The MU Vienna Department of Pathology
&
The Nottingham Molecular Pathology Node

Molecular Diagnostics Training School

23-26 February 2025

Click this box for further details and registration

This Training School will be delivered as a HYBRID Event !

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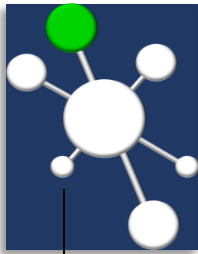
DEPARTMENT OF PATHOLOGY
MEDICAL UNIVERSITY OF VIENNA
Vienna Healthcare Group University Hospital Vienna

The University of Nottingham
UNITED KINGDOM · CHINA · MALAYSIA

Supported by the Austrian Society of Pathology and the European Microscopy Society

ÖG PATH KLIN MOL

Dear Delegates,

I would like to welcome you all to the seventh **Molecular Diagnostics Training School,** to be held as a hybrid event. The school is supported by the **Austrian Society of Pathology**, the **Nottingham Molecular Pathology Node.**

Established in co-operation with the University of Nottingham, the Molecular Diagnostics Training School has developed into a highly successful joint venture. As last year, we are covering the basics of molecular diagnostics, digital pathology and image analysis in **pre-recorded lectures** that provide the foundation for those of you who have little or no experience in either biological background or technical/methodological approaches. These pre-recorded lectures will be available to you before the beginning of the Training School and are the basis for the specialized lectures on recent developments in technological approaches as well as worked examples.

As for the **Molecular Diagnostics Training School** (MDTS) I would like to begin with the following statement:
Molecular Diagnostics is the foundation for precision medicine.

The MDTS is aimed at persons who may have little experience with molecular diagnostics but also those who are looking for a refresher course or want updates on novel developments. The training school will introduce you to common concepts which underpin the tests, including the panoply of tests which are currently used in diagnostic practice. We will also discuss the importance of getting good template and of having robust quality assurance for your tests. The school will also cover new methodologies such as digital spatial profiling and it will conclude with an overview of current applied molecular diagnostics in a variety of different organ systems.

We have a world class faculty to deliver the teaching materials and to deal with any questions.
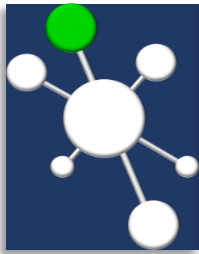
I hope you enjoy and benefit from the training school. We will not make you into a card-carrying molecular biologist in these three days, but if you come away agreeing with my introductory statement, then the school will have achieved its aims!

Best wishes,

Renate Kain
Professor of Pathology
Medical University of Vienna

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Tutorials for the Molecular Diagnostic Training School (optional)

Registered attendees can watch the tutorials below via the links emailed to them.

The Basic Principles of PCR
Prof. Mohammad Ilyas - University of Nottingham, UK

Basics of FISH
Prof Ana-Iris Schiefer - Medical University of Vienna, Austria

Human Genome Variation Society (HGVS) Variant Nomenclature
Prof Leonhard Müllauer - Medical University of Vienna, Austria

The Basics of Genomics and Transcriptomics
Prof Martin Bilban - Medical University of Vienna, Austria

Quality Control in NGS
Dr Antonios Koussounadis - Saphetor SA

Integrative Genome Viewer
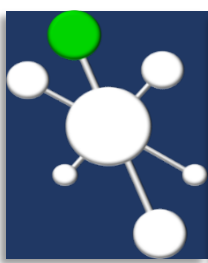Dr Raheleh Sheibani Tezerji - Medical University of Vienna, Austria

Morning Session Chair: *Prof. M. Ilyas*

Time	Session
08:25	**Introduction - Welcome**
08:30	**Real-Time PCR and Data Interpretation** Prof. Mohammad Ilyas – University of Nottingham, UK
10:00	**Comfort break**
10:30	**The Highs / Lows and Data Interpretation of Sequencing** Dr Susan Richman – St James University Hospital, Leeds, UK / Dr Antonios Koussounadis - Saphetor SA
12:00	**The Liquid Biopsy** Prim. Prof. Karl Sotlar – University Hospital Salzburg, Austria
12:30	**Next Generation Sequencing – Worked Examples Part 1** Prof Martin Bilban - Medical University of Vienna
13:00	**Lunch break**

Afternoon Session Chair: *Prof. L. Müllauer*

Time	Session
14:00	**Chromogenic In-Situ Hybridisation** Prof. Elizabeth Soilleux - Dept of Pathology, University of Cambridge, UK
14:30	**The Molecular Tumour Board** Prof Leonhard Müllauer – Medical University of Vienna, Austria
15:00	**Next Generation Sequencing – Worked Examples Part 2** Dr Sophia Petschnak - Klinik Favoriten, Vienna
15:30	**Comfort break**
16:00	**NEQAS – Ensuring Standards in Molecular Diagnostics** Dr Jenni Fairley – UK NEQAS, UK
16:30	**NGS – Principles & Platforms** PD Dr Gregor Hörmann - MLL Munich Leukemia Laboratory, Germany
17:30	**Wrap-up Day 1 of MDTS**
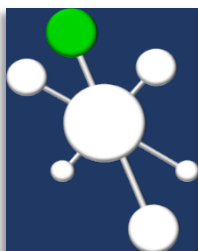
Morning Session Chair: *Prof. R. Kain*

08:45	**Homologous Repair Deficiency** Prof Leonhard Müllauer, Prof Christoph Grimm - Medical University of Vienna, Austria
09:15	**Hereditary Tumour Syndrome** Prof Katharina Wimmer - Medical University of Innsbruck, Austria
10:00	**Comfort break**
10:30	**Molecular Diagnostics and Immuno-Oncology** Dr Alexander Haragan - Royal Liverpool University Hospital, UK
11:15	**Molecular Diagnostics in Mesothelioma** Dr Luka Brcic - Medical University of Graz, Austria
11:45	**Molecular Diagnostics in Soft Tissue Tumours** Dr Suk Wai Lam - Leiden University Medical Center, The Netherlands
12:15	**Molecular Diagnostics in Lung Cancer** Prof Leonhard Müllauer - Medical University of Vienna, Austria
12:45	**Lunch break**

Afternoon Session Chair: *Prof. AI Schiefer*

13:45	**Molecular Diagnostics in Melanoma** Prof Ana-Iris Schiefer - Medical University of Vienna, Austria
14:15	**Molecular Diagnostics in Male Genitourinary Cancers** Prof Clare Verrill - University of Oxford, UK
15:00	**Molecular Diagnostics in Prostate Cancer** Prof Jyotsna Batra, Queensland University of Technology, Australia
15:45	**Comfort break**
16:15	**Molecular Diagnostics in Gynaecological Cancers / Worked Examples** Prim. Prof. Sigurd Lax - Medical University of Graz, Austria
17:00	**Wrap-up Day 2 of MDTS**
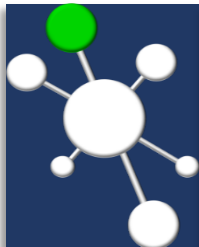
Morning Session Chair: Prof. Zs. Bago-Horvath

08:30	**Programmed Cells – Machine Learning for Molecular Medicine** Prof Christoph Bock - CeMM Research Center for Molecular Medicine of the Austrian Academy
09:30	**Molecular Diagnostics in CNS Cancers** Dr Zane Jaunmuktane - UCL Queen Square Institute of Neurology, UK
10:15	**Comfort break**
10:45	**Molecular Diagnostics in Lymphoid Cancers** Prof Ming Du - University of Cambridge, UK
11:30	**Scientific Databases and Software in Diagnostic Molecular Pathology** Dr André Oszwald - Medical University of Vienna, Austria
12:15	**Rubbish in=Rubbish out: The Importance of Template** Dr Abhik Mukherjee - University of Nottingham, UK
12:45	**Lunch break**

Afternoon Session Chair: Prof. R. Kain

13:45	**Molecular Diagnostics in Breast Cancers** Prof Emad Rakha - University of Nottingham, UK
14:30	**Prognostic and Predictive Molecular Tests for Breast Cancer** Prof Zsuzsanna Bago-Horvath - Medical University of Vienna, Austria
15:15	**Molecular Diagnostics in Gastrointestinal Cancers** Prof Gerald Höfler - Medical University of Graz, Austria
16:00	**Comfort break**
16:30	**Pharmacogenomics** Prof Henk Jan Guchelaar - Leiden University Medical Center, The Netherlands
17:15	**Homologous Recombination Deficiency, a Novel Biomarker in Cancer** PD Dr Theo Kraus - University Hospital Salzburg, Austria
18:00	**Wrap-up Day 3 and Close of MDTS**
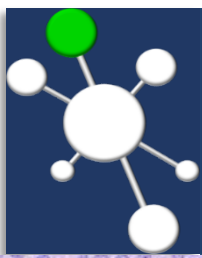
The MU Vienna Department of Pathology
&
The Nottingham Molecular Pathology Node

**Digital Pathology &
Image Analysis
Training School**

27 February – 01 March 2025

**Click this box for further
details and registration**

This Training School will be
delivered as a HYBRID Event !

ALL TIMES ARE CET !

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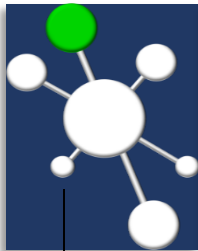MEDICAL UNIVERSITY OF VIENNA   Vienna Healthcare Group University Hospital Vienna

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**Supported by the
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European Microscopy
Society**

ÖG PATH   KLIN MOL

Dear Delegates,

I would like to welcome you all to the sixth **Digital Pathology & Image Analysis Training School**, to be held as a hybrid event. The school is supported by the **Austrian Society of Pathology**, the **Nottingham Molecular Pathology Node**.

Established in co-operation with the University of Nottingham, the Digital Pathology & Image Analysis Training School has developed into a highly successful joint venture. As last year, we are covering the basics of molecular diagnostics, digital pathology and image analysis in **pre-recorded lectures** that provide the foundation for those of you who have little or no experience in either biological background or technical/methodological approaches. These pre-recorded lectures will be available to you before the beginning of the Training School and are the basis for the specialized lectures on recent developments in technological approaches as well as worked examples.

An apt introduction to our **Digital Pathology & Image Analysis Training School** is the statement:

Digital Pathology and Image Analysis: Prepare, the future is here!

The DP&IATS is aimed at both, Trainee and Consultant Pathologists and non-clinical scientists/computer experts, who may have some experience with digital pathology and platforms, but are looking to deepen their knowledge. Thus the training school aims at bringing together histopathologists and computational scientists to foster mutual understanding and collaboration. As digital technologies are transforming histopathology diagnosis and research, the training school will outline some of the basic challenges encountered during image analysis and introduce the concepts of stereology and segmentation analysis. In view of the rapid need for integration of image analysis with molecular diagnostics development, we shall explore both the spatial reasoning of imaging and assessment of multiple biomarkers on digital platforms.

We have a world class faculty to deliver the teaching materials and to deal with any questions. The school has a number of industrial sponsors and they have been invited to give brief presentations of digital pathology from an industrial perspective.

I hope you enjoy and benefit from the two training schools. We can only hope that the basic language of image analysis is no longer alien and the clinical perspective contextualized after the three-day DP&IATS, but if you come away agreeing with my introductory statements, then the school will have achieved its aims!

Best wishes,

Renate Kain
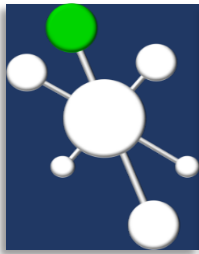Professor of Pathology
Medical University of Vienna

Tutorials for the Digital Pathology & Image Analysis Training School (optional)

Registered attendees can watch the tutorials below via the links emailed to them.

Basics of Digital Imaging Including Lexicons
Prof Vincenzo Della Mea - University of Udine, Italy

What is a Whole Slide Image?
Dr Christopher Kaltenecker - Medical University of Vienna, Austria

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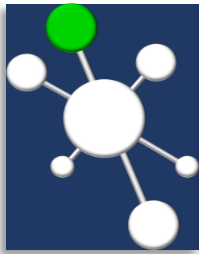MEDICAL UNIVERSITY OF VIENNA
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Morning Session Chair: Prof. M. Ilyas

08:25	**Introduction** Prof. Mohammad Ilyas - University of Nottingham, UK
Whole Slide Image Generation	
08:30	**Roadmap to Digitize Pathological Workflows** Dr Anna Bodén - Linköping University, Sweden
09:15	**End to End Quality in Digital Pathology** Prof. David Brettle- Leeds Teaching Hospitals NHS Trust, UK
10:00	**Comfort break**
10:30	**Implementing Digital Pathology: The Step from Research to Diagnostics** DI Markus Plass - Medical University of Graz, Austria
11:15	**Spatial Reasoning for Histological Imaging** Prof. Gabriel Landini - Birmingham University, UK
12:00	**Lunch break**

Afternoon Session Chair: Prof. R. Kain

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12:45	**Industrial Presentation** TissueGnostics GmbH, Vienna, Austria
13:00	**Digital Pathology: where are we on the hype cycle?** Prof. Mohammad Ilyas - University of Nottingham, UK
13:45	**Assessing Immunohistochemistry – Scoring Methods and Pitfalls** Dr Abhik Mukherjee - University of Nottingham, UK
Thinking Like a Computational Pathologist – Methods in Computational Pathology	
14:30	**From Pixel to Tissue - Introduction to Computational Pathology for Pathologists** Prof Andrew Janowczyk - Emory University, Atlanta, USA
15:15	**Quantitative Histo-Morphometry – from Pixels to Diagnosis** Dr Alain Pitiot - Ilixa Ltd, Ludwig Boltzmann Institute, Austria; University of Nottingham, UK
16:00	**Comfort break**
16:30	**Explainable Models for Computational Pathology** Dr Simon Graham- Histofy, UK
17:15	**Information Management and Standardization** Dr Maximilian Koeller - Medical University of Vienna, Austria
18:00	**Vision Image Transformers: Attention Is All You Need** Prof Faisal Mahmood - Harvard Medical School, Boston, USA
18:45	**Wrap-up Day 1 of DP&IATS**
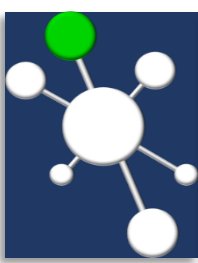
Morning Session Chair: Prof. M. Ilyas

What Is Machine Learning in the Context of Computational Pathology?

08:30	**General Introduction to Machine Learning for Pathologists** Prof Vincenzo Della Mea - University of Udine, Italy
09:15	**Data Augmentation, Stain Normalisation and Artefact Detection** Stephan Dooper - Radboudumc, The Netherlands
10:00	**Comfort break**
10:30	**Convolutional Neural Networks: Leaving the Field of Histomorphometry** Prof Vincenzo Della Mea - University of Udine, Italy
11:15	**Machine Learning Tasks in Computational Pathology (Segmentation, Classification, Regression)** Prof Andrew Janowczyk - Emory University, Atlanta, USA
12:00	**Introduction to QuPath** Dr Alan O´Callaghan - University of Edinburgh, UK
12:45	**Lunch break**

Afternoon Session Chair: Prof. R. Kain

13:30	**Industrial Presentation** Leica Biosystems, Germany
13:45	**How to Create a Dataset for Computational Pathology and What Points to Consider** Dr Christof Bertram – University of Veterinary Medicine, Vienna
14:30	**High-Throughput Quality Control, Annotation, and Labeling in Digital Pathology Repositories for Biomarker Discovery** Prof Andrew Janowczyk - Emory University, Atlanta, USA
15:15	**Comfort break**

How to Translate a Pathological Question into Computational Pathology

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15:45	**TIA ToolBox** Prof. Nasir Rajpoot - University of Warwick, UK
16:30	**Histogenic Molecular Mapping – Multivariate Analysis of IHC Biomarkers** Dr Alain Pitiot - Ilixa Ltd, Ludwig Boltzmann Institute, Austria; University of Nottingham, UK
17:15	**Functional Profiling** Prof Philipp Staber - Medical University of Vienna, Austria
18:00	**Wrap-up Day 2 of DP&IATS**

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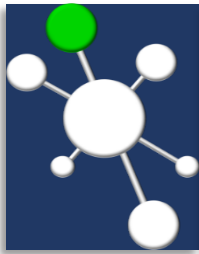
Session Chair: Prof. R. Kain

How to Translate a Pathological Question into Computational Pathology

08:30	**Prostate – Computational Pathology in Uropathology** Prof Jeroen van der Laak - Radboudumc, The Netherlands
09:00	**Breast – Computational Pathology in Senology** Prof Zsuzsanna Bago-Horvath - Medical University of Vienna, Austria
09:30	**GI Tract – Computational Pathology in Gastroenterology** Sophia J. Wagner - Technical University Munich, Helmholtz AI, Germany
10:00	**MALDI Imaging – Applications in Pathology** Dr Kristina Schwamborn - Technical University Munich, Germany
10:45	**Comfort break**
11:15	**Industrial Presentation** PreciPoint GmbH, Germany
11:30	**AI in the Oncology Setting** Prof Jakob N Kather - Technical University Dresden, Germany
12:15	**Digital Intelligence for Tissue Pathology** Prof Arvydas Laurinavičius - VUHSK, Vilnius, Lithuania
13:00	**Future Outlook - The Remarkable Potential of Deep Learning for Histopathology** Prof Jeroen van der Laak - Radboudumc, The Netherlands
13:45	**Wrap-up Day 3 and Close of DP&IATS**

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