X-ray Darkfield Contrast for Improved COVID-19 Detection in Chest X-Rays - Basic Physics & First Clinical Results

Wednesday, February 24, 12:00 pm ET

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Topics covered during this webinar:

- Lack of low-dose, fast, and inexpensive options for early detection/follow-ups for respiratory diseases.
- The first human application of a novel modality, namely X-ray dark-field chest imaging.
- A more sensitive alternative to conventional chest X-rays via the assessment of microstructural changes in lung parenchyma, which requires only a fraction of the dose applied in computed tomography (CT).
- A novel dark-field chest X-ray system, which is also capable of acquiring a conventional thorax radiograph.
- Promising results of two patient studies currently being conducted: one devoted to chronic obstructive pulmonary disease (COPD), the second to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

Speakers: Franz Pfeiffer, Technical University of Munich
Daniela Pfeiffer, Technical University of Munich

Franz Pfeiffer studied physics at Munich's Ludwig Maximilian University (Germany) and was awarded doctorates by the Institut Laue-Langevin (France) and the University of Saarbrücken (2003). Following subsequent post-docs in Urbana-Champaign (USA) and as a member of scientific staff at the Paul Scherrer Institute (Switzerland, 2008), he assumed the position of assistant professor at École Polytechnique Fédérale in Lausanne (2008). He was appointed full professor and head of the Institute of Biomedical Physics at the Technical University of Munich in 2009. In 2016, Professor Pfeiffer became the director of the Munich School of BioEngineering.

Daniela Pfeiffer studied medicine at the University of Regensburg and finished her certification as medical doctor in 2007. Following her medical education she obtained her doctorate in 2008 at the radiology department of the Technical University in Munich and continued her academic career as assistant professor for radiology (2015). In 2016 she obtained an additional degree as Master of Business Administration (MHBA) from the University Nuernberg. Besides her clinical work as radiologist (attending) she leads the CT research program at the TUM university hospital Klinikum rechts der Isar.

About the CRRG

The COVID Research and Resources Group (CRRG) aims to connect physicists and other scientists through COVID-related research and education efforts. If you would like to join CRRG, visit our website, find our community on engage.aps.org, or email crrg@aps.org and we will connect with you.