

# Norwegian Electro-Optics Meeting 2008

## Wednesday March 26

16:15 : Bus departure from Tromsø City (Prostneset/Roald Amundsens plass)  
 16:45 : Bus departure from Tromsø Airport Langnes.  
 17:30-22:00 : Dog sledding near Tromsø. Dinner in lavvo.

## Thursday March 27

00:00 - 01:30 : Embark on the ship, Tromsø  
 07:30 - 09:30 : Breakfast  
 08:30 - 09:30 : Registration

09:30 : Welcome address (Olav Gaute Hellestø)

### *Morning session, chairman Johannes Skaar*

|       |                                                          |                                                                                                             |
|-------|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| 09:40 | Lene V. Hau (invited)                                    | Wizardry with light: freeze, teleport, and go!                                                              |
| 10:25 | Haakestad, Arisholm, Lippert, Nicolas, Rustad, Stenersen | High-pulse-energy mid-infrared laser source based on optical parametric amplification in ZnGeP <sub>2</sub> |
| 10:45 | <i>Coffee break</i> (Risøyhamn)                          |                                                                                                             |
| 11:15 | Costas M. Soukoulis (invited)                            | Negative index materials: New frontiers in optics                                                           |
| 12:00 | Nistad, Skaar                                            | Causality, refractive index, and instabilities in active media                                              |
| 12:20 | Blad, Sudbø                                              | Numerical method for systematic search for modes in a two-dimensional photonic crystal                      |
| 12:40 | Hadzialic, Kim, Mallick, Sudbø, Solgaard                 | Monolithic photonic crystals                                                                                |

(13:00 : Sortland)  
 13:30 : Lunch

### *Afternoon session, chairman Ib-Rune Johansen*

|       |                                                               |                                                                                             |
|-------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| 14:30 | Cirennima, Stamnes, Frette, Gelsor, Hamre, Dahlback, Gjessing | UV Radiation in Lake Namtso, Tibet                                                          |
| 14:50 | Kåsen, Skauli, Haavardsholm, Kavara, Tarabalka, Farsund       | Status of the FFI hyperspectral technology demonstrator                                     |
| 15:10 | Brendhagen, van Rheeën                                        | Effects of meteorological conditions on infrared maritime scenarios                         |
| 15:30 | O'Farrell, Tschudi, Schulerud, Ottestad, Wold                 | Low resolution NIR multispectral imaging applied to online sensing in food processes        |
| 15:50 | Kildemo, Skjerpín, Stabo-Eeg, Lindgren                        | Optimal broad-band liquid crystal based Mueller matrix systems for imaging and spectroscopy |

|       |                                                             |                                                                  |
|-------|-------------------------------------------------------------|------------------------------------------------------------------|
| 16:10 | Nerbø, Kildemo, Leroy, Søndergård, Simonsen, Holt, Walmsley | Characterization of GaSb nanocones by spectroscopic ellipsometry |
|-------|-------------------------------------------------------------|------------------------------------------------------------------|

16:30 - 18:30 : Poster session and exhibition

- Angelskår, Bouquet, Johansen, Lacolle, Løvhaugen, Sagberg, Sudbø: Characterization and full-field simulation of diffractive optical elements.
- Apeland, Vindenes Egge, Kartashov, Henriksen, Gartmann, Spatschek, Aksnes: Speckle reduction in laser projection displays.
- Bakke, Sagberg, Johansen, Lacolle, Storås, Moe: Optical MEMS filter for infrared gas detection.
- Bhandari, Nielsen, Zho, Hamre, Frette, Stamnes: Goniometric reflectance from spectralon illuminated by linearly polarized light.
- Bru, Randeberg, Larsen, Aksnes, Hyperspectral characterization of bruised skin.
- Hadzialic, Kim, Sudbø, Solgaard: Displacement sensing with a mechanically tunable photonic crystal.
- Hellesø, Grujic, Wilkinson: Optical waveguides for manipulation of microparticles and assembly of microsphere chains.
- Fonnum, Lippert, Stenersen: High power mid-infrared laser.
- Leirset, Martinussen, Engan, Aksnes: Heterodyne interferometer for measuring vibrational amplitude.
- Marøy, Skaar: Quantum information theory - distinguishing quantum states
- Selj, Marstein, Foss, Finstad: Applications of porous silicon for light trapping in thin silicon solar cells.
- Sommersten, Lotsberg, Stamnes, Stamnes: Polarized radiative transfer in a coupled two-media system.
- Svendsen, Weman, Skaar: Modeling of modal properties of nanowire lasers.
- Waagaard, Rønnekleiv, Forbord, Dag Thingbø: Reduction of crosstalk in inline sensor arrays using inverse scattering.

Exhibition: Azpect, Comsol, Laser2000, BFi Optilas.

18:30 - 19:30 : Svolvær, possible debarkation

20:30 : Dinner

### Friday March 28

07:30 - 09:00 : Breakfast

#### *Morning session 1, chairman, Balpreet Singh Ahluwalia*

|       |                                       |                                                                                                         |
|-------|---------------------------------------|---------------------------------------------------------------------------------------------------------|
| 09:00 | Laura M. Lechuga (invited)            | Optical biosensor platforms for early diagnosis and real time analysis                                  |
| 09:45 | Nicolausi, Frette, Erga, Fransisco    | Bio-optical technique for estimation of primary productivity from chlorophyll fluorescence measurements |
| 10:05 | Hamre, Stamnes, Frette, Erga, Stamnes | A three-state model for aquatic photosynthesis                                                          |

|       |                                |                                                     |
|-------|--------------------------------|-----------------------------------------------------|
| 10:25 | Lilledahl, Davies,<br>Svaasand | Multiphoton microscopy of vulnerable plaques        |
| 10:45 | Larsen, Randeberg, Aksnes      | In vitro hyperspectral imaging of the porcine heart |
| 11:05 | <i>Coffee break</i> (Nesna)    |                                                     |

*Morning session 2, chairman Helge Weman*

|       |                                                                                 |                                                             |
|-------|---------------------------------------------------------------------------------|-------------------------------------------------------------|
| 11:30 | Val Zwiller (invited)                                                           | Quantum optics with nanowires and quantum dots              |
| 12:15 | Røyset, Valset, Ladam,<br>Kaus, Mokkelbost,<br>Fagerberg, Mongstad,<br>Lindgren | Photon conversion for improved solar cell efficiency        |
| 12:35 | Gjessing, Marstein, Sudbø                                                       | Photonic crystals applied for light trapping in solar cells |
| 12:55 | Lydersen, Skaar                                                                 | Detector efficiency mismatch in quantum cryptosystems       |

13:30 : Lunch

*Afternoon session, chairman Olav Gaute Hellesø*

|       |                                           |                                                                                                                      |
|-------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 14:30 | James S. Wilkinson<br>(invited)           | Microsphere resonators: A route to enhanced functionality in planar lightwave circuits                               |
| 15:15 | Ahluwalia                                 | Integration of laser tweezers for 'continuous' and 'selective' monitoring of photothermal response of micro-particle |
| 15:35 | Nakstad, Kringlebotn                      | Realisation of a full-scale fibre optic ocean bottom seismic system                                                  |
| 16:10 | Rønnekleiv, Waagaard,<br>Thingbø, Forbord | Suppression of Rayleigh scattering noise in a pulse-interrogated interferometric sensors system                      |

(16:50 : Brønnøysund)

18:00 : NFS-Optics group meeting

19:00 : Strategy session: A Norwegian strategic research agenda for photonics (optical technology) - Progress report and feedback opportunity (Odd Løvhaugen)

20:30 : Dinner

**Saturday March 29**

06:30 : Arrival Trondheim

07:30 : Breakfast

08:00 : Checkout time from cabins