10th Inverse Days, Sodankylä Geophysical Observatory
15th–17th December 2004

12:00–13:00 Lunch at SGO canteen
13:00–13:30 registration near to SGO main lecture hall

Session 1, Wednesday 13:30–16:00 (all talks 25 min + 5 min discussion)

1) Conference opening, followed by Markku Lehtinen:
Juha Pirttilä in memoriam

2) Baylie Damtie, Bahir Dar University
Incoherent Scatter Radar data analysis by means of inversion

3) S Eleri Pryse, University of Wales, Aberystwyth
Imaging near-Earth space by radio tomography

4) Kirsi Peltonen, Helsinki University of Technology
Finsler geometry through Hilbert's Fourth problem

5) Johanna Tamminen, Finnish Meteorological Institute
Adaptive Markov chain Monte Carlo algorithms for GOMOS inverse problems

16:00–16:45 FIPS business meeting
16:45 Bus to hotel
17:00–18:45 CoE planning meeting (FIPS board members only)
19:00–21:00 Sodankylä town reception at City Hall (walking distance from hotel)

Session 2, Thursday 10:00–12:00 (9:30 Bus transport from Hotel to SGO)

6) Rainer Kress, Institut für Numerische und Angewandte Mathematik Universität Göttingen
Umpteen ways for solving inverse boundary value problems for the Laplace equation

7) Simopekka Vänskä, University of Helsinki
Beltrami fields and scattering

8) V.S. Serov, Department of Mathematical Sciences, University of Oulu
Weierstrass' solutions to certain nonlinear equations

9) Julia Nickel, University of Osnabrück
Elliptic and (linear) superposition solutions to certain nonlinear wave and evolution equations

12:00–13:00 Lunch at SGO canteen

Session 3, Thursday 13:30 – 15:30

10) Daniela Calvetti (Case Western Reserve University) and Erkki Somersalo
Statistical compensation of boundary effects in deconvolution

11) Erkki Somersalo (Helsinki University of Technology), Daniela Calvetti and Fiorella Sgallari
Image inpainting and bootstrap priors

12) Elisa Francini, Istituto per le Applicazioni del Calcolo, Firenze
Reconstruction of thin conductivity imperfections

13) Athanasios Zacharopoulos, J. Sikora and S. Arridge, University College London
Reconstruction of 3D region boundaries in Optical Tomography using Parametric Surfaces and BEM

15:30–16:00 Coffee

Session 4, Thursday 16:00–18:00

14) Jouko Lampinen, Helsinki University of Technology
Bayesian aspects in inverse problems - model validation and hierarchical models

15) Hanna Pikkarainen, Helsinki University of Technology
A Mathematical Model for Electrical Impedance Process Tomography

16) V. F. Sofieva, J. Tamminen, E. Kyrölä – FMI, H. Haario – UoH M. Lehtinen – SGO
Profile smoothness as a priori information in the inversion of limb measurements

17) Andrey Osipov, Scientific-Research Institute for System Studies, Moscow
On some properties of infinite-dimensional elliptic coordinates

18:15 Bus to hotel
19:00 Bus from hotel to conference dinner at 'Kommattilampi'. Possibility to have a sauna and a bath through a hole in the ice of the lake. Also possible to sit outside by fire. Warm clothing is recommended.

Session 5, Friday, 10:00–12:00 (9:30 Bus transport from hotel to SGO)

18) Mikko Salo, University of Helsinki
Inverse problems in computer vision

19) Markku Markkanen, Eigenor Oy, Sodankylä
Gibbs sampling with total variation priori

20) Asko Huuskonen, Finnish Meteorological Institute, Helsinki
Solution of the Range-Doppler dilemma of weather radars by the SMPRF codes based on statistical inversion

21) Philippe Trottier, Eigenor Oy, Sodankylä
How does processor, compilers and system design react to big problems.

12:00–12:45 Lunch at SGO canteen

Session 6, Friday 13:00-16:00

22) Lassi Päivärinta, Rolf Nevanlinna Institute, Helsinki
Boundary integral equation for bounded measurable conductivities in the plane.

23) Matti Lassas, Helsinki University of Technology
Inverse conductivity problem with an imperfectly known boundary

14:00–14:30 Coffee

24) Sari Lasanen, University of Oulu
Green's priors in statistical inverse theory

25) Jussi Markkanen, Sodankylä Geophysical Observatory
Space debris signal modeling

26) Mikko Kaasalainen, Rolf Nevanlinna Institute, Helsinki
Grand Unified Projection Operator Scheme (GUPOS)

15:40 Transport to Sodankylä, for connection to Rovaniemi trains/planes at 1805 or 1835
16:15 Bus transport to hotel and Café Kerttuli, continues to Rovaniemi at 1830 for plane at 2035 and train at 2100