

## Day 1: August 5<sup>th</sup>, 2019

8:00 – 8:30AM Registration / Breakfast  
8:30 – 8:40 Welcome Remarks  
Roger French  
Case School of Engineering  
Professor, Material Science and Engineering

### 8:40 AM KEYNOTE PRESENTATIONS @ Ballroom A

8:40 – 9:20 ***Machine Learning for Smart Manufacturing***  
Robert Gao, PhD  
Chair and Professor, Mechanical & Aerospace Engineering  
Case School of Engineering

9:20 – 10:00 ***Protein tyrosine nitration: a new signaling paradigm***  
John Wang, PhD  
Professor, Genetics and Genome Sciences  
CWRU School of Medicine

10:00 – 10:20 Break

### MORNING WORKSHOP SESSIONS (PARALLEL SESSIONS)

#### SESSION 1A: Systems Biology & Biomedical Informatics @ TVUC 1<sup>st</sup> Flr Classroom

10:20 – 10:40 AM ***Multidisciplinary approaches to understanding host influences on resistance to M. tuberculosis infection***

Cathy Stein – CWRU Dept of Population & Quantitative Health Science

10:40 – 11:00 AM ***Develop AI technologies to enable data-intensive translational biomedical research***

Rong Xu – CWRU Dept of Population & Quantitative Health Science

11:00 – 11:20 AM ***Controlling disease evolution: models and experiments to understand timescales, trajectories and outcomes***

Jacob Scott – Cleveland Clinic Lerner Research

11:20 – 11:40 AM ***Discrepancies between human reference sequence and their effect on biological studies***

Matsuyuki Shirota – Tohoku University

#### SESSION 1B: Materials Data Science @ Ballroom B

10:20 – 10:40AM ***Collaborative study on in-situ observation of AlN formation from Ni-Al solution using an electromagnetic levitation technique***

Hiroyuki Fukuyama - Tohoku University

10:40 – 11:00AM **TBA**

Shane Parker - CWRU School of Engineering

11:00 – 11:20AM ***Next Generation 3GeV Synchrotron Radiation Facility Project in Japan***

Atsushi Muramatsu – Tohoku University

11:20 – 11:40AM **TBA**

Mike Hore – CWRU School of Engineering

11:50 – 12:20PM Poster Blitz @ Ballroom B  
12:30 – 2:00PM Poster Session & Lunch @ Ballroom B & C

## ORAL POSTER PRESENTATIONS (PARALLEL SESSIONS)

### School of Medicine @ Ballroom B

2:00 – 2:10PM ***Novel Design of DNA-Artificial Nucleic Acids Chimeras Toward Enhancement of RNase H Mediated RNA Cleavage Activity***  
Akira Yano – Tohoku University

2:10 – 2:20PM ***Detecting transcriptional regulatory modules using machine learning***  
Neel Patel – CWRU School of Medicine

2:20 – 2:30PM ***Rebuilding Brick by Brick: Action-Characterizing Toy Blocks for Assessing Children's Inner States After Natural Disasters***  
Xiyue Wang – Tohoku University

### School of Engineering @ Ballroom A

2:00 – 2:10PM ***3D Measurement via Light Transport Matrix (LTM) Estimation for Bin-picking Robot***  
Naoya Chiba – Tohoku University

2:10 – 2:20PM ***Synthesis of Liquid-Crystalline Dendron Modified Self-assembling Fe<sub>3</sub>O<sub>4</sub> Nanoparticles***  
Takehiro Yachi – Tohoku University

2:20 – 2:30PM ***Model-Agnostic Explanations for Decisions using Minimal Patterns and its Applications***  
Akira Yano – Tohoku University

## AFTERNOON WORKSHOP SESSIONS (PARALLEL SESSIONS)

2:30 – 4:00PM Afternoon Sessions

### SESSION 1C: Materials @ TVUC Ballroom A

2:30 – 2:50PM ***Antifluorite-Based Cathode Materials Using Oxygen Redox in Solids***  
Hiroaki Kobayashi – Tohoku University

2:50 – 3:10PM ***Surface and interface composition in LAO/STO hetero-interface***  
Alp Sehirlioglu – CWRU Materials Science & Engineering

3:10 – 3:30PM ***Self-Assembling Organic-Inorganic Hybrid Nanoparticles: The Self-Organized Structure-Dependent Functions***  
Koyoshi Kanie – Tohoku University

3:30 – 3:50PM ***TBA***  
Rohan Akolkar - CWRU Chemical Engineering

### SESSION 1D: Intelligent Systems @ TVUC Ballroom B

2:30 – 2:50PM ***TBA***  
Ming-Chun Huang – CWRU Computing and Information Science

2:50 – 3:10PM ***TBA***  
Kenjiro Tadakuma – Tohoku University

3:10 – 3:30PM ***Discrepancies between human reference sequence and their effect on biological studies***  
Hiroaki Kobayashi – Tohoku University

3:30 – 3:50PM

**TBA**

Michael Fu – CWRU Computing and Information Science

### **END OF DAY 1**

## **Day 2: August 6<sup>th</sup>, 2019**

8:30AM Registration /Breakfast

9:00AM Day 2 Oral Poster Presentations

### **ORAL POSTER PRESENTATIONS (PARALLEL SESSIONS)**

#### **School of Medicine @ TVUC Ballroom B**

9:00 – 9:10AM ***Development of Cancer Specific Drug Delivery System with MMP-Activatable PEG-decorated Oligoarginine***

Yuka Matsushashi – Tohoku University

9:10 – 9:20AM ***Single-cell genomics unveiled a cryptic cyanobacterial lineage with a worldwide distribution hidden by a dinoflagellate host***

Takuro Nakayama – Tohoku University

#### **School of Engineering @ TVUC Ballroom A**

9:00 – 9:10AM ***Characterization of Topic-based Online Communities by Combining Network Data and User Generated Content***

Mirai Igarashi – Tohoku University

9:10 – 9:20AM ***Detecting problematic transactions in a consumer-to-consumer e-commerce network***

Shun Kodate – Tohoku University

### **WORKSHOP SESSIONS (PARALLEL SESSIONS)**

9:30 – 11:10AM Day 2 Workshop Sessions

#### **SESSION 2A: IMMUNOLOGY, METABOLOMICS AND CANCER BIOLOGY @ 1<sup>st</sup> Flr Classroom**

9:30 – 9:50 AM ***Transcriptomic Approaches to Identifying Mechanisms of Immune Control of HIV Infection***

Cheryl Cameron – CWRU Dept of Nutrition

9:50 – 10:10 AM ***Can machine learning guide directed evolution of functional proteins?***

Mitsuo Umetsu – Tohoku University

10:10 – 10:30 AM ***Dysregulation of lincRNAs impacts cancer progression and alters the epigenome***

Ahmad Khalil – CWRU Dept of Genetics and Genome Sciences

10:30 – 10:50 AM ***Analysis of Human Mitochondrial DNA Variation and its Impact on Human Disease***

Tom LaFramboise – CWRU Dept of Genetics & Genome Sciences

10:50 – 11:10 AM ***Synthesis of Intracellular Condition Responsive Artificial Nucleic Acids for the Catalytic Oligonucleotide Therapeutics***

Takehiko Wada – Tohoku University

#### **SESSION 2B: DATA ANALYTICS @ TVUC Ballroom A**

9:30 – 9:50AM

**TBA**

Jennifer Carter – CWRU Materials Science & Engineering

9:50 – 10:10AM	<b><i>Energy-efficient Supercomputing Using Field Programmable Gate Arrays</i></b> Masanori Hariyama – Tohoku University
10:10 – 10:30AM	<b>TBA</b> Jennifer Braid – CWRU Materials Science & Engineering
10:30 – 10:50AM	<b>TBA</b>
10:50 – 11:10AM	<b>TBA</b>
11:10 – 11:20AM	Break
11:20 – 11:30AM	CWRU– Tohoku University Signing Ceremony @ TVUC Ballroom B
11:30 – 12:00PM	Poster Blitz @ TVUC Ballroom B
12:00 – 1:30PM	Poster Session and Lunch @ TVUC Ballroom B & C
1:30 – 1:40PM	Poster Awards
1:40PM	Closing Remarks Mark Chance, PhD Vice Dean for Research CWRU School of Medicine