

# 3rd International Symposium of Center for Space Science and Radio Engineering (SSRE)



28-29 August 2023

80th Anniversary  
Memorial Hall, 3F  
East Campus, UEC

- Monday 28 August 2023 -

Opening	Prof. Hiroshi Kikuchi (SSRE, UEC, Japan)
13:00-13:10	Prof. Koji Abe (Director, Office for International Strategy, UEC, Japan) Prof. Yasuhide Hobara (Director, Center for Space Science and Radio Engineering, UEC, Japan)
Session 1	Chair: Prof. Yasuhide Hobara (SSRE, UEC, Japan)
13:10-13:30 (20-min)	The Monitoring Vibrations and Perturbations in the Lithosphere, Atmosphere, and Ionosphere (MVP-LAI) system: establishments, observational findings, and future plans Prof. Chieh-Hung Chen (China University of Geosciences, China)
13:30-13:50 (20-min)	Study of ionosphere modification before large earthquakes-present and future Dr. Koichiro. Oyama (Kyushu University, Japan)
13:50-14:20	Break
Session 2	Chair: Prof. Hiroshi Kikuchi (SSRE, UEC, Japan)
14:20-14:40 (20-min)	Winter lightning strikes to aircraft around Komatsu airport, Japan Sea coastal area Prof. Koichiro Michimoto (Former Prof. of National Defense Academy of Japan, and retired Col. of Japan Air-self Defense Force, Japan)
14:40-15:00 (20-min)	The newly designed lightning location system named LENTRA Dr. Mikihsa Saito (Central Research Institute of Electric Power Industry, Japan)
15:00-15:10	Break

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Session 3	Chair: Prof. Koichiro Michimoto (Former Prof. of NDA, Japan)
15:10-15:30 (20-min)	Extraction of weather information from radar signals Prof. Madhu Chandra (Chemnitz University of Technology, Germany)
15:30-15:50 (20-min)	Observations of summer thunderstorms with X-band dual polarized phased array weather radar and LF/MF band lightning location system Prof. Hiroshi Kikuchi (SSRE, UEC, Japan)
15:50-16:10 (20-min)	Water vapor lidar observation for improving of local severe rainfall forecast Dr. Satoru Yoshida (Meteorological Research Institute, Japan)

16:10-16:30    Group photo

Session 4	Chair: Prof. Chieh-Hung Chen (China University of Geosciences, China)
16:30-16:50 (20-min)	Prediction of downbursts using machine learning of total lightning and ground precipitation data in Japan Prof. Yasuhide Hobara (SSRE, UEC, Japan)
16:50-17:10 (20-min)	Analysis of tweek-atmospherics based on measurements at three remote locations Dr. Alexander Shvets (UEC, Japan / Usikov Institute for Radio-Physics and Electronics, Ukraine)

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Session 5	Chair: Prof. Madhu Chandra (Chemnitz University of Technology, Germany)
09:30-09:50 (20-min)	Applications of stokes vector based data interpretation for polarimetric Synthetic Aperture Radar Prof. Fang Shang (UEC, Japan)
09:50-10:10 (20-min)	Microwave quantitative and qualitative imaging for non-destructive evaluation applications Prof. Shouhei Kidera (UEC, Japan)
10:10-10:30 (20-min)	Development of wideband heterodyne receivers for radio astronomy Prof. Takeshi Sakai (SSRE, UEC, Japan)
10:30-10:40	Break
Session 6	Chair: Prof. Koichiro Oyama (Kyushu University, Japan)
10:40-11:00 (20-min)	Characteristics of bolt-from-the-blue lightning observed in Japan Dr. Namiko Sakurai (National Research Institute for Earth Science and Disaster Resilience, Japan)
11:00-11:20 (20-min)	Tonga eruption-induced disturbances in lithosphere, atmosphere, and ionosphere and their coupling Prof. Yang-Yi Sun (China University of Geosciences, China)
11:20-13:00	Lunch
Session 7	Chair: Prof. Takeshi Sakai (SSRE, UEC, Japan)
13:00-13:20 (20-min)	New projects in high-energy atmospheric electricity Prof. Sebastien Celestin (LPC2E, University of Orleans, CNRS, France)
13:20-13:40 (20-min)	Development of balloon-borne instrumentation for high-energy atmospheric electricity Mr. Yanis Hazem (LPC2E, University of Orleans, CNRS, France)
13:40-14:00 (20-min)	Study of the conditions of production of TGFs using self-consistent modeling Mr. Pierre Gourbin (LPC2E, University of Orleans, CNRS, France)
14:00-14:10	Break

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Session 8	Chair: Dr. Alexander Shvets (UEC, Japan / Usikov Institute for Radio-Physics and Electronics, Ukraine)
14:10-14:30 (20-min)	An identification of electron density profile in the lower ionosphere by using a temporal variation of VLF earth-ionosphere waveguide propagation Mr. Toshiyuki Irie (UEC, Japan)
14:30-14:50 (20-min)	Total lightning and heavy precipitation characteristics associated with TSs: Early prediction possibility Ms. Debrupa Mondal (UEC, Japan)
14:50-15:10 (20-min)	Modeling atmosphere-ionosphere coupling on gravity waves at two adjacent VLF networks during typhoon using FDTD method Mr. Antrisha Setiawan (UEC, Japan)
Closing remarks	
15:10-15:15	Prof. Hiroshi Kikuchi (SSRE, UEC, Japan)