Parallel Session C-7: Interpreting and Advocating for Sustainable Technology and Innovation Science Centre World Summit 2017 (SCWS 2017), Tokyo, Japan

System Design and Management for Creating Innovative Technology and Service with Science Centre

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Understanding the Situation of the World

Space & Geospatial

Information

Infrastructure

for Sustainable

Development





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GEO-SPATIAL and SPACE TECHNOLOGY **CONSORTIUM for** INNOVATIVE SOCIAL **SERVICES**



International Human Resources Development Program for Innovative Social Services with Space Infrastructure







Journey of Learning



Journey of Learning

Space - Borderless

Outcomes into actual projects



Interdisciplinary Course Materials



Real Projects for Solving Various Issues



Project:

PUDIC FCEUD

Malaria risk analysis and mapping

Public Health: for Malaria Risk Mapping



Project: Disaster

Aode Aode



Early warning system using satellites

Disaster: Early Warning



Disaster: Early Warning

ญี่ปุ่นสาธิตระบบหนีส์นามินำทางด้วยดาวเทียม

โดย ASTVผู้จัดการออนไลน์ 9 ตุลาคม 2557 21:04 น. Tweet {11 8+1 0 Share {53



เจ้าหน้าที่ญี่ปุ่นทดสอบระบบเดือนภัยผ่านดาวเทียม

ญี่ปุ่นแนะนำระบบเตือนภัยสึนามิด้วยเอสเอ็มเอส แนะเส้นทางหนีที่ปลอดภัย ใช้ได้แม้สัญญาณมือถือหรือ อินเทอร์เน็ตล่ม อาศัยช่องทางการสื่อสารผ่านดาวเทียมระบบนำทางของญี่ปุ่นที่ส่งข้อความมายังมือถือได้

Diseased tree detection

Project:

UAV: Automated tree detection A 10 12 10 10 eBee battery Waterproof sheet and for Base battery charger Repair tools eBee tape & glue Link antenna eBee PC for Tripod **Base Station** camera for UAV for Base Battery PC for control UAV for Rover Accurate Map by SOME NORTH eating High Resolution and Accurate Map by Activity2: Pix4D **GNSS** receiver **GNSS** receiver + Antenna spare wings + antenna for Base for Rover Antenna ground plate car→DC converter data HDD Ground control point Antenna pole

Credit risk analysis with location-based information

Science Centre World Summit 201

Project:

Agreulure

Agriculture: Credit Risk Analysis



Performance improvement with Multi-GNSS

Project:

porte science

Nov. 16, 2017

Science Centre Wor

Sports: Tracking visualization



Project:

Morld Summe

by Ibrahim Boran from Pexels https://www.pexels.com/photo/architecture-art-building-business-296492/

Early warning system using satellites

Log Analysis: Congestion map



Outcomes become projects







For Solving Social Problems

✓ Data

Sensors such as satellites, mobile/ground devices, and SNS

✓ Facilitations

Dialogue, mutual understanding, co-creation and consensus building



Miraikan: National Museum of Emerging Science and Innovation

- ✓ Various Exhibition with Science and Technologies
 ✓ Various Stakeholders
 ✓ Visitors, Science Communicators, Researchers
 ✓ Facilities for dialogue, and co-creation
- ✓ Great Location for TOKYO 2020









日本科学未来館と慶應義塾大学の新しい取り組み センシング・アンド・マッピング・デザインプロジェクト

【プロジェクト概要】

多くの人がスマートフォンを持ち、様々なセンサーが普及し、それらがネットワークに繋がる IoT 化が進む一方で、 屋内外のデジタル地図や建物のデジタルモデルといった空間情報も世界的に整備・公開が進んでおり、どこで何が 起きているのか、これからどのようなことが起きるのかを迅速に収集・解析・把握できる環境が整いつつあります。 また、それらの環境の整備によって、課題意識やアイデアがあれば、自らデータを収集することも、価値のあるサー ビスを創出することもできる時代になってきました。



[メンバー]

日本科学未来館
慶應義塾大学大学院システムデザイン・マネジメント研究科 神武直彦研究室
慶應義塾大学環境情報学部 村井純研究室
株式会社バルコ・シティ

Sensing and Mapping Design Project





PARCO









Design Project with High School Students



Design Project with High School Students









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	27		17/8/413:52	20	36870	3716	
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Conclusion

- 1. With <u>multiple sensors</u> such as satellites, mobile/ground devices, and SNS, we can understand the situation of the world. <u>Various technologies</u> are effective for solving social problems.
- 2. For solving social problems, it is also important to clarify issues and demands by <u>dialogue with related</u> <u>stakeholders</u>, <u>mutual understanding</u>, <u>co-creation and consensus building</u> based on them.
- 3. <u>Science centre</u> can provide <u>opportunities and places</u> for that, as everyone can gather and gain diverse inspiration on social issues and science and technology.
- 4. In order to verify the effectiveness of the idea, we have started a project to collaborate with researchers and science communicators and design a future with <u>sensing and mapping in Miraikan</u> (Ideathon and Hackathon, Design project with high school students, demonstration with experts).
- 5. Because Odaiba district will be an important area in <u>TOKYO 2020</u>, <u>Miraikan</u> can be a base where diverse people can gather to solve social problems, to make dialogue, collaboration, and consensus building.
- 6. Through these lessons learned, we believe that <u>various science centres</u> will be the <u>base for dialogue</u>, <u>collaboration and and consensus building</u> for solving regional and global issues in the future.

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