RIKEN RCCS HPC Youth Workshop

Feb.15-17, 2018
RIKEN Center for Computational Science

Mitsuhisa Sato
Committee Chief of Youth Workshop
Programming Environment Research Team
Architecture Development Team
Deputy Director, Team Leader

To carry out cutting-edge advanced researches, the communication with international partners is very important.
Let's make human-network for your research for the future!

Toshiyuki Imamura
Committee member
Large-scale Parallel Numerical Computing Technology Research Team
Team Leader

Have a nice week at RIKEN R-CCS!

Program overview
Friday, February 15

Time	Program	Venue	Owner	Comments
16:30	Registration	R-CCS	R-CCS Computational Science Promotion Office	
18:00	Welcome Reception Dinner Meeting	Lounge	Committee member of Youth Workshop, Mentors: R-CCS researchers	・Lightning talk ・Electronic Poster Session

Program overview
Saturday, February 16

Time	Program	Venue	Owner	Comments
10:00-10:15	Registration	1F Entrance	R-CCS Computational Science Promotion Office	
10:15-10:20	Opening	Lecture Hall(N)	Prof. Sato (R-CCS Deputy Director)	
10:20-10:50	Orientation	Lecture Hall(N)	Dr. Imamura (R-CCS Team Leader)	Workshop Guidance Self-introductions
10:50-11:40 (50min)	Lecture (Senior Talk)	Lecture Hall(N)	Prof. Sato	Title: TBD
11:40-12:50	Lunch Meeting & Group Photo	Lounge & Entrance(1F)		
12:50-13:50 (60min)	Presentation/ Discussion 1	GroupA: Lecture Hall(N) Group B: Lecture Hall(S) Group C:R511 Group D:R311	Mentors	Participants will be divided into 4 groups of about 6-7 people each. Two persons in each group will be designated as mentors.
13:50-14:10	Break	Lounge		
14:10-15:10 (60min)	Presentation/ Discussion 2	GroupA: Lecture Hall(N) Group B: Lecture Hall(S) Group C:R511 Group D:R311	Mentors	
15:10-15:30	Break	Lounge		
15:30-16:10 (40min)	Presentation/ Discussion 3	GroupA: Lecture Hall(N) Group B: Lecture Hall(S) Group C:R511 Group D:R311	Mentors	

※ 18:00- Social gathering (Participation is optional.)

Program overview
Sunday, February 17

Time	Program	Venue	Owner	Comments
9:45-10:00	Registration	1F Entrance	R-CCS Computational Science Promotion Office	
10:00-10:30		Lecture Hall(N)		Room is available for participants.
10:30-11:20 (50min)	Presentation/ Discussion 4	GroupA: Lecture Hall(N) Group B: Lecture Hall(S) Group C:R511 Group D:R311	Mentors	
11:20-11:30	Break	Lounge		
11:30-12:30 (60min)	Presentation/ Discussion 5	Group A: Lecture Hall(N) Group B: Lecture Hall(S) Group C:R511 Group D:R311	Mentors	
12:30-13:30	Lunch	Lounge		
13:30-14:10 (40min)	Presentation/ Discussion 6	Group A: Lecture Hall(N) Group B: Lecture Hall(S) Group C:R511 Group D:R311	Mentors	
14:10-14:30	Break	Lounge		
14:30-15:10 (40min)	Presentation/ Discussion 7	Group A: Lecture Hall(N) Group B: Lecture Hall(S) Group C:R511 Group D:R311	Mentors	
15:10-15:30	Break	Lounge		
15:30-17:00 (90min)	Wrap-up Meeting	Lecture Hall(N)	Dr.Imamura	
17:00-17:20	Closing/ Certification	Lecture Hall	Dr. Imamura/ Prof.Sato	

※ Lecture Hall (6F)、Lounge (6F)、R511 (5F)、R311(3F)

Group list

Group	Group A 🔴	Group B 🟢	Group C 🔵	Group D ✳
Venue	Lecture Hall (N)	Lecture Hall (S)	R511	R311
Mentor	William Dawson Keigo Nitadori	Jinpil Lee James Taylor	Manabu Yagi Martsinkevich Tatiana	Atsushi Hori Seiya Nishizawa
Member	1. Charles Cheung (U of Delaware, PhD) 2. Mursaleem Ansari (IIT BOMBAY, PhD) 3. Haruki Satoh (Tohoku U, PhD) 4. Zhengyang Bai (Kyoto U, MA) 5. Denis Mashkovtsev (Kyushu U, MA) 6. Yamashita Akane (Aichi Prefectural U,BA)	1. Arata Amemiya (RIKEN_R-CCS) 2. Bibrak Qamar Chandio (Indiana U, PhD) 3. Marco Capuccini (Uppsala U, PhD) 4. Kundan Kumar (Indian Institue of Science, PhD) 5. Toshiya Shirakura (Tohoku U, PhD) 6. Saurabh Gupta (Indian Institute of Science, MA) 7. Hotaka Yagi (Tokyo U of Science, BA)	1. Tanuj Aasawat (RIKEN_AIP) 2. Osamu Ishimura (The U of Tokyo, PhD) 3. Tanu Sharma (IIT Bombay, PhD) 4. Swapnil Gandhi (Indian Institute of Science, MA) 5. Le Li (Kyoto University, MA) 6. Yosuke Ueno (The U of Tokyo, MA) 7. Miki Komatsu (Kobe U, MA)	1. Jeremiah Mbazor (UNIST_South Korea, PhD) 2. Weile Wei (Louisiana State U, PhD) 3. Laercio Pioli (Federal U of Juiz de Fora_Brazil, MA) 4. Yukihiro Masuoka (SOKENDAI, MA) 5. Siyi Hu (The U of Tokyo, MA) 6. Masafumi Otaka (U of Yamanashi, MA)

William Dawson
Computational Molecular Science Team

I'm looking forward to hearing all about your exciting research activities

Group A mentors

Keigo Nitadori
Co-Design Team

Charles Cheung
University of Delaware, PhD

・Presentation title
Next-generation relativistic atomic code for complex correlations

・Research field / theme
Theoretical Atomic Physics

Mursaleem Ansari
IIT Bombay, PhD

・Presentation title
Interplay of electronic cooperativity and exchange coupling in regulating the reactivity of DllON(IV)-OXO complexes towards C-H and O-H bond activation

・Research field / theme
Inorganic Computational Chemistry

Haruki Satoh
Tohoku University, PhD

・Presentation title
The selection rule of spatial structures of carbon filler/block copolymer nano-composite systems

・Research field / theme
Statistical physics of complex systems

A

Zhengyang Bai
Kyoto University, MA

・Presentation title
Parallelization of Matrix Partitioning in Construction of Hierarchical Matrices using Task Parallel Languages

・Research field / theme
Parallelization

Denis Mashkovtsev
Kyusyu University, MA

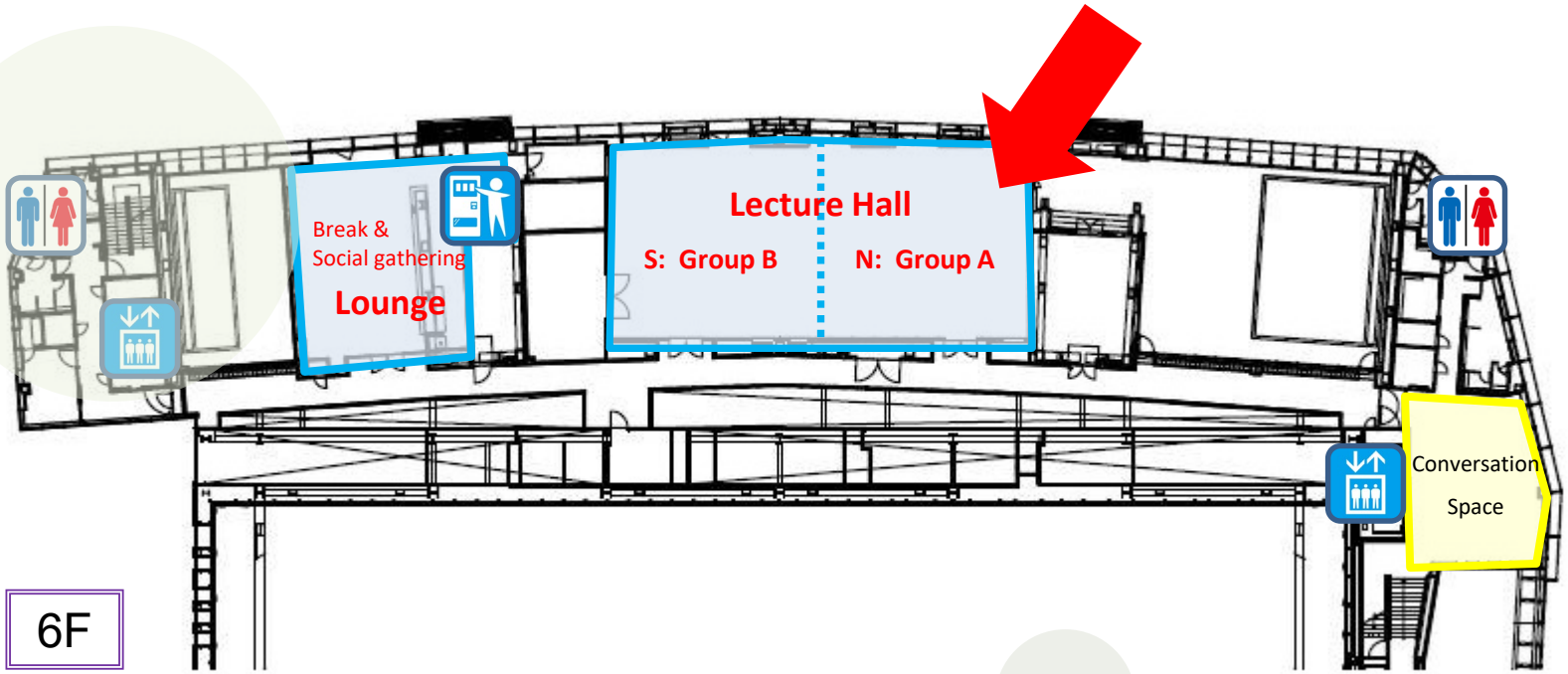
・Presentation title
Improving the elongation method: the intermediate electrostatic field for DNA and proteins via genetic algorithms.

・Research field / theme
Quantum chemistry, computational chemistry, biopolymers, machine learning

Akane Yamashita
Aichi Prefectural University, BA

・Presentation title
Computational modeling of the photo-voltage transduction mechanism of the rod photoreceptors

・Research field / theme
Neuroengeneering


Break &
Social gathering
Lounge
Lecture Hall
S: Group B
N: Group A
Conversation
Space
6F

Jinpil Lee
Programming Environment
Research Team
Architecture Development Team

Hope your stay in Kobe will be helpful for your research and also enjoyable.

Group B mentors

James Taylor
Data Assimilation Research Team

Arata Amemiya
RIKEN_R-CCS

・Presentation title
The history and future of numerical weather forecasting

・Research field / theme
Data Assimilation

Bibrak Qamar Chandio
Indiana University, PhD

・Presentation title
Lessons in Asynchronous Graph Processing Using Message Driven Systems

・Research field / theme
Asynchronous Graph Processing

Marco Capuccini
Uppsala University, PhD

・Presentation title
Cloud computing and containerization in Big Data analytics with application in life science

・Research field / theme
Big Data and cloud computing

B

Kundan Kumar
Indian Institute of Science, PhD

・Presentation title : Neuromorphic Hardware for Audio-Visual attention
・Research field / theme: Neuromorphic Engineering

Toshiya Shirakura
Tohoku University, PhD

・Presentation title
Exictonic effect of resonance Raman spectra in two-dimension materials

・Research field / theme
First principle calculation for two-dimension materials.

Saurabh Gupta
Indian Institute of Science, MA

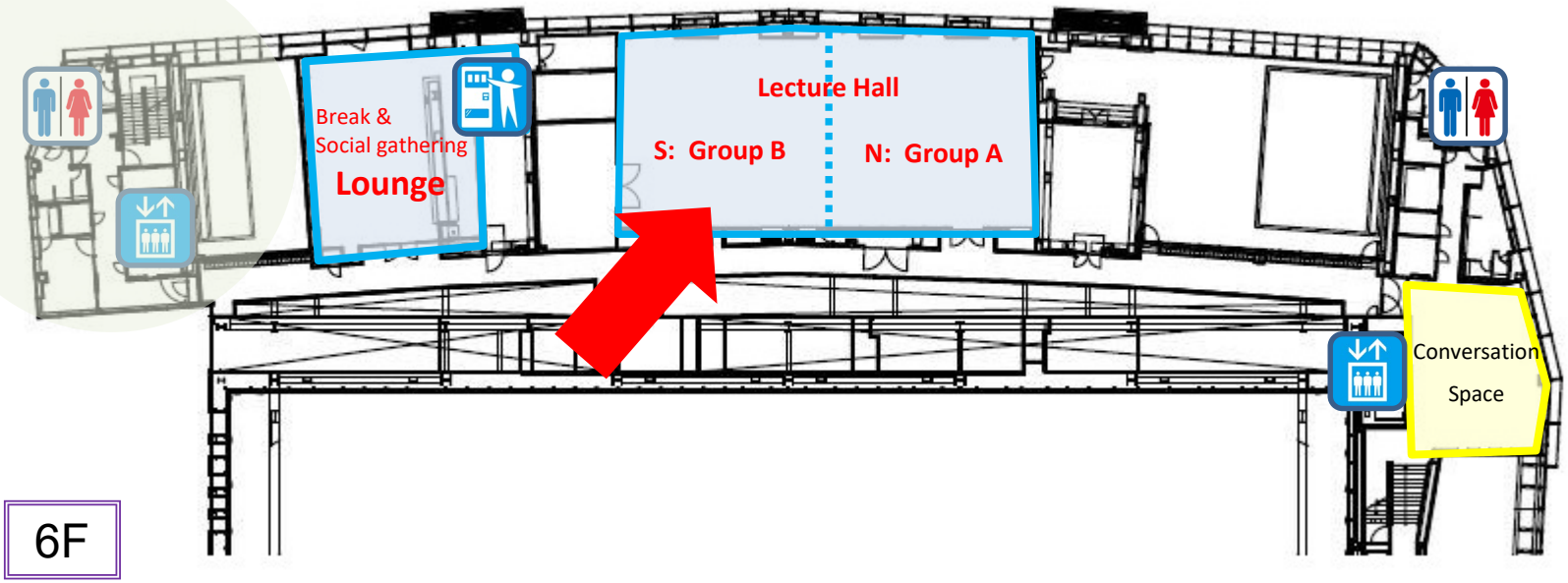
・Presentation title
Hardware accelerator for Bio-medical application: A Deep learning perspective.

・Research field / theme
Hardware accelerators for Low Power Biomedical Applications

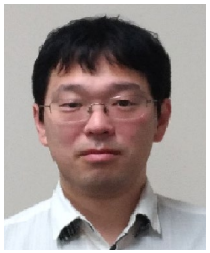
Hotaka Yagi
Tokyo University of Science, BA

・Presentation title
Acceleration of interactive multiple precision arithmetic toolbox MuPAT using SIMD

・Research field / theme
High performance computing


Break &
Social gathering
Lounge
Lecture Hall
S: Group B
N: Group A
Conversation
Space
6F

Manabu Yagi
Programming Environment Research Team



It's a good opportunity to communicate with other young researchers.

Group C mentors

Have a productive workshop and enjoy your stay in Kobe!

Martsinkevich Tatiana
System Software Research Team

Tanuj Aasawat
RIKEN_AIP

・Presentation title
Scale-Free Graph Processing on a NUMA Machine

・Research field / theme
HPC, Large-scale graph processing, AI

Osamu Ishimura
The University of Tokyo, PhD

・Presentation title
Systematic Generation of Optimized Codes of Stencil Computation for HPC System with a Hierarchical Structure

・Research field / theme
High Performance Computing

Tanu Sharma
IIT Bombay, PhD

・Presentation title
Single Molecular magnets

・Research field / theme
Molecular modelling using computational tools

C

Swapnil Gandhi
Indian Institute of Science, MA

・Presentation title : From “Think Like a Vertex” to “Think Like an Interval”
・Research field / theme: Distributed Large Scale Graph Processing

Le Li
Kyoto University, MA

・Presentation title
Node Level Performance/Power Heterogeneity Aware Resource Management under Hardware Homogeneous System

・Research field / theme
Parallel Computing/Power Saving

Yosuke Ueno
The University of Tokyo, MA

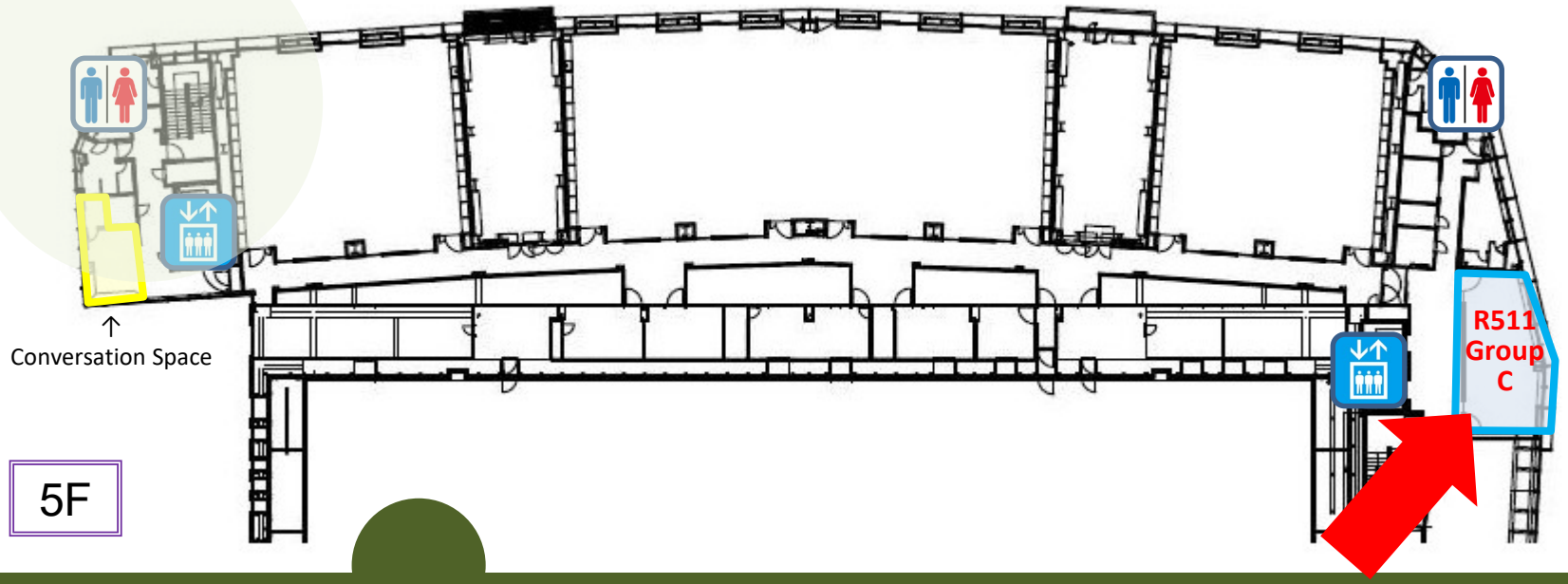
・Presentation title
Pretrained CNN Model Selection Method for Efficient transfer learning

・Research field / theme
Deep learning

Miki Komatsu
Kobe University, MA

・Presentation title
City-scale modeling of the traffic and pipeline networks using high-performance computer

・Research field / theme
City-scale modeling of the traffic network with high-performance computing


Conversation Space
5F
R511
Group
C

Atsushi Hori
System Software Development Team
System software Research Team

Group D mentors

Seiya Nishizawa
Application Development Team

I'm looking forward to productive discussions with you in various fields.

Jeremiah Mbazor
UNIST_South Korea, PhD

・Presentation title
Scalability of MCMC algorithms on different parallel frameworks

・Research field / theme
Nuclear Engineering, Reliability and risk analysis

Weile Wei
Louisiana State University, PhD

・Presentation title
Machine Learning Performance Analysis for Phylanx: An Asynchronous Array Processing Toolkit

・Research field / theme
High Performance Computation

Laercio Pioli
Federal University of Juiz de Fora_Brazil, MA

・Presentation title
An Approach of Energy Aware in HPC Environment

・Research field / theme
Energy Aware and Post-hoc Visualization

Yukihiro Masuoka
SOKENDAI, MA

・Presentation title
Shape Analysis and Separation Logic

・Research field / theme
Separation Logic for Software verification

Siyi Hu
The University of Tokyo, MA

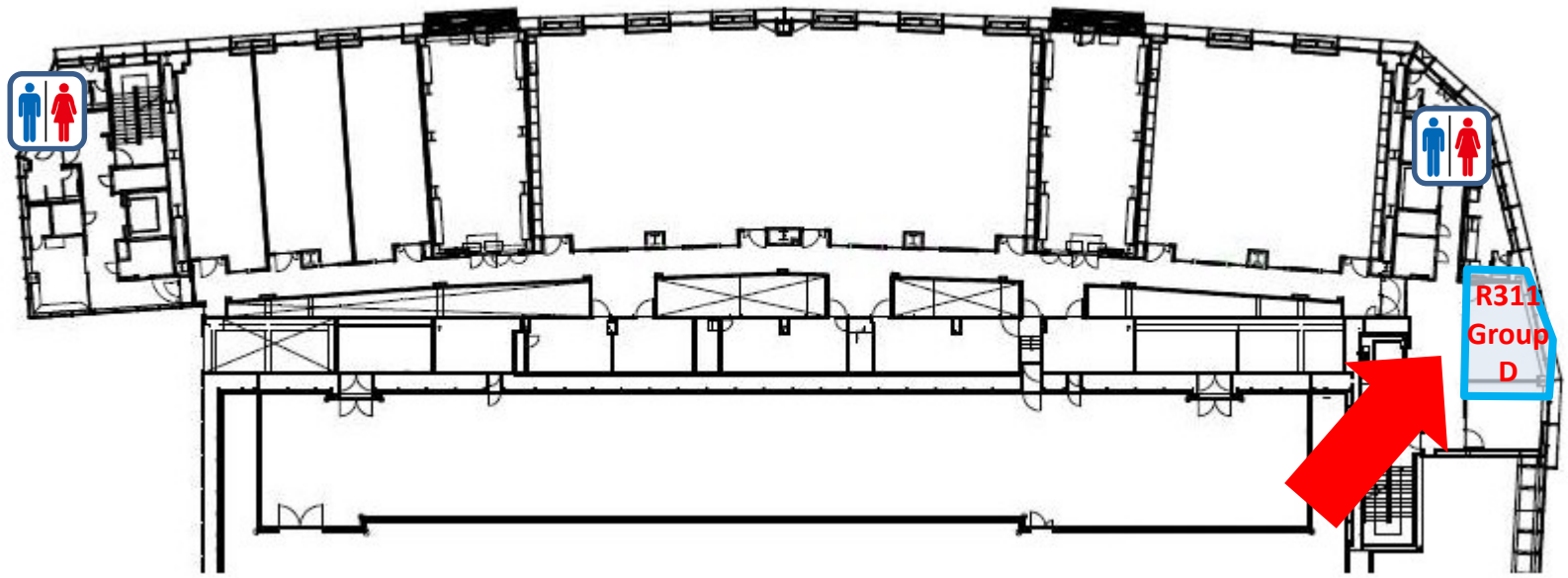
・Presentation title
NetBSD protocol stack and Rumpkernel

・Research field / theme
Microarchitecture/Hardware accelerator

Masafumi Otaka
University of Yamanashi, MA

・Presentation title
Particle-in-cell method based on a hierarchical Cartesian grid for structure analysis

・Research field / theme
Nonlinear structural analysis



3F

RIKEN
Center for
Computational Science

Administrative office:
RIKEN Computational Science Promotion Office
Collaborations group