

Reiner Creutzburg, Jarmo Takala

*Memory-efficient Method For Interpolation of Uniformly Distributed Samples From Irregularly Sampled Signals*

Ryszard Stasinski

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Session 5A Filters and Filtering

Wednesday June 14, 1300 - 1500

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*Asymptotic Properties of FIR Filters*

Miroslav Vlcek, Pavel Zahradnik, Rolf Unbehauen

*Cascade Realization of Short Coefficient Word Length Digital Elliptic IIR Filters*

Bojan Radulovic, Ljiljana Milic

*The Effects of Quantizing The Fractional Interval In Interpolation Filters*

Jussi Vesma, Francisco Lopez, Tapio Saramäki, and Markku Renfors

*Coefficient Quantization Error Free Fixed-Point IIR Polynomial Predictor Design*

Jarno Tanskanen

*A New Approach To Digital FIR Filter Design Using The TABU Search*

Ahmed Nabil Belbachir, Mohamed Faouzi Belbachir, Alessandra Fanni

*Maximally Fast Numerically Equivalent State-Space Recursive Digital Using Distributed Arithmetic*

Oscar Gustafsson, Lars Wanhammar

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Session 5B Linear, Non-Linear and Adaptive Signal Processing

Wednesday June 14, 1300 - 1500

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*High-Order Generalized Convolutions and Correlations*

E. Rundblad-Labunets, V. Labunets, L. Astola, S. Polovnev, K. Egiazarian

*Results of a DSP Based Adaptive Cancellation Filter System For The Chirp, Pulsar and Localiser Sirens*

R. S. Sherratt

*Non-Iterative Reconstruction of Function Coded Images*

K-G Stenborg, Robert Forchheimer

*A Method of Speckle Removal in One-Look SAR Images Based on Lee Filtering and Wavelet Denoising*

V. P. Melnik, V. V. Lukin, K. Egiazarian, J. T. Astola

*Regularized FOCUSS for Subset Selection in Noise*

Kjersti Engan, Bhaskar D. Rao, K. Kreutz-Delgado

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Poster 3 Image analysis and multidimensional signal processing

Medical image and signal processing

Neural networks for signal and information processing

Wednesday June 14, 1400 - 1600

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*Comparison of Compression Methods for Multispectral Images*

Arto Kaarna, Jussi Parkkinen

*Embedded to Lossless Image Coding (ELIC)*

G.C.K. Abhayaratne, D.M. Monro

*Digital Image Resampling by Modified B-Spline Functions*

Atanas Gotchev, Jussi Vesma, Tapio Saramäki, Karen Egiazarian

*Signal Processing System Using Radial-Basis Neural Network*

Fakhreddin M., Rahib A.

*Mathematical Linguistics Methods and Their Application For Recognition of Pathological Signs In Medical Images*

Marek R. Ogjela, Ryszard Tadeusiewicz

*Image Segmentation of the CT-scans of Hip Endoprostheses*

fikhar Ahmad, Azhar Quddus, Heikki-Jussi Laine, Olli Yli-Harja 271

*Fetal QRS Complex Detection From Abnominal ECG: A Fuzzy Approach*

Khandaker Abul Kalam Azad

*Integration of Sensor Validation in Modern Control Room Alarm Systems*

Mario Hoffmann, Paolo F. Fantoni, Mauro Vitor de Oliveira, Andreas Bye

*A Neural Network Approach to Protein Sequences Processing*

Laura Campitelli, Laura Delledonne, Alessandro Salvini

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Session 6A Implementation of Signal Processing Algorithms

Wednesday June 14, 1530 - 1710

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*A Generalized Carry-Save Adder Array For Digital Signal Processing*

Magnus Karlsson

*Hardware Implementation of A Quadrature Digital Oscillator*

Florean Curticepean, Kalle Palomäki, Jarkko Niittylahti

*Implementation of a Digital Beamformer in An FPGA Using Distributed Arithmetic*

Henrik Ohlsson, Lars Wanhammar

*Seabottom Classifier Using Novel Wavelet Entropy Features*

Reza. M. Dizaji, R. Lynn Kirlin

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Session 6B Audio and Speech Processing

Wednesday June 14, 1530 - 1710

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*New Method for Mitigation of Harmonic Pitch Errors in Speech*

*Recognition of Tone Languages*

Tanee Demeechai, Kimmo Mäkeläinen

Tuesday		2000-06-13	
8:00	Registration		
8:30	Tutorial		
10:00	Coffee		
10:20	Tutorial		
12:00	Lunch		
13:00	Opening Session		
13:10	Invited paper		
13:40	Session 1A Medical Image and Signal Processing	Session 1B Implementation of Signal Processing Algorithms	Poster 1 Audio and Speech Processing
15:00	Coffee		
15:30	Session 2A Image analysis and multidimensional signal processing	Session 2B Signal processing for wireless communications	MultiMedia Signal and Information Processing Demonstration of Systems for Applied Signal Processing Statistical signal and array processing
16:50	Break		
18:00	Dolphin Show		
19:00	Dinner		
Wednesday		2000-06-14	
8:00	Registration		
9:00	Session 3A Audio and speech processing	Session 3B Signal processing for wireless communications	Poster 2 Image analysis and multidimensional signal processing
10:00	Coffee		
10:20	Session 4A Filters and filtering	Session 4B Linear, non-linear and adaptive signal processing	
12:00	Lunch		
13:00	Session 5A Filters and filtering	Session 5B Linear, non-linear and adaptive signal processing	Poster 3 Image analysis and multidimensional signal processing Medical image and signal processing Neural networks for signal and information processing
15:00	Coffee		
15:30	Session 6A Implementation of signal processing algorithms	Session 6B Audio and speech processing	
17:10	Break		
19:00	NORSIG2000 Banquet		
Thursday		2000-06-15	
8:00	Registration		
9:00	Session 7A Filters and filtering	Session 7B Audio and speech processing	Poster 4 Signal processing for wireless communications Implementation of signal processing algorithms
10:00	Coffee		
10:20	Session 8A Image analysis and multidimensional signal processing	Session 8B MultiMedia signal and information processing Other	
12:00	Lunch		
13:00	Session 9A Filters and filtering	Session 9B Statistical signal and array processing	Poster 5 Filters and filtering Linear, non-linear and adaptive signal processing Other
15:00	Coffee		
15:30			

## Notes

The dolphin show is located just nearby the conference hotel. We walk from the hotel entrance with start 1750

Coffee is served in the lobby outside the session rooms.

Always wear your name-plate. It is the ticket to dinners, lunch etc.

The conference secretariat is separated from the hotel reception. Is is located on the same floor as the session rooms.

Lunch is served in the hotel lunch room,

Dinner is served in the hotel banquet room,

There are computers available to the attendees with internet access in connection to the session room.

The NORSIG2000 organisers will supply the tape needed for attaching your poster to the board.

All poster sessions will be held in the Poster Hall

A portable computer (PC) is available for presentations through the video projector for those who requested it.

Current information will be announced at the conference secretariat

*Multi-Stream Speech recognition Using Heterogeneous Minimum Classification Error Feature Space Transformation*  
Heidi Christensen, Børge Lindberg, Ove Andersen  
*Speaker Verification Using a Decision Strategy Based on Support Vector Machines*  
Holger Schalk, Herbert Reininger  
*Automatic Speech Recognition for Mobile Communication Devices*  
Bojana Gajic, Richard Rose, Shrikanth Narayanan, S. Parthasarathy, Aaron Rosenberg

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Session 7A Filters and Filtering

Thursday June 15, 0900 - 1000

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*A Class of High-Speed Wide-Band Frequency Masking Recursive Digital Filters with Approximately Linear Phase*

Håkan Johansson

*A Two-Channel Hybrid Analog and IIR Digital Filter Bank Approximating Perfect Magnitude Reconstruction*

Per Löwenborg, Håkan Johansson, Lars Wanhammar

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Session 7B Audio and Speech Processing

Thursday June 15, 0900 - 1000

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*The Danish Research Ministry's Initiative on Text-to-Speech Synthesis*

Ove Andersen, Charles Hoequist, Claus Nielsen

*A new cost function to select the wavelet decomposition for audio compression*

N. Ruiz Reyes, M. Rosa Zurera, F. Lopez Ferreras, D. Martinez Muñoz, J.M. Villafranca

*On the Coding Gain of Dynamic Huffman Coding Applied to a Wavelet-Based Perceptual Audio Coder*

N. Ruiz Reyes, M. Rosa Zurera, F. Lopez Ferreras, P. Jarabo Amores, P. Vera Candéas

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Poster 4 Signal Processing for Wireless Communications  
Implementation of Signal Processing Algorithms

Thursday June 15, 0930 - 1130

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*Stochastic Approach for Blind Estimation of Multiple Co-Channel Signals Received at An Antenna Array*

Hakan A. Cirpan, Yucel Türker and Erdinc Cekli

*Application Driven DSP Hardware Synthesis*

Mikael Karlsson Rudberg, Mikael Hjelm

*Semi-Custom VLSI Chip implementation of a New Two-Dimensional Separable Median Filter Algorithm*

Ahmad Hiasat

*A Rice-Based Lossless Data Compression System for Space Applications*  
Salvatore Coco, Valentina D'Arrigo, Domenico Giunta

*Implementing Wavelet Transforms For X-Ray Image Enhancement Using General Purpose Processors*

Juha Lemmetti, Juha Latvala, Hakan Öktem, Karen Egiazarian, Jarkko Niittyalahti

*Real-Time Implementation of Fractal Image Encoder Using Residue Number System*

B. Rejeb, H. Henkelmann, W. Anheier

*Chirp Filtering approach in Number Theoretic Domain to Compute Convolution Modulo  $k \cdot 2^n + 1$ , a Prime*

M. Bhattacharya, J. Astola

*Intelligent Node for Sensor Signal Processing*

A. Sachenko, V. Kochan, V. Turchenko, T. Laopoulos, V. Golovko

*Application Of High-Level Memory Size Estimation For Guidance Of Loop Transformations In Multimedia Design*

Per Gunnar Kjeldsberg, Francky Catthoor, Einar J. Aas

*DSP Experimental System for Radio Frequency Interference Mitigation at Radio Telescope*

Peter Fridman

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Session 8A Image Analysis and Multidimensional Signal Processing

Thursday June 15, 1020 - 1200

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*Lie-Light-Tracking*

Reiner Lenz, Linh Viet Tran

*Using the Skin Locus to Cope With Changing Illumination Conditions in Color-Based Face Tracking*

Maricor Soriano, Birgitta Martinkauppi, Sami Huovinen, Mika Laaksonen

*A New Approach for Embedded Image Coding*

Emir Tufan, Hasan Demir

*An Integrated Approach to Image Sequence Segmentation*

Jinsang Kim, Tom Chen

*Shape Description Using Generalised Finite Automata for Object-Based Video Coding*

Alexander Makarov, Mansour Moniri

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Session 8B MultiMedia Signal and Information Processing

Thursday June 15, 1020 - 1200

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*Integration of Radio Access System and Network*

Tung Pham Thanh, Andrew Perkis

*Robust Adaptive Beamformer with Reflection Suppression for Teleconferencing Applications*

Thomas Duer, Peter S.K. Hansen, John Aa. Sorensen

*Moment preserving Parameter Estimation and Digital Online Peak Localization Algorithms for Gamma Ray Spectroscopy*

M.W.Raad, J.M.Noras

*Tuning J0 Ultrasound Beams in Attenuating Media*

Paul Fox, Paola Gori, Gabriella Cincotti, Sverre Holm

*Multipath Delay Estimation in GPS Receivers*

Ridha Hamila, Elena-Simona Lohan, Markku Renfors

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Session 9A Filters and Filtering

Thursday June 15, 1300 - 1500

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*Digital Filters for Non-Uniformly Sampled Signals*

Daniel Poulton, Jacques Oksman

*Multirate Approach to the Efficient approximation of Gaussian Filters*

Gordana Jovanovic-Dolecek

*Efficient Filter Structures for Linearly Predictable Responses*

Konsta Koppinen

*M-Channel Tree-Structured IIR/FIR Filter Banks With Low-Complexity Analysis Filters*

Elizabeth Elias, Per Löwenborg, Håkan Johansson, Lars Wanhammar

*Low-Power Decimation and Channel Selection Filter for a WCDMA Receiver*

Lauri Koskinen, Marko Kosunen, Saska Lindfors, Kari Halonen

*Maximally Fast Scheduling of Bit-Serial Lattice Wave Digital Filters Using Three-Port Adaptor Allpass Sections*

Oscar Gustafsson, Lars Wanhammar

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Session 9B Statistical Signal and Array Processing

Thursday June 15, 1300 - 1500

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*Passive Underwater Signature Estimation by Bispectral Analysis*

Ron Lennartsson, Steve McLaughlin, Leif Persson, John Robinson

*Frequency Estimation by Proper Correlation Lag Constellations*

Björn Völcker, Peter Händel

*Evaluation of a Standardized Sine Wave Fit Algorithm*

Peter Händel

*Seismic Bispectral Conditioning by Stepwise Outlier Rejection*

Leif Persson, Steve McLaughlin

*Local Polynomial music for Moving Source Localization and Tracking*

Vladimir Katkovnik

*Channel Equalization Based on ARMA Modelling and Perturbation Analysis*

Hamidreza Amindavar, Mahrokh G. Shayesteh

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Poster 5 Filters and Filtering

Linear, Non-Linear and Adaptive Signal Processing

Thursday June 15, 1400 - 1530

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*New Oscillator Topologies Based on a Single Inverting Second Generation Current Conveyor*

Mehmet Diğçigil, Ali Toket, Oğuzhan Çiçekođlu, Hakan Kuntman

*Statistical Analysis of Analog RC filters Driven by Non-Gaussian Noises*

Dr Vladimir A. Kazakov, Ruben Hernandez Picasso, Francisco J Tejada

*A Sequential Robust Method To Finite Wordlength Coefficient FIR Digital Filter Design*

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 Audio and speech processing  
 Medical image and signal processing  
 Signal processing for wireless communications  
 Multimedia signal and information processing  
 Filters and filtering  
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