Program

Day 1: Wednesday, February 20

12:30   Registration

13:30   Welcome: Toshio Yanagida, Director of CiNet

Session 1 Chair: Shinji Nishimoto (NICT/CiNet)

13:35   **Jun Morimoto (ATR Computational Neuroscience Labs/CiNet)**
          "Model-based approaches to humanoid motor learning"

14:10   **Dileep George (Vicarious)**
          "Understanding the brain by building machines that generalize like the brain"

14:55   Coffee Break

Session 2 Chiar: Odelia Schwartz (University of Miami)

15:15   **Shinji Nishimoto (NICT/CiNet)**
          "Representation and computation in brains and machines"

15:50   **Nikolaus Kriegeskorte (Columbia University)**
          "Cognitive computational neuroscience of vision"

16:35   Coffee Break

16:55   **Matthew Botvinick (DeepMind)**
          "A distributional code for value in dopaminergic reinforcement learning"

17:40   Poster Flash Talk

18:20   Poster Session/Evening Session

Day 2: Thursday, February 21

Session 1 Chair: Michael Hanke (Otto-von-Guericke University/Center for Behavioral Brain Sciences)

10:00 **Tomoya Nakai (NICT/CiNet)**
"Quantitative models reveal the structure and organization of diverse cognitive functions in the human brain"

10:25 **Marcel van Gerven (Donders Institute for Brain and Behaviour)**
"AI-Driven Neuroscience"

11:10 Coffee Break

11:25 **Takufumi Yanagisawa (Osaka University/CiNet)**
"Semantic decoding of visual stimulus using electrocorticogram and application for BCI"

12:00 Luncheon Seminar by NTT Data Institute of Management Consulting Inc.

Session 2 Chair: Shinji Nishimoto (CiNet/NICT)

13:00 **Michael Hanke (Otto-von-Guericke University/Center for Behavioral Brain Sciences)**
"Perpetual, decentralized management of digital objects for collaborative open science – conclusions from the studyforrest.org project"

13:45 **Ana Luísa Pinho (Inria, CEA, Paris-Saclay University)**
"Individual Brain Charting, a high-resolution fMRI dataset for cognitive Mapping of the human brain"

14:30 Coffee Break

Session 3 Chair: Marcel van Gerven (Donders Institute for Brain and Behaviour)

14:50 **Yukiyasu Kamitani**
(Kyoto University/ATR Computational Neuroscience Laboratories)
"Deep image reconstruction from the human brain"

15:35 **Iris Groen (New York University)**
"Mind the gap: comparing multiple models of scene representation in brain and behavior"

16:20 Coffee Break

16:40 **Dan Yamins (Stanford University)**
"Cognitively Inspired Artificial Intelligence for Neuroscience"

17:25 Poster Session
18:30 Closed Session

Day 3: Friday, February 22

Session 1 Chair: Iris Groen (New York University)

10:00 **Satoshi Nishida (NICT/CiNet)**
       "Brain decoding of human natural perception using statistical language modeling"
10:25 **Uri Hasson (Princeton University)**
       "Robust-fit to nature: taking evolutionary perspective for biological
          and artificial) neural networks"

11:10 Coffee Break

11:25 **Shigeru Kitazawa (Osaka University/CiNet)**
       "Error signals in reaching: neural representations and their roles in optimizing the movement"

12:00 Luncheon Seminar by NTT Data Institute of Management Consulting Inc.

Session 2 Chair: Izumi Ohzawa (Osaka University/CiNet)
13:00 **Kai Wang (NEC)**
       "Experimental Platform for brain function model design"
13:25 **Odelia Schwartz (University of Miami)**
       "Image statistics and cortical visual processing: V1, V2, and deep learning"

14:10 Coffee Break

14:30 **David Cox (MIT-IBM Watson AI Lab/Harvard University)**
       "Predictive Coding Models of Perception"
15:15 **Taro Toyoizumi (RIKEN Center for Brain Science)**
       "An Optimization Approach to Understand Biological Search"

16:00 Coffee Break

Session 3 Chair: Taro Toyoizumi (RIKEN Center for Brain Science)
16:20 **Aapo Hyvärinen (University College London/University of Helsinki)**
       "Nonlinear independent component analysis: A principled framework for unsupervised learning"
17:05 **Shun-ichi Amari (RIKEN)**
       "Statistical Neurodynamics of Deep Networks: Signal Propagation and Fisher Information"

17:50 Closing: Shinji Nishimoto, Meeting Chair