

NTT Communication Science Laboratories

OPEN HOUSE 2014

THU
June **5** 12:00-17:30

FRI
June **6** 9:30-16:00

Venue: **NTT Keihanna Building**
2-4 Hikaridai Seika-Cho Soraku-Gun,
Kyoto, 619-0237, Japan

No Admission Charge
No Pre-Registration Required



Innovative R&D by NTT

Oral Presentations

Thursday, June 5

Director's Talk

13:00-13:30 **Basic research - Defining our age and the future** -The origin of ideas and the seeds of innovation-
Eisaku Maeda, Director, NTT Communication Science Laboratories

Invited Talks

13:40-14:35 **Considering the information society in terms of "After post-structuralism"**
Masaya Chiba, Associate Professor, Graduate School of Core Ethics and Frontier Sciences, Ritsumeikan University

14:45-15:40 **Science and engineering of discrete structure manipulation based on "Power of enumeration"**
Shin-ichi Minato, Professor, Graduate School of Information Science and Technology, Hokkaido University

Friday, June 6

Research Talks

11:00-11:40 **Mind changes body, body leads mind** -Feasibility and potential of mind-reading technology-
Makio Kashino, Human and Information Science Laboratory

13:00-13:40 **Enhancing speech quality and music experience**
-Opening up new vistas for audio experience with reverberation control technology-
Keisuke Kinoshita, Media Information Laboratory

13:50-14:30 **Quantum computing beyond integer factorization** -Exploring the potential of quantum search-
Seiichiro Tani, Innovative Communication Laboratory

Exhibition Program

Big Data Science

- Finding latent relationships between different data sets -Unsupervised object matching-
- Extracting common patterns from multiple data sets -Non-negative multiple matrix factorization: NM2F-
- Knowledge discovery from large-scale graph data -Efficient graph clustering and distributed query optimization-
- Smarter and instant analysis for huge amounts of video -Jubatus, a scalable big data real-time analysis framework-
- Optimizing network operation through NW data analytics -Inferring latent network status through machine learning-
- Monitoring remote habitats of endangered species -Online environment monitoring with a wireless sensor network-

Media Intelligence

- Single frame level detection from dailies -Media search-based collaboration system for movie production-
- Retrieving video immediately with camera shots -Instance search for specific objects in movies-
- You may know the lion by its TWO claws -Image matching based on affine-invariant spatial context-
- Understanding multimedia content without seeing it -User behavior reveals meaning of multimedia content-
- Capturing sound by light -Towards massive-channel audio sensing via LEDs and a camera-
- Making computers listen to desired sounds anywhere -Probabilistic modeling and integration for speech enhancement-
- Defeat reverberation: enemy of speech recognition -Advanced speech enhancement and recognition-
- How accurate are speech recognition results? -Estimating speech recognition accuracy without references-

Computer Science

- Formal evaluation of network security -Verification of cryptographic protocols using formal methods-
- Generating a common secret based on bounded observability -Secret key distribution using broadband random light-
- Opening the possibility of realizing quantum computers -Constant-step quantum circuits can compute the OR function-
- Programming for everyone -Introduction to computer programming in VISCUIT-
- Let's chat with a computer! -Dialogue system with various utterance generation methods-
- Reordering Japanese for better translation -Translation using Japanese predicate argument structure-
- Generating coherent summaries from documents -Document summarization by discourse tree trimming-

Communication and Human Science

- Feeling conversation in motion -Recreating a conversation space with augmented body motions-
- You may feel your eyes meet with others -Determining factors related to the eye-contact perception area-
- Reading mind from body -Body movements and physiological responses reveal emotions-
- I've got the knack! -Visualization and sonification of action in sports-
- Seeing materials from image movements -Motion-based liquid perception by human vision-
- What determines a person's hearing performance? -Exploring sources of inter-individual variation-
- Texture integration in touch -Integration process of tactile perception-
- BuruNavi3: tiny but powerful sensation of being pulled -Asymmetric oscillation induces clear kinesthetic illusion-

Social Gathering

We will hold a social gathering on June 5th 17:30-19:00. We look forward to exchanging opinions with visitors.

Access

- From Shin-Hosono Station (Kintetsu Kyoto Line) or Hosono Station (JR Gakken Toshi Line) 15 Minutes by Bus or 10 Minutes by Taxi
 - From Gakken Nara Tomigaoka Station (Kintetsu Keihanna Line) 15 Minutes by Bus or 10 Minutes by Taxi
 - Please visit the website at <http://www.kecl.ntt.co.jp/rps/access-keihanna.html>
- *Special free shuttle buses will be available.

Contact

NTT Communication Science Laboratories, NTT Corporation
TEL: +81-774-93-5020 E-mail: cs-openhouse@lab.ntt.co.jp
For more information on NTT Communication Science Laboratories OPEN HOUSE 2014, please visit the website at <http://www.kecl.ntt.co.jp/openhouse/2014/>