IEEE Computational Intelligence Society Distinguished Lecturer Program

**Speaker:** Sushmita Mitra, Indian Statistical Institute, India

**Inviting Chapter:** IEEE Computational Intelligence Society Thailand Chapter

**Date:** 19 November 2020

**Number of Participants:** 30 People

**Lecture Title:** Intelligent Biomedical Image Analysis

**Abstract:**
Medical imaging inherently entails imperfection, and is therefore an appropriate domain for involving computational intelligence. We introduce the concepts of quantitative imaging and radiomics, followed by a discussion on segmentation by clustering. Next we describe an automated and fast detection algorithm for brain tumor in MRI, and its efficient segmentation. Visual saliency is utilized for a fast localization and detection of the tumor. Use of just a single user-provided seed for an efficient delineation of the GBM tumor is also elaborated. The role of neuro-fuzzy feature selection in brain tumor detection and its classification is also detailed. Finally a discussion on Radiogenomics, and Personalized Medicine concludes the talk.

Website: [https://deeplearningandaiwinterschool.github.io/#Day2](https://deeplearningandaiwinterschool.github.io/#Day2)
Day 2: Thursday, 19 November 2020 (Bangkok time UTC+7)

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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| 08:00 - 09:00 am. | **CSBio2020 Keynote Talk I**  
Speaker: Iratdad Yousef, University of Arkansas for Medical Sciences (UAMS), USA  
Topic: Uncovering RNA and DNA Modifications from Native Sequences |
| 09:00 - 10:00 am. | **ICONIP2020 Keynote Talk I**  
Speaker: Stephen Grossberg, Boston University, USA  
Topic: Exploring and Relieving At Computing Deep Learning with Adaptive Resonance |
| 10:00 - 10:30 am. | Coffee Break, Group Photo and Networking                                  |
| 10:30 am. - 11:30 am. | **ICONIP2020 Invited Talk I**  
Speaker: Xiaobo Yang, University of Iowa, USA  
Topic: Large-scale Deep AUC Maximization and Applications in Medical Image Classification |
| 11:30 am. - 12:00 pm. | Lunch Break, Group Photo and Networking                                    |
| 12:00 - 01:00 pm. | **WISE Academic Day Talk**  
Speaker: Sushmito Mitra, Indian Statistical Institute, India  
Topic: Intelligent Biomedical Image Analysis |
| 01:00 - 02:00 pm. | **WISE Academic Day Talk**  
Speaker: Jing Li, Curtin University, Australia  
Topic: Affinity learning with the diffusion process |
| 02:00 - 03:00 pm. | **WISE Academic Day Talk**  
Speaker: Jing Li, The Hong Kong Polytechnic University, Hong Kong  
Topic: Language Understanding in Social Interactions |
| 03:00 - 04:00 pm. | **WISE Academic Day Talk**  
Speaker: Thaneer Aachabadul King Mongkut University of Technology Thonburi, Thailand  
Topic: How Big Data and AI change the way we live |
| 04:00 - 05:00 pm. | **WISE Industry Talk**  
Speaker: Elodie Clouckaert, Naver Labs Europe, France  
Topic: Deep Domain Adaptation for Visual Applications |

**DLAI4 Day 2 (WISE)**

- Intelligent Analysis of Brain Images  
  Speaker: Sushmito Mitra, Fellow IEEE, WIRE, WNN, WINN, WINN  
  IEEE CS Distinguished Lecturer  
  Monash Intelligence  
  Indian Statistical Institute
- Language Understanding in Social Interactions  
  Speaker: Jing Li, The Hong Kong Polytechnic University
- The Digital Era  
  Speaker: Prof. Dr. Thomas Aachabadul King Mongkut University of Technology Thonburi
- Visual Domain Adaptation in the Deep Learning Era  
  Speaker: Suat Yildirim, Naver Labs Europe

Featuring 5 Women in Science and Engineering talks