

# 3rd International Polarimetric SAR Workshop in Niigata 2012

**Date:** August 23-26, 2012

**Venue:** Tokimate (Niigata Univ. Satellite Campus), Niigata, Japan  
(<http://www1.niigata-u.ac.jp/tokimate/>)

**Sponsored by**

Niigata University; IEEE GRS Japan Chapter; IEICE SANE ; and URSI-F, Japan

**Schedule Overview**

| Aug. 23                              | Aug. 24   | Aug. 25                              | Aug. 26  |
|--------------------------------------|---|--------------------------------------|--|
| 09:00 ~ Morning Session 1<br>10:30   | 09:00 ~ Morning Session 1<br>10:30  | 09:00 ~ Morning Session 1<br>10:30   | Scientific Excursion<br>SADO island<br>(07:55 ~ 18:30) |
| 10:30 ~ Coffee Break<br>10:50        | 10:30 ~ Coffee Break<br>10:50   | 10:30 ~ Coffee Break<br>10:50        |  |
| 10:50 ~ Morning Session 2<br>12:20   | 10:50 ~ Morning Session 2<br>12:20  | 10:50 ~ Morning Session 2<br>12:20   |  |
| 12:20 ~ Lunch Break<br>13:40         | 12:20 ~ Lunch Break<br>13:40  | 12:20 ~ Lunch Break<br>13:40         |  |
| 13:40 ~ Afternoon Session 1<br>15:10 | IEICE SANE<br>(Space, Aeronautical and Navigational Electronics)<br><br>Technical Committee Meeting | 13:40 ~ Afternoon Session 1<br>15:10 |  |
| 15:10 ~ Coffee Break<br>15:30        |   | 15:10 ~ Coffee Break<br>15:30        |  |
| 15:30 ~ Afternoon Session 2<br>16:30 |   | 15:30 ~ Afternoon Session 2<br>16:30 |  |
| 16:30 ~ Coffee Break<br>16:40        |   | 16:30 ~ Coffee Break<br>16:40        |  |
| 16:40 ~ Afternoon Session 3<br>18:20 |   | 16:40 ~ Afternoon Session 3<br>18:20 |  |

**Contact**

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- Prof. Sang-Eun Park (s.park@wave.ie.niigata-u.ac.jp)
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## August 23, 2012

|       |       | Name                          | Affiliation                              | Title   |
|-------|-------|-------------------------------|--|---|
| 9:00  | 9:30  | Prof. Wolfgang Martin Boerner | University of Illinois at Chicago, USA   | Historical development of Radar Polarization technology towards Radar Polarimetry culminating in fully polarimetric POL-IN-SAR  |
| 9:30  | 10:00 | Prof. Wolfgang Martin Boerner | University of Illinois at Chicago, USA   | Assessment of fully polarimetric POLSAR Remote Sensing & Geophysical Stress-change monitoring with implementation to agriculture, forestry & aqua-culture plus natural disaster assessment & monitoring within the Pacific Ring of Fire |
| 10:00 | 10:30 | Dr. Masanobu Shimada          | JAXA                                     | Polarimetric Geometric Calibration and Validation of the newly developed JAXA Pi-SAR-L2 and the Interferometric and polarimetric performances   |
| 10:30 | 10:50 | <i>Break</i>                  |  |   |
| 10:50 | 11:20 | Dr. Ridha Touzi               | Canada Centre for Remote Sensing, Canada | Calibration of polarimetric Radarsat2 using high precision transponder measurements   |
| 11:20 | 11:50 | Dr. Kostas Papathanassiou     | DLR, Germany                             | Polarimetric SAR Interferometry Activities at DLR   |
| 11:50 | 12:20 | Dr. Scott Hensley             | JPL, USA                                 | Polarimetric and Polarimetric Interferometric Research at JPL   |
| 12:20 | 13:40 | <i>Lunch</i>                  |  |   |
| 13:40 | 14:10 | Dr. Jakob J. Van Zyl          | JPL, USA                                 | A Polarimetric Segmentation Approach for Soil Moisture Active/Passive (SMAP) Mission: Algorithm Description and Results   |
| 14:10 | 14:40 | Dr. Yunjin Kim                | JPL, USA                                 | A Polarimetric Segmentation Approach for Soil Moisture Active/Passive (SMAP) Mission: Application to Time Series Algorithm  |
| 14:40 | 15:10 | Prof. Kun-Shan Chen           | National Central University, Taiwan      | Polarimetric Surface Scattering from Layered Media  |
| 15:10 | 15:30 | <i>Break</i>                  |  |   |
| 15:30 | 16:00 | Dr. Bryan Chih-yuan Chu       | National Central University, Taiwan      | Polarimetric Analysis of Coastal Environments Based on Four-Component Scattering Decomposition  |
| 16:00 | 16:30 | Prof. Shiv Mohan              | ISRO, India                              | SAR polarimetry applications for terrestrial and lunar surfaces   |
| 16:30 | 16:40 | <i>Break</i>                  |  |   |
| 16:40 | 17:10 | Prof. Dhamendra Singh         | IIT Roorkee, India                       | Problems and Challenges to Study Lunar Surface Using Mini-SAR Data of Chandrayaan-1   |
| 17:10 | 17:40 | Prof. Y. S. Rao               | IIT, Bombay, India                       | Classification of Multifrequency and Multipolarization SAR data for Various Land Features   |
| 17:40 | 18:20 | Dr. Sang-Eun Park             | Niigata University, Japan                | Polarimetric SAR remote sensing of earthquake/tsunami disaster  |
| 18:30 | -     | <i>Banquet</i>                |  |   |

## August 24, 2012

|       |       | Name                        | Affiliation                    | Title   |
|-------|-------|-----------------------------|--------------------------------|---|
| 9:00  | 9:30  | Dr. Jong Sen Lee            | Naval Research Laboratory, USA | Generalized model-based scattering decomposition based on incoherent scattering models  |
| 9:30  | 10:00 | Dr. Thomas L. Ainsworth     | Naval Research Laboratory, USA | Polarimetric Classification Based on Underlying Scatterer Shape and Orientation Distributions   |
| 10:00 | 10:30 | Dr. Shane Cloude            | AELc, Scotland                 | Compact POLSAR and POInSAR: Good or Bad?  |
| 10:30 | 10:50 | <i>Break</i>                |                                |   |
| 10:50 | 11:20 | Prof. Eric Pottier          | University of Rennes 1, France | On the use of fully polarimetric ALOS-PALSAR and Radarsat-2 datasets for monitoring the wetland dynamics and for detecting archaeological sites |
| 11:20 | 11:50 | Prof. Laurent Ferro-Famil   | University of Rennes 1, France | Polarimetric SAR tomography of artificial and natural environments: techniques and applications.  |
| 11:50 | 12:20 | Prof. Carlos López-Martínez | UPC, Spain                     | Speckle Noise Characterization and Filtering in PolSAR and PolInSAR Data  |
| 12:20 | 13:20 | <i>Lunch</i>                |                                |   |

### Technical Committee on Space, Aeronautical and Navigational Electronics (SANE) (Fri, Aug 24, 2012 13:20 - 16:55)

|       |       |  |  |   |
|-------|-------|--|--|---|
| 13:20 | 13:45 | Jun Awaka (Tokai Univ.)  |  | On separation of rain echo and surface echo in the radar observation of rain from space                               |
| 13:45 | 14:10 | Kohei Osa (WNI), Josaphat Tetuko Sri Sumantyo, Fumihiko Nishio (Chiba Univ.) |  | Estimation Method of Dielectric Constants of Snow and Ice using Electric Field Vector Measurements of Reflected Waves |
| 14:10 | 15:00 | Yoshio Yamaguchi (Niigata Univ.)   |  | [Special Talk] Scattering Power Decomposition of Polarimetric Radar Data  |
| 15:00 | 15:15 | Break (15 min.)  |  |   |
| 15:15 | 15:40 | Si-Wei Chen, Motoyuki Sato (Tohoku Univ.)                                    |  | Polarimetric Model-Based Decomposition with Generalized Scattering Models   |
| 15:40 | 16:05 | Mao Inami, Hirokazu Kobayashi, Yoshio Yamaguchi (Niigata Univ.)              |  | Short-Range Radar Imaging Considering the Antenna Characteristics by using AF   |
| 16:05 | 16:30 | Yoshio Kosuge (Nagasaki Univ.)   |  | NPN Method Using a Constant Velocity Target Model   |
| 16:30 | 16:55 | Shiori Mihara, Takeshi Amishima, Kazufumi Hirata (Mitsubishi Electric)       |  | Proposal of the Signal Separation method using Multiplicity of Frequency channels                                     |

## August 25, 2012

|       |       | <b>Name</b>                        | <b>Affiliation</b>                    | <b>Title</b>  |
|-------|-------|------------------------------------|---------------------------------------|---|
| 9:00  | 9:30  | Prof. Wooil Moon                   | University of Manitoba, Canada        | Polarimetric SAR Applications in Geophysics - An Overview   |
| 9:30  | 10:00 | Prof. Motoyuki Sato                | Tohoku University, Japan              | Near range polarimetric SAR   |
| 10:00 | 10:30 | Prof. Akira Hirose                 | The University of Tokyo, Japan        | Adaptive signal processing based on complex-valued neural networks in radar imaging                                     |
| 10:30 | 10:50 | <i>Break</i>                       |                                       |   |
| 10:50 | 11:20 | Dr. Motofumi Arie                  | Mitsubishi Space Software, Japan      | Challenges to the Diversity of Vegetated Surfaces using POLSAR Data   |
| 11:20 | 11:50 | Prof. Bin Zou                      | Harbin Institute of Technology, China | Asymmetric Decomposition Method for Polarimetric SAR Data Using a Modified Four-Component Scattering Model              |
| 11:50 | 12:20 | Dr. Haipeng Wang                   | Fudan University, China               | Reconstruction of a 3D Complex Target Using Step-Frequency Radar  |
| 12:20 | 13:40 | <i>Lunch</i>                       |                                       |   |
| 13:40 | 14:10 | Prof. Ryoichi Sato                 | Niigata University, Japan             | Stricken man-made object detection using scattering power decomposition with NNED and rotation of the covariance matrix |
| 14:10 | 14:40 | Prof. Josaphat Tetuko Sri Sumantyo | Chiba University, Japan               | Development of Synthetic Aperture Radar onboard Unmanned Aerial Vehicle   |
| 14:40 | 15:10 | Dr. Makoto Satake                  | NICT, Japan                           | New NICT airborne X-band SAR system, Pi-SAR2: current status and future plan  |
| 15:10 | 15:30 | <i>Break</i>                       |                                       |   |
| 15:30 | 16:00 | Prof. Akira Kato                   | Chiba University, Japan               | Ground truth of PALSAR data using airborne and terrestrial LIDAR data   |
| 16:00 | 16:30 | Dr. Ram Avtar                      | JAMSTEC, Japan                        | Multi-temporal PALSAR data to detect conversion of peatland forests to oilpalm plantation in Sarawak, Malaysia          |
| 16:30 | 16:40 | <i>Break</i>                       |                                       |   |
| 16:40 | 17:10 | Dr. Yi Cui                         | Niigata University, Japan             | On complete three-component decomposition of POLSAR coherency matrix data   |
| 17:10 | 17:40 | Dr. Gulab Singh                    | Niigata University, Japan             | Full-pol-SAR decomposition scheme over wet snow areas   |
| 17:40 | 18:00 | Prof. Yoshio Yamaguchi             | Niigata University, Japan             | Discussions and Closing Remarks   |

## Scientific Excursion



07 : 55 Departure – Sado Kisen Ferry Terminals by Jetfoil (ジェットフォイル)

09 : 00 ~ 16 : 00 Sado Excursion (バス予約済み)

16 : 05 Return – Ferry (フェリー)

18 : 30 Arrive at Niigata (新潟着予定)

Workshop discounted prices for the transportation (ferry/bus) and lunch: 9,990 円 (Japanese yen)

## Access to the Venue

住所: 新潟大学駅南キャンパス「ときめいと」〒950-0911 新潟県新潟市中央区笹口1丁目1番地 プラカ1・2階  
Address: 'TOKIMATE', PLAKA 1 (2F), Sasaguchi-1-1, Chuo-ku, Niigata 950-0911, Japan  
Tel: 025-248-8141 Fax: 025-248-8144

### Three minutes walk from Niigata Station 'South Gate' (新潟駅南口から徒歩3分)



## Hotel Information

In English:

The Chisun Hotel & Conference Center Niigata  
1-1 Sasaguchi, Chuo-ku, Niigata-shi, Niigata 950-0911  
TEL: 025-240-2111 / FAX: 025-240-2112

<http://www.solarehotels.com/english/chisun/hotel-niigata/map/detail.html>

In Japanese:

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