

SPIE. MEDICAL IMAGING

Poster Award and Live Demonstration Award Winners

DATE FOR ALL:

Presented at

SPIE Medical Imaging, 15-19 February 2021

Physics of Medical Imaging (11596)

Presented by:

Hilde Bosmans, Katholieke Univ. Leuven (Belgium)

Wei Zhao, Stony Brook Medicine (United States)

Lifeng Yu, Mayo Clinic (United States)

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Cum Laude Winner: **Mojtaba Zarei**

Affiliation: Carl E. Ravin Advanced Imaging Labs, Duke Univ. (United States)

Title: "A probabilistic conditional adversarial neural network to reduce imaging variation in radiography" (11595-139)

Honorable Mention: **Aunnasha Sengupta**

Affiliation: U.S. Food and Drug Administration (United States)

Title: "Computational model of tumor growth for in silico trials" (11595-94)

Honorable Mention: **Clément Tavakoli**

Affiliation: CarMeN Lab., Institut National de la Santé et de la Recherche Médicale (France)

Title: "Tracking cells in the brain of small animals using synchrotron multi-spectral phase contrast imaging" (11595-164)

Image Processing (11596)

Presented by:

Ivana Išgum, Amsterdam UMC (Netherlands)

Bennett Landman, Vanderbilt Univ. (United States)

Cum Laude Winner: **Syed Ahmed Nadeem**

Affiliation: Univ. of Iowa (United States)

Title: “Generalizability of a deep learning airway segmentation algorithm to a blinded low-dose CT dataset” (11596-123)

Honorable Mention: **Vahid Daneshpajoo**

Affiliation: The Pennsylvania State Univ. (United States)

Title: “Super-resolution and deblurring enhancement for narrow band imaging bronchoscopy” (11596-73)

Computer-Aided Diagnosis (11314)

Presented by:

Maciej Mazurowski, Duke Univ. (United States)

Karen Drukker, The Univ. of Chicago (United States)

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Cum Laude Winner: **Wenxi Yu**

Affiliation: Univ. of California, Los Angeles (United States)

Title: “An automatic diagnosis of idiopathic pulmonary fibrosis (IPF) using domain knowledge-guided attention models in HRCT images” (11597-67)

Honorable Mention: **Jordan D. Fuhrman**

Affiliation: The Univ. of Chicago (United States)

Title: “Radiomic texture analysis for the assessment of osteoporosis on low-dose thoracic CT scans” (11597-106)

Image-Guided Procedures, Robotic Interventions, and Modeling (11598)

Presented by:

Cristian Linte, Rochester Institute of Technology (United States)

Jeffrey H. Siewerdsen, Johns Hopkins Univ. (United States)

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Cum Laude Winner: **Tamara Dupuy**

Affiliation: Univ. Grenoble Alpes (France)

Title: "2D/3D deep registration for real-time prostate biopsy navigation" (11598-58)

Cum Laude Winner: **Srinivas Rao Kudavelly**

Affiliation: Samsung R&D Institute India-Bangalore (India)

Title: "Deep learning based needle tracking in prostate fusion biopsy" (11598-79)

Honorable Mention: **Jessica R. Rodgers**

Affiliation: Robarts Research Institute, Western Univ. (Canada)

Title: "Toward image-guided gynecologic brachytherapy using intraoperative 3D ultrasound imaging" (11598-83)

Image Perception, Observer Performance, and Technology Assessment (11599)

Presented by:

Frank W. Samuelson, U.S. Food and Drug Administration (United States)

Sian Taylor-Phillips, The Univ. of Warwick (United Kingdom)

Cum Laude Winners: **Varun A. Kelkar** and **Xiaohui Zhang**

Affiliations: Univ. of Illinois (United States)

Title: "Task-based evaluation of deep image super-resolution in medical imaging" (11599-30)

Honorable Mention: **Francesc Massanes**

Affiliation: Siemens Healthineers (United States)

Title: "Class classification using two alternate force choice against an ensemble of normal examples" (11599-32)

Biomedical Applications in Molecular, Structural, and Functional Imaging (11600)

Presented by:

Barjor Gimi, Cooper Medical School, Rowan Univ. (United States)

Andrzej Krol, SUNY Upstate Medical Univ. (United States)

Cum Laude Winner: **Xianjin Dai**

Affiliation: The Winship Cancer Institute, Emory Univ. (United States)

Title: "Residual mask scoring regional convolutional neural network for multi-organ segmentation in head-and-neck CT" (11600-56)

Honorable Mention: **Kana Taniguchi**

Affiliation: Nagoya Univ. (Japan)

Title: "Three-dimensional visualization of ductal carcinoma in situ and usual ductal hyperplasia using the refraction-contrast x-ray computed tomography" (11600-64)

Imaging Informatics for Healthcare, Research, and Applications (11601)

Presented by:

Thomas M. Deserno, Technische Univ. Braunschweig (Germany)

Brian J. Park, Oregon Health & Science Univ. (United States)

Cum Laude Winner: **Tomoki Uemura**

Affiliation: Kyushu Institute of Technology (Japan) and Massachusetts General Hospital (United States)

Title: "U-radiomics for predicting survival of patients with COVID-19" (11601-3)

Honorable Mention: **Christina Dionysio** and **Jan Egger**

Affiliation: Technische Univ. Graz (Austria)

Title: "A cloud-based centerline algorithm for Studierfenster" (11601-39)

Ultrasonic Imaging and Tomography (11602)

Presented by:

Brett C. Byram, Vanderbilt Univ. (United States)

Nicole V. Ruiter, Karlsruher Institut für Technologie (Germany)

Cum Laude Winner: **Yang Lei**

Affiliation: The Winship Cancer Institute, Emory Univ. (United States)

Title: "Deep learning-based self-high-resolution for 3D ultrasound imaging" (11602-42)

Honorable Mention: **Yichuan Tang**

Affiliation: Worcester Polytechnic Institute (United States)

Title: "Acoustic reflector-based three-dimensional ultrasound imaging" (11602-47)

Digital Pathology (11603)

Presented by:

John E. Tomaszewski, Univ. at Buffalo (United States)

Aaron D. Ward, The Univ. of Western Ontario (Canada)

Cum Laude Winner: **Danny Poinapen**

Affiliation: Johns Hopkins Univ. (United States)

Title: "Three-dimensional shape and topology analysis of tissue-cleared tumor samples" (11603-39)

Honorable Mention: **Nathan Lang** and **Dong Hye Ye**

Affiliation: Marquette Univ. (United States)

Title: "Breast cancer magnification-independent multi-class histopathology classification using dual-step model" (11603-34)

Computer-Aided Diagnosis Live Demonstrations Certificate of Merit

Presented by:

Workshop Chairs

Lubomir Hadjiiski, Univ. of Michigan Health System (United States)

Karen Drukker, Univ. of Chicago (United States)

Horst Hahn, Fraunhofer MEVIS (Germany)

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Winning Team: **Satish E. Viswanath** and **Pallavi Tiwari**

Affiliation: Case Western Reserve Univ. (United States)

Title: "RadxTools: novel imaging informatics tools for tumor response assessment via imaging"

Runner-up: **Sven Kuckertz**

Affiliation: Fraunhofer MEVIS (Germany)

Title: "Fully automated monitoring of lesion evolution over time in multiple sclerosis"

Runner-up: **Zac Baum**

Affiliation: Univ. College London (United Kingdom)

Title: "Easy deep medical image registration visualization: DeepReg meets 3DSlicer"