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Digital Pathology

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Editors

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Introduction

This is the sixth year of the Digital Pathology conference that was introduced at the SPIE Medical Imaging Symposium in Orlando, Florida, in 2013. Every year since then, we have seen increased interest, making Digital Pathology one of the prominent conferences at the SPIE Medical Imaging Symposium. The quality of the presented talks, posters, and the resulting papers, as in previous years, continued to be outstanding. This is mainly thanks to our community, who submits some of their best work to this conference, and to the hard work of our program committee, who carefully conduct a rigorous peer-review process to ensure that only the top papers are selected for presentation at the meeting.

The sixth Digital Pathology conference took place 11–12 February at the Marriott Marquis in Houston, Texas, United States. The meeting formally began on 11 February, with a plenary talk given by Dr. Martin Stumpe, entitled, "*Advancing Cancer Diagnostics with Deep Learning.*" Dr. Stumpe leads the Pathology project at Google Research. Dr. Stumpe discussed algorithmic approaches for pathology, including deep learning and some of the challenges faced by researchers in the field. The keynote talk drew in 287 attendees from all the various conferences at the SPIE Medical imaging symposium.

A total of 50 papers were presented during the course of the meeting in both oral and poster form. The sessions included Emerging Trends; Machine Learning Trends; Diagnosis, Prognosis, and Predictive Analysis; Precision Medicine and Grading; and Detection and Segmentation.

We would like to acknowledge the excellent work in the following papers:

Conference finalist of the Robert F. Wagner Best Student Paper Award for Digital Pathology (10581): **Combination of nuclear NF-κB/p65 localization and gland morphological features from surgical specimens is predictive of early biochemical recurrence in prostate cancer patients,** Student Author: Leo Patrick, Case Western Reserve Univ. (United States) [10581-09]

Cum Laude Poster Award: **Landmark-based reconstruction of 3D smooth structures from serial histological sections,** Naoki Kawamura, Hirokazu Kobayashi, Tatsuya Yokota, Hidekata Hontani, Nagoya Institute of Technology (Japan); Chika Iwamoto, Kenoki Ohuchida, Makoto Hashizume, Kyushu Univ. (Japan) [10581-49]

Honorable Mention Poster Award: **Registration parameter optimization for 3D tissue modeling from resected tumors cut into serial H&E slides,** Starr Johnson, Univ. at Buffalo (United States); Margaret Brandwein, Icahn School of Medicine at Mount Sinai (United States); Scott Doyle, Univ. at Buffalo (United States) [10581-28]

The continued success of the Digital Pathology conference was in no small part to the outstanding efforts of the program committee, who carefully constructed the program, SPIE Symposium Chairs, Drs. Leonard Berliner and Ronald M. Summers, and SPIE staff, who kindly guided us through all the steps of the program organization.

Next year, the Digital Pathology conference at SPIE Medical Imaging will take place in San Diego, California. We look forward to seeing you there for another successful conference.

Metin N. Gurcan
John E. Tomaszewski

2018 Medical Imaging Award Recipients

Robert F. Wagner Best Student Paper Award

Robert F. Wagner was an active scientist in the SPIE Medical Imaging meeting, starting with the first meeting in 1972 and continuing throughout his career. He ensured that the BRH, and subsequently the CDRH, was a sponsor for the early and subsequent Medical Imaging meetings, helping to launch and ensure the historical success of the meeting. The Robert F. Wagner All-Conference Best Student Paper Award (established 2014) is acknowledgment of his many important contributions to the Medical Imaging meeting and his many important advances to the field of medical imaging.

This award is co-sponsored by:

The Medical Image Perception Society SPIE.

2018 Recipients:

First Place: **Dynamic beam filtering for miscentered patients** (10573-29)
Andrew Mao, William Shyr, Grace J. Gang, J. Webster Stayman, Johns Hopkins Univ. (United States)

Second Place: **Tumor margin classification of head and neck cancer using hyperspectral imaging and convolutional neural networks** (10576-4)
Martin Halicek, Georgia Institute of Technology (United States) and Augusta Univ. (United States); James V. Little, Xu Wang, Emory Univ. School of Medicine (United States); Mihir Patel, Emory Univ. School of Medicine (United States) and The Winship Cancer Institute of Emory Univ. (United States); Christopher C. Griffith, Emory Univ. School of Medicine (United States); Amy Y. Chen, Emory Univ. School of Medicine (United States) and The Winship Cancer Institute of Emory Univ. (United States); Baowei Fei, Georgia Institute of Technology & Emory Univ. (United States) and The Winship Cancer Institute of Emory Univ. (United States)