

SYMPOSIUM ON “APPLICATION OF INSAR TECHNOLOGY TO HUMAN SECURITY ENGINEERING”

Chairperson : Toshifumi MATSUOKA
Date : October 23rd, 2012
Place : Kyodai-kaikan, Kyoto University

Organized by Environment and Resources System Engineering Laboratory, Kyoto University.
Co-organized by Kyoto University Global COE Program “Global Center for Education and Research on Human Security Engineering for Asian Megacities”.

Number of Participants: around 50 persons.

Presenters: Dr. Alessandro Ferretti (Tele-Rilevamento Europa), Prof. Manabu Hashimoto (DPRI, Kyoto University), Toshimi Mizuno (OYO Corporation), Weiping Li (Kyoto University), and Kazuya Ishitsuka (Kyoto University).

Purpose

The symposium on “Application of InSAR Technology to Human Security Engineering” was held at Kyodai-kaikan Kyoto University on October 23rd, 2012. The purpose of this symposium is to share the recent advances of the InSAR technique in geo-engineering and geo-science.

Achievement and Results

This symposium was designed to welcome Dr. Alessandro Ferretti from Tele-Rilevamento Europa (TRE) who is coming to Japan. Dr. Alessandro Ferretti is well-known within the InSAR community. He has published dozens of technical papers on the subject and has been involved in hundreds of InSAR projects all over the world. In particular, he is co-inventor of the PSInSAR™ technology, now further improved by the SqueeSAR™ approach, that allow millimeter accuracy surface deformation measurements from space.

The InSAR symposium on 23 October 2012 at Kyodai-kaikan Kyoto University, was organized by Kyoto University and Global COE Program “Global Center for Education and Research on Human Security Engineering for Asian Megacities”. A large number of students have attended the seminar. They were undergraduate, masters, and doctoral students from some laboratories in Department of Urban Management, Graduate School Engineering, Kyoto University. Seminar was also attended by several lecturers from Kyoto University and practitioners from other institutions and companies of Japan. There were 5 presentations which was attended by more than 50 participants.

The symposium was opened by Prof. Toshifumi Matsuoka. He welcomed all the participants. After the opening session, there were presentation sessions. In this symposium, the presenters from TRE, Kyoto University, and Oyo Corporation have given several presentations relating to "Application of InSAR Technology to Human Security Engineering". The presenters were Dr. Alessandro Ferretti (TRE), Prof. Manabu

Hashimoto (DPRI, Kyoto University), Toshimi Mizuno (OYO Corporation), Weiping Li (Kyoto University), and Kazuya Ishitsuka (Kyoto University).

In the first of the presentation sessions, Dr. Alessandro Ferretti presented “Monitoring Surface Deformation with Radar Satellites”. Prof. Manabu Hashimoto presented “Ground Deformation in the Kyoto Basin and Osaka Plain Detected with SAR Interferometry”. Toshimi Mizuno presented “Application of InSAR Technology for Civil Engineering”. Weiping Li presented “Extraction of Soil Liquefaction Areas around Tokyo Bay by Multi-temporal InSAR Coherence”. The last presenter was Kazuya Ishitsuka who presented “SAR Interferometry Applied to Natural Resource Development and Urban Monitoring”. There were questions & answers session at the end of each presentation session.

Finally, the InSAR symposium was closed by Prof. Toshifumi Matsuoka. After the successful symposium was carried out, there were a closing party which offer to the participants an opportunity to discuss further with all presenters and strengthen the possibility for collaboration on the application of InSAR technology in the future.



InSAR symposium on 23 October 2012 at Kyodai-kaikan Kyoto University.

シンポジウム -人間安全保障工学への InSAR 解析技術の応用

議長 : 松岡 俊文
日時 : 2012 年 10 月 23 日
場所 : 京大会館

主催 京都大学 環境資源システム工学分野
共催 京都大学 GCOE プログラム “アジア・メガシティの人間安全保障工学拠点”

参加者数: 約 50 人

発表者 Alessandro Ferretti 博士 (Tele-Rilevamento Europa), 橋本 学教授 (京都大学 防災研究所), 水野 敏美 (応用地質株式会社), Weiping Li (京都大学), 石塚 師也 (京都大学).

目的

2012 年 11 月 23 日にシンポジウム -人間安全保障工学への InSAR 解析技術への適用が京都大学で開催された。このシンポジウムの目的は地球工学及び地球科学の諸分野での InSAR 解析技術に関する研究の進展を共有することである。

概要と成果

当シンポジウムは TRE の Alessandro Ferretti 博士の来日を記念して企画されたものである。Alessandro Ferretti 博士は InSAR 解析技術分野において、数多くの論文を執筆し、また、世界中の InSAR 解析のプロジェクトに関わっている著名な人物である。特に、Alessandro Ferretti 博士によって開発された PSInSAR™ 解析技術は宇宙からミリメートル程度の高精度で地表変動の測定を可能にする技術であり、近年では、PSInSAR™ 解析技術を改良した SqueeSAR™ 解析技術を提案し、注目を集めている。

京都大学京大会館で開催された当シンポジウムは京都大学 GCOE プログラム”アジア・メガシティの人間安全保障工学拠点”の協力により開催され、数多くの学生が出席した。学生の多くは京都大学都市社会工学専攻の研究室の学部生や修士過程、博士課程の学生である。他の出席者は京都大学の講師や他の研究機関、国内の企業の研究者及び技術者である。発表者は 5 人、参加者は約 50 人であった。

当シンポジウムは松岡俊文教授の歓迎の言葉で開始した。開始の辞の後には、人間安全保障工学への InSAR 解析技術の応用に関するプレゼンテーションが TRE や京都大学、応用地質株式会社の発表者によって行われた。具体的には、発表者は Alessandro Ferretti 博士 (TRE), 橋本 学教授 (京都大学 防災研究所), 水野 敏美 (応用地質株式会社), Weiping Li (京都大学), 石塚 師也 (京都大学) の 5 名であった。

まず、最初のプレゼンテーションでは Alessandro Ferretti 博士が “Monitoring Surface Deformation with Radar Satellites” という題で発表を行った。次に橋本 学教授が “Ground Deformation in the Kyoto Basin and Osaka Plain Detected with SAR Interferometry” という題で発表を行った。水野 敏美は “Application of InSAR Technology for Civil Engineering” という題で発表を行い、その後、Weiping Li, 石塚 師也はそれぞれ “Extraction of Soil Liquefaction Areas around Tokyo Bay by Multi-temporal InSAR Coherence”, “SAR Interferometry Applied to Natural Resource Development and Urban Monitoring” という題で発表を行った。其々の発表の後には質疑応答の時間が設けられた。

最後に、シンポジウムは松岡俊文教授の言葉で閉会した。シンポジウムの後は懇親会が開催され、参加者は発表者と議論を深め、今後の InSAR 解析技術の応用に関する研究協力について話合った。



シンポジウムの発表者

SOME PHOTOS FROM THE SYMPOSIUM



Prof. Toshifumi Matsuoka opened the symposium

Dr. Alessandro Ferretti



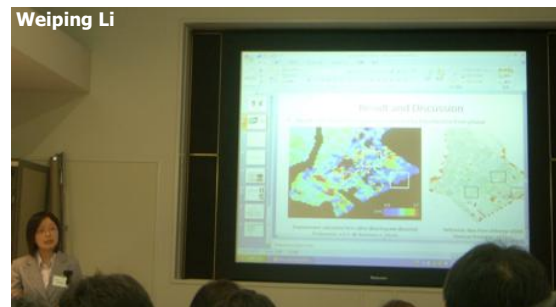
Prof. Manabu Hashimoto



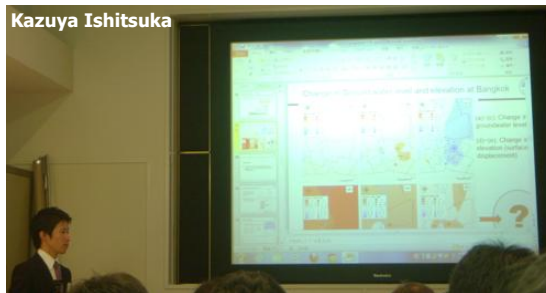
Toshimi Mizuno



Weiping Li



Kazuya Ishitsuka



Presenters gave the presentation on the Symposium

SCHEDULE OF SYMPOSIUM

on "Application of InSAR Technology to Human Security Engineering"

Venue : Kyodai-kaikan, Kyoto University

Date : October 23rd, 2012

Time	Topic	Presenter
12:30-12:55 (25 minutes)	Registration	
12:55-13:00 (5 minutes)	Opening Session	Prof. Toshifumi Matsuoka (Chairperson of the Symposium, Kyoto University)
13:00-14:00 (60 minutes)	Presentation 1 Monitoring Surface Deformation with Radar Satellites	Dr. Alessandro Ferretti (Tele-Rilevamento Europa)
14:00 – 14:40 (40 minutes)	Presentation 2 Ground Deformation in the Kyoto Basin and Osaka Plain Detected with SAR Interferometry	Prof. Manabu Hashimoto (DPRI, Kyoto University)
14:40 – 15:20 (40 minutes)	Presentation 3 Introduction to Earthquake Engineering - in order to understand the seismic hazard during 2011 Tohoku Earthquake	Mr. Toshimi Mizuno (OYO Corporation)
15:20 – 15:40 (20 minutes)	Coffee Break	
15:40 – 16:20 (40 minutes)	Presentation 4 Extraction of Soil Liquefaction Areas around Tokyo Bay by Multi-temporal InSAR Coherence	Weiping Li (Kyoto University)
16:20 – 17:00 (40 minutes)	Presentation 5 SAR Interferometry Applied to Natural Resource Development and Urban Monitoring	Kazuya Ishitsuka (Kyoto University)
17:00 – 17:05 (5 minutes)	Closing the Symposium	Prof. Toshifumi Matsuoka (Kyoto University)
17:05 – 18:30 (85 minutes)	Closing Party	