

slides. To facilitate model development, we invested in data standardization and implemented the DICOM standard for digital pathology for data storage and exchange. While model development is an important part of any ML project, generating high-quality, standardized data for model training and clinical deployment currently represents the key limiting factor for the adoption of ML in pathology.

**JOCHEN LENNERZ**, Associate Chief, Department of Pathology, [Massachusetts General Hospital](#), Medical Director, Center for Integrated Diagnostics, Associate Professor, [Harvard Medical School](#)

### Find out more

Register

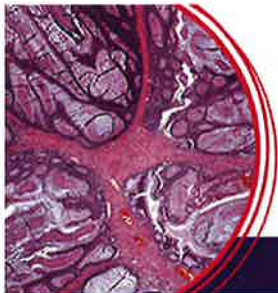
Workshops

Agenda

Speakers

#### Nick Noakes

Global Engage  
nnoakes@globalengage.co.uk  
+44 (0) 1865 849 841  
[www.global-engage.com](http://www.global-engage.com)



Global Engage 

## 6<sup>TH</sup> DIGITAL PATHOLOGY & AI CONGRESS: EUROPE

5-6 DECEMBER 2019 - LONDON, UK

[www.global-engage.com/event/digital-pathology/](http://www.global-engage.com/event/digital-pathology/)

This email is being sent to you because I believe that the contents are relevant to your field of work, or because you have consented to me writing to you.

- [Data Privacy](#)
- Update your preferences [here](#).
- Contact Data Processing: [dataprocessingofficer@globalengage.co.uk](mailto:dataprocessingofficer@globalengage.co.uk)

Solution Providers (technology manufacturers/vendors, industry consultants etc.). Please contact Gavin Hambrook or Nick Best before registering: [sponsorship@globalengage.co.uk](mailto:sponsorship@globalengage.co.uk) +44 (0) 1865 849841

**Von:** Nick Noakes <nnoakes@globalengage.co.uk>  
**Gesendet:** Mittwoch, 14. August 2019 11:41  
**An:** pathologie@i-med.ac.at  
**Betreff:** Overcoming Operational Hurdles for Machine Learning in Pathology

### **The 6th Digital Pathology & AI Congress**

Hi

The 6th [Digital Pathology & AI Congress: Europe](#) has a comprehensive agenda that will ensure your time at the meeting is productive. That is why over 400 people will [register](#) to hear what the speaker faculty have to say. *(The meeting sold out in 2018 and 2017)*

To give you a flavour of the topics being discussed, here are just three of the 40+ presentations.

#### **Deep Context Pathology Assays by Novel Imaging and Analytics**

Tissue pathology slides contain enormous data that can serve precision medicine. Disease indicators, measured in the spatial setting of tissue micro environment, provide a major advantage by supplementing cell biology knowledge with tissue “sociology” context. Novel microscopy imaging techniques, tissue multiplexing, spatial analytics, artificial intelligence will transform tissue-pathology testing into robust deep-context analytical assays and decision-support systems for specific clinical tasks. In particular, imaging with Microscopy with Ultraviolet Sectioning Excitation and Polychromatic Polarization Microscopy can be employed to extract invisible, robust and affordable data for improved tissue segmentation and quantification in paraffin sections. For tumour pathology, quantification of intra-tissue heterogeneity of biomarker expression, immune response and metabolic properties, microvasculature and collagen architecture enable rich multi-dimensional models of the disease.

**ARVYDAS LAURINAVIČIUS**, Director, National Pathology Center, [Vilnius University Hospital Santariskes Clinics](#)

#### **End-to-end QA in digital pathology**

Digital pathology is much more than large data sets and machine learning; quality assurance, evaluation, migration and accelerated adoption need to be considered to maximise the benefits of digital. This presentation will highlight some of the issues in the whole slide imaging chain from tissue staining to display and beyond. This presentation will cover stain variation, considerations for the QA of digitisers and the impact of display. The key theme throughout will be how quality assurance is going to be essential at all stages for digital pathology to be successful; rubbish in = rubbish out!

**CHLOE KNOWLES**, Specialist Biomedical Scientist, and **DAVID BRETTL**, Professor, [Leeds Teaching Hospital](#)

#### **Overcoming Operational Hurdles for Machine Learning in Pathology: Experiences from the Breast Cancer Scanning Initiative (BCSI)**

Experiences from the Breast Cancer Scanning Initiative (BCSI) High-risk breast lesions are followed up by excision; however, only a subset (~11%) ultimately show carcinoma or ductal carcinoma in situ. A proof of principle study recently demonstrated that a machine learning (ML) algorithm can predict cancer in the subsequent excision and may thus be able to reduce the number of unnecessary surgeries. In a follow-up study, we set out to develop and clinically validate a ML model based on digital slides. Model development requires extensive technical expertise and resources. Similarly, there are operational requirements for retrieving, digitizing, and annotating slides, which represent a major bottleneck at a scale of hundreds to thousands of