PAIP 2020

AI Pathology Challenge
Workshop

Date.
2020.11.12

Time.
14:00 – 18:00 (KST)

Location.
virtual

Organizer Greetings

Jinwook Choi (Seoul National University)

I welcome you to the 2nd Workshop of PAIP Challenge. Our workshop this year is different from the first workshop. It is more focused on the biological phenomena then other pathology challenges.

Our hope in designing workshop was to reveal the strength of AI in tems of understanding physiological process. All slide materials are annotated and reviewed many times providing flawless materials for the challenge.

Surprisingly, the performance of all participants are getting higher as the due time close to the end.

Through the involvement of the PAIP challenge we get to know that technologies are continuously evolving relentlessly. I thanks all of researchers who actively participate into this challenge and I also give my special thanks to all the organizers who were eager to work to make a wonderful workshop.

Keynote Speakers

Anant Madabhushi (Case Western Reserve University)

Dr. Anant Madabhushi is Director of the Center for Computational Imaging and Personalized Diagnostics (CCIPD) and Donnell Institute Professor, Department of Biomedical Engineering at Case Western Reserve University.

He is a Research Health Scientist at the Louis Stokes, Cleveland Veterans Administration Medical Center.

He is a Wallace H. Coulter Fellow, Fellow of the American Institute of Medical and Biological Engineering (AIMBE), and Fellow of the Institute for Electrical and Electronic Engineers (IEEE). His work on "Smart Imaging Computers for Identifying lung cancer patients who need chemotherapy" was called out by Prevention Magazine as one of the top 10 medical breakthroughs of 2018. In 2019, Nature Magazine hailed him as one of 5 scientists developing "offbeat and innovative approaches for cancer research". Dr. Madabhushi was named to The Pathologist's Power List in 2019 and 2020.

Kyoungbun Lee (Seoul National University Hospital)

Professor Kyoungbun Lee is the staff pathologist at Seoul National University Hospital.

She earned her medical degree at the Seoul National University in South Korea. Major diagnostic fields are hepatobiliary–pancreas pathology, renal pathology, bone and soft tissue pathology. She serves as the Director of Information of the Korean Society of Pathologists.

She is leading the digital pathology project in SNUH and trying to create AI–friendly laboratory system in pathology. Dr. Lee's current primary research interests are in the field of Pathogenesis of biliary and pancreas tumor and Pathology informatics. Dr. Lee is also actively involved in research for digital pathology, image analysis, and artificial intelligence/machine learning of Whole Slide Image.

Won–Ki Jeong (Korea University)

Dr. Jeong is a professor in the department of computer science and engineering at Korea University. He was an assistant and associate professor in the school of electrical and computer engineering at UNIST (2011–2020), a visiting associate professor of the neurobiology at Harvard Medical School (2017 - 2018), and a research scientist in the Center for Brain Science at Harvard University (2008 - 2011). His research interests include visualization, image processing, and parallel computing. He received a Ph.D. Degree in Computer Science from the University of Utah in 2008, and was a member of the Scientific Computing and Imaging (SCI) Institute.

He hosted the NVIDIA GPU Research Center at UNIST (2014) and received NAVER Young Faculty Fellowship (2016).

About MSI Challenge

Microsatellite instability(MSI) status is strongly recommended for all surgically resected colorectal cancer cases, because it determines whether patients respond exceptionally well to immunotherapy. With novel algorithms for MSI classification, prognosis can be predicted simply using digitally scanned slide images without additional time and cost for microsatellite markers evaluation. Thus, we organized this challenge, PAIP2020, and we are able to identify diverse possibilities through the results of the participants.

Schedule

14:00 — 14:15   **Opening Ceremony**

Jinwook Choi, M.D.   I   Seoul National University Hospital

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14:15 — 15:15   **Keynote Speech I**

Anant Madabhushi, PhD   I   Case Western Reserve University

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15:15 — 15:35   David Joon Ho   I   Memorial Sloan Kettering Cancer Center

Chang Hee Han   I   Sejong University

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15:35 — 15:55   Fan Zhang

Hwa Rang Kim   I   Kyoungpook National University

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15:55 — 16:10   **Break**

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16:10 — 16:30   **Keynote Speech II**   **Challenge Review**

Kyoungbun Lee, M.D.   I   Seoul National University Hospital

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16:30 — 16:50   **Keynote Speech III**   **Challenge Review**

Won-Ki Jeong   I   Korea University

....

16:50 — 17:10   Seyed Alireza Fatemi Jahromi   I   Sharif University of Technology

Sen Yang   I   Sichuan University

....

17:10 — 17:30   Jae Wook Lee   I   Seoul National University

Ramin Nateghi   I   Shiraz University of Technology

....

17:30 —   **Award Ceremony**

Organizers

Organizers

Committee

- **Jinwook Choi** (Seoul National University Hospital, Seoul)
- **Kyoungbun Lee, MD** (Seoul National University Hospital, Seoul)
- **Won–Ki Jeong** (Korea University, Seoul)
- **Se Young Chun**

  (Ulsan National Institute of Science and Technology, Ulsan)
- **Peom Park** (HuminTec, Suwon)

Clinical Collaborators

- **Gyeong Hoon Kang, MD**

  (Seoul National University Hospital, Seoul)
- **Kyung Chul Moon, MD**

  (Seoul National University Hospital, Seoul)
- **Gheeyoung Choe, MD**

  (Seoul National University Bundang Hospital, Seongnam)
- **Kyu Sang Lee, MD**

  (Seoul National University Bundang Hospital, Seongnam)
- **Jeong Hwan Park, MD**

  (SMG–SNU Boramae Medical Center, Seoul)

Technical Collaborators

- **Jong Hoon Chun** (Prompt Technology, Seoul)
- **Man–Pyo Hong** (Ajou University, Suwon)

Staff

- **Seongkeun Park** (Seoul National University Hospital, Seoul)
- **Yunsook Kang** (Seoul National University Hospital, Seoul)
- **Gun Ro** (Prompt Technology, Seoul)
- **Pureum Lim** (Prompt Technology, Seoul)
- **Yoo Jung Kim** (Seoul National University Hospital, Seoul)
- **Eun Sung Kim** (HuminTec, Suwon)

Student Contributors

- **Hyungjoon Jang**

  (Ulsan National Institute of Science and Technology, Ulsan)
- **Kanggeun Lee**

  (Ulsan National Institute of Science and Technology, Ulsan)
- **Wonjae Hong**

  (Ulsan National Institute of Science and Technology, Ulsan)
- **Tan Jing Wei**

  (Ulsan National Institute of Science and Technology, Ulsan)
- **Sungduk Cho**

  (Ulsan National Institute of Science and Technology, Ulsan)
- **Dong Un Kang**

  (Ulsan National Institute of Science and Technology, Ulsan)
- **Kyungmo Kim** (Seoul National University Hospital, Seoul)

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PAIP Platform : http://wisepaip.org/paip

PAIP 2020 Challenge : https://paip2020.grand–challenge.org/