Handbook

41st BSTP ANNUAL SCIENTIFIC MEETING

The Hilton, Cambridge, UK

19th - 20th November 2026

OF MICE AND MEN: SYNERGY BETWEEN VETERINARY AND HUMAN PATHOLOGY

In collaboration with the Pathological Society



BSTP

Pathological Society

Understanding Disease — Guiding Therapy

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1. Welcome

We are delighted to welcome you to the 41st BSTP Annual Scientific Meeting, entitled ‘Of Mice and Men: Synergy Between Veterinary and Human Pathology’, including the Mouse Pathology Workshop. This meeting is run in partnership with Pathological Society of Great Britain and Ireland, on 19th and 20th November 2026 in Cambridge, UK.

We operate in a ‘One Pathology’ paradigm, applying and extending our knowledge of comparative and translational pathology to improve our understanding of disease and toxicological mechanisms, to ensure better, safer medicines and environmental agents for patients and the wider public. We are also in a period of accelerated change in the science and practice of pathology, as digital pathology, AIML-driven analytical and spatial biology tools continue to evolve, all of which need to be anchored in a sound knowledge of tissue phenotypes across species. I would like to thank the Scientific Organisers for putting together an excellent programme. We are fortunate in having secured an outstanding group of speakers: this conference will give you the opportunity to join a talented medical and translational pathology community in-person, as we dive into a broad range of topics including the pathology of hepatic, renal and oncologic diseases in patients, and the experimental models used to gain additional translational insights into mechanism and to predict safety. You will get direct access to international key opinion leaders, cutting-edge discussions, Keynote and Award lectures, and an innovative poster session.

For scientists working with mouse models, the Mouse Pathology Workshop will cover key basic practical aspects, with a particular focus on neuropathology.

You will be able to network, form new collaborations and build on existing partnerships across industry and academia.

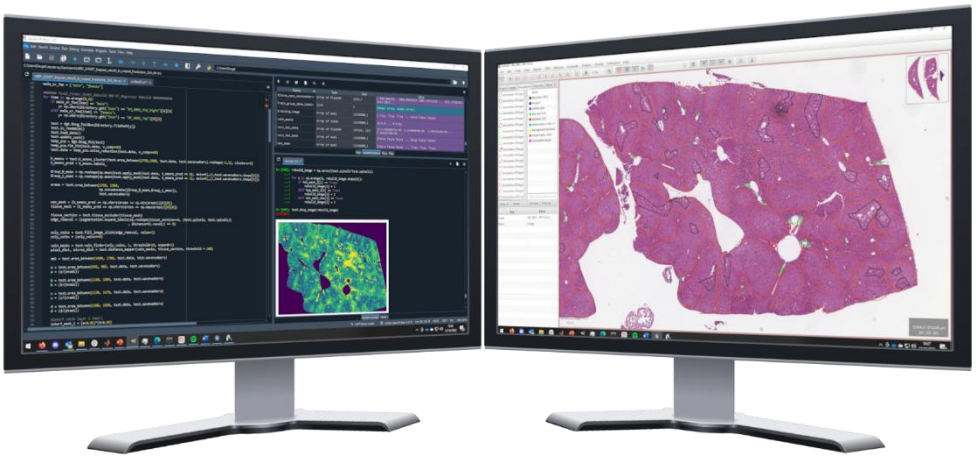
May I thank all of our sponsors for their generous support of this conference.

On behalf of the Scientific Organisers, Educational Sub-Committee and Council, we trust you will have a stimulating and enjoyable meeting.

Warm Regards

Peter Clements

BSTP President, 2024 to 2026



2. Venue

The Hilton Cambridge City Centre, is a four-star hotel situated in the heart of Cambridge, offering delegates an excellent base from which to explore this historic university city. Located on Downing Street, the hotel is within walking distance of the city's famous colleges, shops, restaurants and cultural attractions. On-site parking is available at an additional cost, and delegates can enjoy the hotel's restaurant, bar and fitness facilities.

Local Attractions

The Hilton Cambridge City Centre is ideally located for exploring Cambridge, with many of the city's most popular attractions just a short walk away. These include the world-famous King's College Chapel, the Fitzwilliam Museum, Cambridge Market Square and the Grand Arcade shopping centre. Delegates can also enjoy a traditional punting experience along the River Cam, admire the historic university colleges or explore the city's independent cafés, restaurants and shops.

The city combines historic architecture and academic heritage with a lively cultural scene, providing plenty of opportunities for delegates to explore before or after conference sessions.

For more information on tourist attractions in the area, please visit the Visit Cambridge website.

Travel

Public Transport

If you are travelling by train, please check the National Rail Enquiries website for up-to-date timetables and travel information: https://www.nationalrail.co.uk/.

Cambridge railway station is approximately a 20-minute walk from the hotel. Alternatively, delegates can take a taxi or local bus.

Local Taxis

You need to be aware that at peak times there may be a delay in a taxi reaching you. You are strongly advised to book your taxi well in advance of the time it is required. If you require a taxi from the hotel to the airport or railway station, you are advised to book it in the evening through the Concierge at your hotel.

Should you wish to contact the taxis directly, there are a number of taxi firms operating in the local area. Please contact them to organise taxi transfers.

Hyfly Taxis

☎ 01223 737300

Breeze Taxis

☎ 01223 901209 / 07424479441

CamCab

☎ 01223 704704

3. Delegate Information

Registration and information desk

The registration desk is located on the First Floor of the hotel behind the main Hotel Reception Desk and will be open during the following times.

Thursday 19th November 2026	08:15 AM – 17:00 PM
Friday 20th November 2026	08:30 AM – 16:00 PM

Wi-Fi

Delegates are able to connect to the generic hotel Wi-Fi and no log in is required.

Name Badges

Please ensure that you wear your name badge for entry to scientific sessions and refreshment breaks. Access may be denied if not worn. Name badges can be recycled at the end of the conference.

Luggage

Delegates who wish to store their luggage during the conference can leave it with the hotel reception team and collect it at a later time as required.

Fire Assembly Point

When you hear the sound of the fire alarm, please exit the building and go immediately to the fire assembly point at the front of the building.

The Hilton Hotel has entry and exit points, please make sure that these are kept clear at all times including emergency routes.

Lost Property

All lost items will be brought to the Hilton Hotel reception team. If you have lost an item, please report it to the hotel reception team. The Hg3 Conferences team will be contacted should any items be left at the hotel after the conference.

Mobile phones, Photography and Filming

Please ensure that your phone is switched off or in silent mode in the lecture theatres.

No photography, recording or filming is permitted during presentations without permission.
Filming is permitted in the event space, but not in public areas of the hotel. If you need to film in a public space, please let the hotel know in advance and an arrangement can be made.

Smoking

In accordance with government legislation, smoking is not permitted inside any building.

Parking

There is valet parking is available for guests at £35 per day.

Please note all parking is available on a first-come-first-served basis and cannot be reserved in advance

Refreshments at the venue

There will be tea/coffee available during the scheduled refreshment breaks in the programme. If you have any dietary requirements, please let a member of staff know.

Social Media

Please use this hashtag when posting about the conference: **#BSTPASM26**

Certificates of Attendance

If you would like a certificate of attendance after the conference, please contact events@hg3.co.uk.

Post Event Evaluation Survey

At the end of the conference you will receive a link to a short survey about the event. Please take time to complete this survey and offer your feedback where possible. This will help us improve and plan for future events.

4. Conference Programme

<table>
<tr><th colspan="3">THURSDAY 19th NOVEMBER 2026</th></tr>
<tr><td>08:15 - 08:45</td><td colspan="2">REGISTRATION</td></tr>
<tr><td>08:45 - 09:00</td><td colspan="2">WELCOME AND INTRODUCTION BY THE PRESIDENT OF THE BSTP – Peter Clements
Session Chair: Peter Clements</td></tr>
<tr><td>09:00 - 09:45</td><td colspan="2">S01: Update on the pathology and pathogenesis of Metabolic dysfunction-Associated Steatotic Liver Disease (MASLD)
Prof. Tim Kendall
The University of Edinburgh, UK</td></tr>
<tr><td>09:45 - 10:30</td><td colspan="2">S01: Royal College of Pathologists Kettle Memorial Lecture
Translational modelling of human MASLD and leveraging real-world data
Prof. Tim Kendall
The University of Edinburgh, UK</td></tr>
<tr><td>10:30 - 11:00</td><td colspan="2">REFRESHMENT BREAK AND POSTER SESSION</td></tr>
<tr><td></td><td colspan="2">Session 2:
Session Chair: Aleksandra Zalewska</td></tr>
<tr><td>11:00 - 11:45</td><td colspan="2">S02: "Translational animal models of human kidney disease - fact or folly?" Part 1
Dr. Magnus Söderberg
AstraZeneca, Sweden</td></tr>
<tr><td>11:45 - 12:30</td><td colspan="2">S02: "Translational animal models of human kidney disease - fact or folly?" Part 2
Dr. Magnus Söderberg
AstraZeneca, Sweden</td></tr>
<tr><td>12:30 - 13:30</td><td colspan="2">LUNCH</td></tr>
<tr><td>13:30 - 14:00</td><td>Scientific Organiser of Mouse Pathology Workshop (Hawking Suite) :
Session Chair: Dr Ellie Herbert
S03: Mouse Necropsy
Dr Ellie Herbert
FERA Science LTD, UK</td><td rowspan="2">Use of human tissue in preclinical drug development Workshop (Issac Newton Suite) :
Session Chair: Stephen Drew
13.30 – 14:15
S05: Off-Target Profiling to Enhance Preclinical Assessment of Biologics
Dr. Susann Busch
AstraZeneca, Sweden</td></tr>
<tr><td>14:00 - 14:30</td><td>S04: Neuropathology 101
Dr Deepa B Rao
Rao Consulting, LLC, USA</td></tr>
<tr><td>14:30 - 15:00</td><td>S06: Histology Basics
Anna MacDonald
Labcorp, UK</td><td>S07: 14:15-15:00
Tissue Cross-Reactivity Studies
Paul Edwards
Labcorp, UK</td></tr>
<tr><td>15:00 - 15:30</td><td colspan="2">REFRESHMENT BREAK</td></tr>
</table>

15:30 - 16:15	*Session Chair: Mark Arends* **S08: Investigating unexpected morbidity and mortality in research mice** ***Cheryl Scudamore*** ***FERA Science LTD, UK***	*Session Chair: Jon Carter* **S09: Advancing Safer, Targeted Biologics with the Retrogenix® Cell Microarray** ***Dr. Mark Aspinall-O'Dea*** ***Retrogenix, Charles River Laboratories, UK***
16:15 - 17:00	**S10: Recognising common background lesions in laboratory mice** ***Liz McInnes*** ***Syngenta, UK***	**S11: Target Validation and Indication Selection using Human Tissues - Applications and Pitfalls** ***Deon Hildebrand*** ***GSK, UK***
17:00 – 18:00	**BSTP Annual General Meeting**	
18:00 onwards	**Drinks and Canapé Reception**	
FRIDAY 20th NOVEMBER 2026		
08:30 - 08:55	**REGISTRATION**	
08:55 - 09:00	**INTRODUCTION TO DAY 2** *Session Chair: Giovanni Pellegrini*	
09:00 - 9:45	***ESTP Science Award*** **S12: Characterization of Genetically Engineered Mouse Models (GEMMs) for Nonclinical Safety** ***Dr. Josep Monné*** ***Roche, Switzerland***	
09:45 – 10:30	***Bob Maronpot Guest Lecture Award*** *- kindly sponsored by the IATP and the Telikicherla Higher Education Foundation* **S13: Unique Challenges underlying Core Concepts in Neuropathology Evaluations** ***Dr. Deepa B Rao*** ***Rao Consulting, LLC, USA***	
10:30 - 11:00	**REFRESHMENT BREAK**	
11:00 - 11:45	**S14: Engineered GEMMs for Pharma: Pathology-Driven Models to Power Target Validation and Therapeutic Development** ***Dr. Michelle Porritt*** ***AstraZeneca, Sweden***	
11:45 -12:00	**S15: Short talk sponsor : Within Normal Limits? Rethinking What We Find, and Who Sees It.** ***Colin Doolan,*** ***VP Strategic Marketing, Research Pathology, Deciphex***	
12:00 - 13:00	**LUNCH**	

13:00 - 13:45	**Session Chair: Clare Hoover** **S16: In search of the 'perfect' model: Mammary tumorigenesis across species.** ***Prof. Kate Hughes*** ***University of Cambridge, UK***
13:45 - 14:30	**S17: Antibody-based therapeutics for targeting the tumour stroma and sarcomas** ***Prof. Clare Isacke*** ***The Institute of Cancer Research, UK***
14:30 - 15:00	**REFRESHMENT BREAK**
15:00 - 15:45	**S18: Translational research in genetically engineered mouse models of pancreatic cancer** ***Prof. Jen Morton*** ***CRUK Scotland Institute/University of Glasgow, UK***
15:45 - 16:00	**CONCLUDING REMARKS BY THE NEW PRESIDENT OF THE BSTP** ***Jon Carter, Director, Anatomic Pathology, Labcorp Early Development Laboratories Ltd.***

You are advised that the programme timings, lecture title and speakers may be subject to change without notice

5. Speaker Biographies



Prof. **Tim Kendall,** *The University of Edinburgh*

Prof Kendall is Personal Chair of Liver Pathology at the University of Edinburgh and an NHS Lothian Consultant Liver Pathologist at the Royal Infirmary of Edinburgh. His research interests are steatotic liver disease, liver fibrogenesis, and primary liver cancer but he also provides histopathological support for other preclinical, translational, and clinical studies. He is the pathology and ethics lead for SteatoSITE, a national MASLD data commons. He is chair of the UK Liver Pathology Group and Pathological Society Clinical Trials Pathology subcommittee, and is pathology representative on committees of European and national liver organisations including CCA-UK and the European Network for the Study of Cholangiocarcinoma. Prof Kendall graduated from Southampton University and trained in Southampton and Edinburgh.



Magnus Söderberg, *AstraZeneca*

Magnus Söderberg, MD, PhD, is a Swedish physician and anatomical pathologist specializing in renal pathology, transplantation pathology, renal toxicology, and kidney biomarkers. He trained and worked clinically at Karolinska University Hospital, where he served as a senior consultant and held leadership positions, including Head of the Department of Pathology. Since joining AstraZeneca in 2009, he has held senior leadership roles in Global Safety Assessment and Clinical Pharmacology and Safety Sciences. He currently serves as a Senior Director, Renal Target Organ Expert, CVRM Pathology Lead, and Center of Excellence Lead for Pathology and Imaging in Gothenburg. Dr Söderberg's research spans kidney disease, vascular calcification, drug-induced organ injury, cancer biology, computational pathology, artificial intelligence, and tissue diagnostics. He has contributed to more than 80 PubMed-indexed publications, including studies on IgA nephropathy, chronic kidney disease, renal biomarkers, toxicologic pathology, kidney organoids, and AI-supported histopathology. He has supervised postdoctoral researchers and industrial PhD students and has lectured extensively at Karolinska Institutet. His distinctions include the European Society of Toxicologic Pathology Science Award (2023).



Liz McIness, *Syngenta*

Liz McInnes is currently Syngenta Chief Pathologist and a Syngenta Fellow in the Global Toxicology platform of Product Safety at Syngenta. Liz McInnes qualified as a veterinary surgeon in 1988, completed a PhD at the University of London in 1996, was awarded the Fellowship of the Royal College of Pathologists in 1997 and became a Fellow of the International Academy of Toxicologic Pathology in 2011. Liz McInnes is the author of "Background Lesions in Laboratory Animal, a color Atlas" and "Pathology for Toxicologists". Liz has widely published and is a reviewer for Toxicologic Pathology and the Journal of Comparative Pathology. Liz McInnes is a past President of the BSTP and a member of the Board of Directors for the Davis Thompson Foundation.



Kate Hughes, *University of Cambridge*

Kate graduated from the University of Liverpool. She is a Fellow of the Royal College of Pathologists, a Diplomate of the American College of Veterinary Pathologists, and a Royal College of Veterinary Surgeons Specialist in Veterinary Anatomic Pathology. She undertook a PhD funded a Wellcome Trust Research Training Fellowship at the University of Cambridge. She is currently Professor of Veterinary Anatomic Pathology at the University of Cambridge, UK, where she combines diagnostic pathology, research and teaching. Kate's two main research interests are mammary gland biology and pathology, and all aspects of the pathology of rabbits and hares.



Jennifer Morton, *Cancer Research UK Scotland Institute*

Jen Morton is a group leader at the CRUK Scotland (formerly Beatson) Institute and Professor in the University of Glasgow School of Cancer Sciences. Jen studied at the University of Glasgow and gained her PhD in Molecular Oncology in 2002. She carried out postdoctoral research at the University of Glasgow and then, from 2004 - 2007, at the University of Massachusetts Medical School, at which time she started to specialize in pancreatic cancer research. In 2007 she joined the CRUK Beatson Institute where she now leads a lab focused on research into pancreatic cancer. The main aims of the lab are to find out more about how pancreatic cancer behaves, identify new ways to treat the disease, and test those new treatments in the best model systems. Work in the lab has provided insights into pancreatic cancer biology, how pancreatic cancers spread, and how the 'normal' cells in the body can be hijacked by pancreatic tumours to support their growth and render them insensitive to therapies. She works with both academic and industry collaborators around the world to test and translate new therapies in pancreatic cancer.



Susan Busch, *AstraZeneca*

Dr. Susann Busch is Director, Immune Safety at AstraZeneca, where she provides scientific leadership in the non-clinical safety assessment of innovative medicines across multiple therapeutic areas. Her work has included shaping strategies for off-target profiling and risk assessment of biologics, enabling improved understanding of potential safety liabilities and more informed candidate selection. Based in Gothenburg, Sweden, she has been with AstraZeneca since 2017.



Anna Macdonald, *LabCorp*

Anna Macdonald is a highly experienced laboratory operations leader with nearly 25 years of service at Covance, now Labcorp. As Post Life Operations Manager for the Harrogate and Münster Histology laboratories, she is responsible for leading high-performing teams and overseeing the delivery of complex histopathology services within a fast-paced, high-throughput environment. Throughout her career, Anna has held a variety of scientific and operational leadership roles, including serving as both Study Director and Principal Investigator. She has extensive experience in managing laboratory operations, driving process improvements and ensuring the successful delivery of studies to the highest quality and regulatory standards. Anna holds an MSc in Pathological Sciences, specialising in Cellular Pathology, from Sheffield Hallam University. She recently completed her MBA at Arden University, further strengthening her expertise in strategic leadership, business management and organisational development. A certified Lean Six Sigma Green Belt, Anna has significant experience in specialist project coordination, continuous improvement initiatives and the implementation of global workstream processes. She is passionate about developing people, optimising operational performance and building collaborative, cross-functional partnerships that enable scientific and business success.

Paul Edwards, *LabCorp*

Paul attained a BSc in Veterinary Science from the Royal Veterinary College in 2007 before going on to complete an accelerated degree in Veterinary Medicine from the same institution in 2011. He spent several years in general and referral small animal practice before pursuing a career in toxicologic pathology in 2014. He currently works as a toxicologic pathologist for LabCorp with a particular focus on tissue cross-reactivity and immunohistochemistry work. He is a fellow of the Royal College of Pathologists and a member of the BSTP and RCVS. He has also authored several scientific publications and presented at various conferences.



Mark Aspinall – O'Dea, *Charles River*

Mark Aspinall-O'Dea is the Innovation Lead and Study Director for the Retrogenix® platform at Charles River. Mark's scientific experience includes 10 years of postdoctoral research in clinical and academic settings, and more than 15 years of commercial experience in the biopharmaceutical field. First author on several peer-reviewed papers, Mark currently leads a large research team focused on the Retrogenix® cell microarray platform and future technology developments.



Michelle Porritt, *AstraZeneca*

Michelle Porritt is Director of the In Vivo Genome Engineering team at AstraZeneca, with expertise in the development and application of mouse models to support drug discovery and translational research in the pharmaceutical industry. Her work spans the generation and use of transgenic mice, CRISPR-edited models, and humanized mouse systems, with a focus on selecting the right model to answer the scientific question. Her team applies these in vivo platforms to investigate target biology, disease mechanisms, therapeutic efficacy, delivery, and safety, particularly for advanced modalities such as genome editing. Tailoring model design to the biology and decision

point at hand helps teams evaluate how potential medicines perform in complex systems in the pre-clinical setting. Michelle brings a strong translational perspective to model development, emphasizing that robust, fit-for-purpose in vivo models are essential for improving decision-making, reducing risk, and increasing confidence in candidate therapies. Her academic and industry work highlight the importance of mouse model selection, linking early discovery science with the practical needs of pharmaceutical R&D.



Eleanor Herbert, *FERA*

Dr Ellie Herbert is a veterinary pathologist and RCVS Recognised Specialist in Veterinary Pathology, holding Diplomate status with the American College of Veterinary Pathologists (DipACVP) and Fellowship of the Royal College of Pathologists (FRCPath) in Laboratory Animal Pathology.

Ellie has extensive experience in laboratory animal and comparative pathology, having worked across academic, research and commercial diagnostic settings. Her previous roles have included working at the MRC Harwell Institute and the Francis Crick Institute, where she gained considerable experience in the pathology of genetically modified mouse models and their application in biomedical research. She has also worked in veterinary diagnostic pathology at Antech diagnostics and in academia as a lecturer, combining diagnostic expertise with a strong interest in pathology education and training.

Ellie has recently joined the Animal Health Monitoring team at FERA, where she is developing laboratory animal histopathology and diagnostic services. She is particularly interested in the role of pathology in supporting high-quality biomedical research and in helping researchers develop practical skills and confidence in recognising, investigating and interpreting pathological changes in laboratory animal models.



Josep Monné, *Roche*

Josep Monné graduated in Veterinary Science from the University of Barcelona. He later moved to the University of Liverpool, where he completed his residency training in veterinary pathology and obtained board certification from the European College of Veterinary Pathologists in 2017. He then joined the University of Zurich to pursue a PhD, during which he led the pathology service supporting mouse model research. After completing his doctoral training, Josep joined Roche, where he currently works as a toxicological pathologist and part-time toxicologist, focusing primarily on oncology drugs. At Roche, Josep leads an internal workstream assessing the strategy for using and implementing genetically engineered mouse models (GEMMs) and humanized models (huModels) in nonclinical safety assessment. Outside work, he enjoys spending time with his wife and children, playing tennis and reading.



Clare Isacke, *The Institute of Cancer Research*

Clare Isacke studied for her BA in Biochemistry and DPhil in Developmental Biology at the University of Oxford. She then moved to Tony Hunter's laboratory at the Salk Institute in San Diego to work on growth factor receptor signalling as a postdoctoral fellow. On returning to the UK, she started her own research laboratory first in the Department of Biochemistry and then in the Department of Biology at Imperial College London. In 2001, Clare moved to The Institute of Cancer Research in London to take up an appointment as Professor of Molecular Cell Biology in the Breast Cancer Now Research Centre, and from 2013 has been the Academic Dean at the ICR. The focus of her laboratory is on targeting the tumour microenvironment, particularly in metastatic disease - with a particular interest in TME targets that also highly expressed in mesenchymal tumours such as sarcomas. The lab is currently developing and optimising chimeric antigen receptor (CAR-T cell) and antibody-drug conjugate (ADC) therapeutics against cancer-associated fibroblasts (CAFs) and sarcomas.



Deepa Rao, *Rao Consulting, LLC*

Dr. Deepa Rao's expertise in toxicology and veterinary pathology spans over 30 years with a focus on the safety assessment of neuroactive molecules and therapeutics. Dr. Rao currently serves as President-elect for the Society of Toxicologic Pathology (STP) and is recognized by numerous awards and peer-reviewed publications, has served on advisory committees and pathology working groups, and is frequently invited to speak at local, national, and international scientific conferences. Dr. Rao's work experience includes service as a veterinary pathologist for the National Toxicology Program (NTP) at the National Institutes of Environmental Health Sciences (NIEHS), as a regulatory toxicologist (reviewer) within the Center for Drug Evaluation and Research (CDER) at the United States Food and Drug Administration (USFDA), and, as a bench toxicologist/pathologist within CRO spaces. As a Diplomate of the American Board of Toxicology (DABT) and the American College of Veterinary Pathologists (DACVP), Dr. Rao obtained her veterinary degree (BVSc) from Mysore Veterinary College in India; her master's degree from the School of Veterinary Medicine, Oklahoma State University; her doctorate in Pharmaceutical Sciences from the University of Oklahoma Health Sciences Center; and her training in veterinary pathology at the School of Veterinary Medicine, University of Wisconsin, Madison.

Cheryl Scudamore, *ExePathology*

Dr Cheryl Scudamore BVSc, PhD, FRCVS, FRCPath Cheryl qualified as a vet from Liverpool University in 1988 and was awarded a PhD in reproductive physiology from Aberdeen University in 1991. She became a Fellow of the UK Royal College of Pathologists in 2001 and has been a Royal College of Veterinary Surgeons Recognised Specialist in Veterinary Pathology (laboratory animals) since 2010. She was awarded Fellowship of the RCVS in 2014 for meritorious contributions to learning in the field of experimental pathology. Cheryl has experience of pathology in a wide range of species with particular expertise in toxicological pathology and the pathology of genetically modified mouse models of disease and ageing mice. She has worked for a number of organisations in industry and academia and currently works as an independent consultant in experimental pathology and as a consultant for diagnostic laboratory animal pathology for FERA Animal Health Monitoring.

Deon Hildebrand, *GlaxoSmithKline*

My career in toxicological pathology began in 2003 at GlaxoSmithKline, in preclinical medicine development, and has remained with the company ever since. For the first decade, my work centred almost exclusively on non-GLP and GLP preclinical safety studies. Over subsequent years, my focus shifted progressively toward target discovery, spanning target identification and validation, indication selection and expansion, lead declaration, and candidate selection. Today, my time is divided roughly 80:20 between target discovery and safety toxicology, with particular support for oncology and respiratory projects. My work has encompassed transgenic mouse models and commercially procured human tissues consented for research. In recent years, animal-model work crossing my desk has declined while human tissue and human-equivalent in vitro model work has grown substantially. Typical activities include tissue phenotyping and elucidating the spatial distribution and expression levels of proteins and genes. Additional activities include designing chromogenic and fluorescent immunohistochemistry, in situ hybridisation, and proximity ligation assays, as well as evaluating the resulting stainings. While assessments were initially qualitative, I now predominantly - but not exclusively - report quantitative data using quantitative image analysis.

6. Speaker Abstracts

Thursday 19th November, 2026

S01: 09:00 Prof. Tim Kendall

Update on the pathology and pathogenesis of Metabolic dysfunction-Associated Steatotic Liver Disease (MASLD)

The worldwide adult prevalence of MASLD is currently > 30% and some predictions are for this to rise to over 50% by 2040. The progressive form of the MASLD spectrum, Metabolic dysfunction-Associated Steatohepatitis (MASH), can induce progressive fibrosis leading to cirrhosis and primary liver cancer. Histologically, MASLD is characterised by lipid accumulation in hepatocytes and MASH by hepatocellular ballooning and lobular necroinflammation. An update on the histopathological features and scoring systems will be provided, and the current evidence for the heterogeneity in pathogenesis discussed.

S01: 09:45 Prof. Tim Kendall

Translational modelling of human MASLD and leveraging real-world data

The current translational models for studying MASLD, with a focus on in vitro models using human cells and tissues and those modelling disease state transitions, and their limitations will be discussed. The complementary value of real-world clinical data relating to patients with MASLD with specific updates and insights from SteatoSITE, a Scottish national data commons to facilitate MASLD research, will be presented.

S02: 11:00 Dr Magnus *Söderberg*

"Translational animal models of human kidney disease - fact or folly?" Part 1 / Part 2

Animal models remain essential for investigating kidney disease biology and therapeutic mechanisms, but their ability to reproduce human kidney disease is limited. A truly translational model should share the genetic and molecular drivers, pathology and pathophysiology of the human disease and demonstrate comparable responses to standard-of-care therapies. However, currently available models rarely fulfil these criteria. The presentation will explore the strengths and limitations of commonly used rodent models of diabetic kidney disease, focal segmental glomerulosclerosis (FSGS), chronic kidney disease and renal fibrosis, and acute kidney injury. Diabetic models reproduce selected metabolic and pathological features but generally fail to recapitulate the progressive morphological spectrum of human diabetic nephropathy. Similarly, podocyte injury can generate an FSGS-like phenotype without necessarily modelling the underlying human disease. Models of fibrosis and kidney injury, including unilateral ureteral obstruction, renal ablation, ischaemia-reperfusion injury, adenine nephropathy and nephrotoxic models, each reproduce specific aspects of renal injury while introducing important mechanistic and translational limitations. Rather than abandoning animal models, their use should therefore be hypothesis-driven. Translational value depends on detailed knowledge of human disease, recognition of each model's strengths and weaknesses, and selection of models in which the biological pathway under investigation is demonstrably relevant.

Mouse Pathology Workshop

S03: 13:30 Dr Ellie Herbert

Mouse Necropsy

A well-performed necropsy is often the first and most important step in understanding disease processes in laboratory mice. Whether undertaken as part of routine colony health monitoring, phenotype characterisation or investigative pathology, a systematic necropsy can provide invaluable information and ensure the collection of high-quality samples for downstream analysis.
This introductory presentation will outline the principles of routine mouse necropsy, including preparation, examination techniques, tissue collection and fixation. Practical tips will be provided to help attendees obtain consistent, high-quality specimens and avoid common errors that may affect histological interpretation. The session is aimed at scientists and researchers who work with mouse models and wish to develop confidence in the fundamentals of pathological sample collection.

S04: 14:00 Dr Deepa B Rao

Mouse Neuropathology 101

This presentation will provide an introductory overview on the histopathology evaluation of the mouse brain in context of experimental research settings, laboratory animal environments, environmental exposures to chemicals within the National Toxicology Program (NTP), as well as regulatory preclinical toxicology studies for therapeutic drug candidates to the Food and Drug Administration. Based on the NTP's modified approach for neuropathology evaluation (Rao et al, 2011 and 2014), this talk will cover a sampling of neuroanatomical landmarks, techniques, unusual structures, artifacts and lesions in the mouse nervous system. Examples of challenges encountered with morphological findings along with recommendations towards integrated assessments will be highlighted.

S06: 14:30 Anna MacDonald

Histology Basics

From tissue fixation to quality control and all the processes in between. An overview of the basic histology procedures and considerations to ensure optimum presentation of microscope slides for pathology read. Covering fixation, tissue trimming, decalcification, tissue processing and embedding, microtomy, staining and slide review.

S08: 15:30 Cheryl Scudamore

Investigating unexpected morbidity and mortality in research mice

Unexpected morbidity and mortality in research mice Unexpected morbidity and mortality are common occurrences in in vivo experiments. It is important to be prepared in advance to handle these unexpected events as understanding them may have important implications for the health and welfare of a colony and also for ensuring reproducibility of study endpoints. All laboratories using mice should have SOPs for emergency necropsy and tissue harvest procedures and preferably ensure that everyone involved in animal care or research is able to implement these protocols so that tissue of diagnostic quality can be salvaged. It is also important to be aware of common causes of ill health and sudden death in different strains of mice at different ages so that these can be differentiated from disease outbreaks, protocol or handling injuries or genuine experimental results.

S10: 16:15 Liz McInness

Recognising common background lesions in laboratory mice

Recognising common background lesions in laboratory mice. This talk will cover which organ systems in mice often display macroscopic findings at necropsy and the macroscopic and microscopic pathology findings of these lesions will be presented. Common murine background lesions will be examined in the gastrointestinal system, lungs, skin, kidneys, reproductive system and heart of mice. Common systemic

conditions of mice such as progressive nephropathy will be explored. We will also examine common tumours in various tissues in mice. The talk will conclude with a brief overview of common infectious and parasitic diseases of mice.

Use of human tissue in preclinical drug development Workshop

S05: 13:30 Dr Susan Busch

Off-Target Profiling to Enhance Preclinical Assessment of Biologics

The growing diversity and complexity of biologic modalities present new challenges for preclinical safety assessment. Although established approaches such as pharmacology, tissue cross-reactivity, immunohistochemistry, and toxicologic pathology remain essential, they may not fully characterize unexpected molecular interactions or their potential relevance to tissue findings. This presentation will discuss the role of fit-for-purpose off-target profiling as a complementary tool for evaluating biologics. Particular consideration will be given to cell-based approaches that can identify potential interactions with membrane proteins beyond the intended target. The importance of interpreting such findings in the context of native tissue expression, functional activity, species relevance, exposure, and pathology will be emphasized. Off-target profiling is not intended to replace established safety assessment methods, nor does a binding signal alone demonstrate a toxicological liability. Rather, it can help generate mechanistic hypotheses, focus follow-up investigations, refine study design, and support more informed interpretation of preclinical findings. The presentation will highlight opportunities and limitations of these approaches and consider how molecular profiling and toxicologic pathology can be integrated to improve understanding of biologic safety and translational risk.

S07: 14:15 Paul Edwards

Tissue Cross-Reactivity Studies

Tissue cross-reactivity (TCR) studies are a relatively unique ex vivo assay conducted with antibodies, or antibody-like biopharmaceuticals, which utilizes immunohistochemical (IHC) techniques to screen a panel of frozen human and/or animal tissues for potential binding. The aim of these studies is to document the location of any ex vivo binding in order to identify potential targets of toxicity in humans and, to a lesser extent, laboratory animals. Secondarily they can assist in the selection of appropriate species for in vivo toxicity testing. TCR studies are quite technically demanding to perform relative to most other applications of IHC due to the use of humanized antibodies as IHC reagents and the increasing complexity of these antibodies intended for clinical use. Furthermore, frozen tissues are required as theoretically freezing subjects epitopes to only very minimal alteration from their in vivo condition in comparison to chemical fixation, although there will always be some degree of modification of target epitopes due to the experimental method. Positive binding in this assay is usually classified as either expected (i.e. on-target), or unexpected which potentially represents cross-reactivity of the antibody with an unknown epitope. Any interpretation of the risk of potential cross-reactivities should be performed with the limitations of this study type in mind, specifically that ex vivo conditions may not adequately mimic in vivo conditions. Toxicity study data from relevant species remains the principal means of assessment of toxicity and TCR data should generally be used as an adjunct to this. Undesirable TCR data alone will usually not impede the drug development program but rather will be used to inform additional monitoring for preclinical studies and clinical trials.

S09: 15:30 Dr Mark Aspinall-O'Dea

Advancing Safer, Targeted Biologics with the Retrogenix® Cell Microarray

The Retrogenix® Cell Microarray platform is increasingly being used to support off-target risk assessment for biologics and other therapeutic modalities, offering an alternative or complement to traditional Tissue Cross-Reactivity (TCR) studies. This presentation will provide an overview of the scientific principles behind the Retrogenix® assay, including assay overview, data interpretation, and factors influencing false positive

and false negative findings. Strategies for evaluating potential off-target interactions will be discussed, together with approaches for confirming identified hits through follow-up assays. The session will also explore how Retrogenix® data are being leveraged in regulatory submissions, highlighting relevant case studies and practical considerations for integrating this platform into nonclinical safety assessment programs.

S11: 16:15 Deon Hilderbrand

Target Validation and Indication Selection using Human Tissues - Applications and Pitfalls

Human-Equivalent In Vitro Models: Reimagining Drug Discovery Through Human Tissue The long-standing reliance on animal models in drug development is being reshaped by a new generation of human-relevant in vitro systems, and by a regulatory landscape that now actively encourages them. For toxicological pathologists, these models pose a compelling question: how faithfully do they reproduce the architecture, cellular diversity, and injury phenotypes we recognise down the microscope? This session surveys four human-equivalent platforms, patient- and cell-line-derived organoids, tumoroids, precision-cut tissue slices, and iPSC-derived models, across liver, kidney, intestine, lung, brain, and heart. For each, I will describe how the model is generated, weigh its advantages and limitations, and examine the evidence for human relevance through a histopathological lens. Case studies anchor the discussion. The presentation highlights where each model is genuinely qualified, where it is still maturing, and what scientific information it can, and cannot disclose. Attendees will leave with a practical framework for judging structural fidelity and integrating these New Approach Methodologies into human-tissue-centred drug discovery.

Friday 20th November, 2026

S12: 09:00 Dr Josep Monné

Characterization of Genetically Engineered Mouse Models (GEMMs) for Nonclinical Safety

Genetically engineered mouse models (GEMMs) and humanized mice (huMice) are designed to reproduce selected aspects of human biology through genetic modification or the incorporation of human biological components. In nonclinical safety assessment, these models can help address questions that cannot be adequately investigated in conventional toxicology species. Their use may be particularly valuable when standard species lack pharmacological relevance or to reduce or replace the use of non-rodent species in early development. Regulatory guidelines for biotherapeutics, as well as for gene and cell therapies, accept such models provided their biological relevance to the specific safety question is well justified. As GEMMs and huMice reproduce only selected aspects of human physiology, defining their strengths and limitations before planning a study is critical. Characterization should focus on the biological features most relevant to the scientific questions being addressed and support the design and interpretation of subsequent studies. This presentation will outline key considerations for selecting and using GEMMs and huMice in nonclinical safety assessment and describe the main elements of model characterization. Case examples involving human knock-in mouse models and huMice used in oncology biotherapeutic programs will illustrate practical considerations and common challenges associated with the characterization and application of these animal models.

S13: 09:45 Dr Deepa Rao

Unique Challenges underlying Core Concepts in Neuropathology Evaluations

Therapeutic candidates for neurological indications remain the second largest class of drug candidates in development for more than a decade. However, data indicates that there is a disconnect between translation of data from animal studies to human risk assessment. Clinical holds during drug development underscore the unique challenges in neurotoxicity assessment. Because toxicologic pathologists play a critical role in interpreting findings that inform human safety, this lecture will specifically focus on a few core concepts in neuropathology that directly influence the assessment test articles in animal toxicology studies. Meaningful neurotoxicity evaluation is complicated by several factors, including limited screening of neural structures, restricted evaluation of time points that hinder diagnosis of subtle morphological changes, suboptimal evaluation of toxicology endpoints, insufficient integration of morphological findings into topographical assessments, and weak alignment between toxicology and pathology findings when determining adversity. Through case based examples, each of these variables will be examined to illustrate how they shape integrated interpretation and assessment of adversity to highlight practical strategies for strengthening the connection between preclinical data and clinical translation.

S14: 11:00 Dr Michelle Porritt

Engineered GEMMs for Pharma: Pathology-Driven Models to Power Target Validation and Therapeutic Development

Genetically engineered mouse models (GEMMs) are a critical component of translational research within pharmaceutical discovery, providing a pathology-driven in vivo platform to investigate disease mechanisms and evaluate therapeutic hypotheses. By incorporating defined alterations that mirror human disease drivers, GEMMs enable translation of key aspects of human pathobiology into mice, allowing study of disease initiation, progression, and response to intervention in a biologically relevant context. A particular strength of GEMMs is the range of technologies available for model generation. Conventional and conditional transgenic strategies, targeted knock-in and knock-out approaches, and CRISPR-based genome editing now enable rapid and flexible creation of models tailored to specific scientific and translational questions. These approaches support precise control of genotype, tissue specificity, and temporal regulation, permitting interrogation of complex disease biology in ways that align closely with human molecular subtypes and pathology. For pharmaceutical applications, pathology-led characterization is essential to ensure that engineered models are fit for purpose and reflective of clinically meaningful phenotypes. GEMMs can be deployed to support target validation, explore mechanism of action, evaluate biomarkers, and assess therapeutic efficacy in defined genetic contexts. Used alongside complementary preclinical platforms, they strengthen translational confidence and improve decision-making. Overall, pathology-driven engineered GEMMs provide a powerful framework for linking genotype, phenotype, and treatment response, helping to de-risk discovery programs and accelerate therapeutic development toward patient benefit.

S16: 13:00 Prof. Kate Hughes

In search of the ‘perfect’ model: Mammary tumorigenesis across species.

The mission to identify robust animal models of disease is of critical importance. Whilst highly sophisticated in vitro models redefine the requirement for animal models, there is still much to be learned about disease pathogenesis through study of naturally occurring disease. Different species have dramatically different propensities to develop mammary neoplasia, and males and females have radically different susceptibility to breast cancer development. Breast cancer that affects men is phenotypically and molecularly distinct from that of women and, although much rarer, is increasing in prevalence. Domestic species offer an unrivalled opportunity to (1) compare mammary stem cell dynamics in both “tumour susceptible” and “tumour resistant” species and (2) to investigate male mammary stem cell activity using non-traditional models.

To illustrate this, I will present unpublished data using the intermediate filament cytokeratin 19 (CK19) as a surrogate read-out of stem/progenitor cell activity. In the human breast, CK19 is uniformly expressed in the luminal epithelia of the ducts. In the terminal duct lobular units (TDLUs), luminal epithelial CK19 expression becomes patchy with age, thought to reflect activity in the stem cell compartment. Dogs are a tantalising model for mammary tumourigenesis, particularly as pet canines share the same environment as their

owners, and frequently show similar co-morbidities associated with advancing age. For this study, mammary tissue was obtained as excess from surgical biopsies and post mortem specimens with informed owner consent for use of tissue for clinical research. Following immunohistochemical staining, CK19 heterogeneity was determined for an individual based on the percentage of TDLUs showing any level of heterogeneity. In a pilot study, 10/15 (67%) of canine mammary samples were heterogeneous for CK19 expression, including samples from male dogs, suggesting dynamic cell turnover in both the female and male gland. Interestingly, we identified within-patient, increased heterogeneity in repeat, temporally distinct, surgical samples. Given the heterogeneity of the canine population, future studies are focussed on assessment of heterogeneity between cranial and caudal glands of the same patient, to determine whether the increased likelihood of tumour development in the caudal mammary glands is mirrored by increased CK19 heterogeneity. A second strand to this work involves CK19 expression assessment in mammary tissue obtained from callitrichids as a non-human primate comparator. TDLU CK19 heterogeneity is evident in both adult (2-7 year old) and 'older adult' (7-8 year old) females. A parallel study records lesion prevalence in this population. Multiple incidental findings have been identified in males, including apocrine cystadenoma, that could be mistaken for a mammary cystadenoma, and duct epithelial hyperplasia.

Taken together, these studies demonstrate the promise offered by studying mammary stem/progenitor cell dynamics in different species with different mammary cancer susceptibility. In the case of male patients, they also provide the foundation for a compilation of a comparative atlas of male mammary histo-anatomy and pathology in different species.

S17: 13:45 Prof. Clare Isacke

Antibody-based therapeutics for targeting the tumour stroma and sarcomas

This talk will focus on our work (a) identifying cell surface targets on cancer-associated fibroblasts (CAFs) and sarcomas, (b) the development of chimeric antigen receptor (CAR-T cell) and antibody-drug conjugate (ADC) therapeutics, (c) the challenges of using antibody based therapeutics in solid tumours and (d) the new developments to overcome these challenges.

S18: 15:00 Prof. Jen Morton

Translational research in genetically engineered mouse models of pancreatic cancer

Translational research in genetically engineered mouse models of pancreatic cancer The focus of the research in our lab is to better understand how pancreatic cancer develops and progresses and identify and test more effective therapies. We use genetically engineered mouse (GEM) models that recapitulate human tumours, in terms of both driving mutations and the immuno-suppressive tumour microenvironment and adapt them to mirror heterogeneous subsets of the disease. These models provide a clinically relevant platform in which we trial novel tumour and microenvironment targeting therapies. The dense fibrotic stroma that surrounds and supports the tumour cells is a characteristic feature of pancreatic cancer. Work in our lab, and by others, has shown that each component of the stroma plays an important role in pancreatic cancer progression, influencing tumour cell proliferation and survival, metabolism, migration, and immune response. However, we have also seen that the responses to genetic manipulation, or therapeutic intervention, can vary significantly between different models, likely due to the complex nature of tumour-stromal interactions in different models. We have also found that as well as the stroma having profound effects on therapeutic response, therapeutic interventions may also have significant effects on the stroma which may favour tumour growth and treatment resistance. I will discuss some of the studies from our lab which highlight these findings and demonstrate why choosing the right models is important for making progress in this disease.

7. Poster Abstract

P01 Investigating Alterations in Perineuronal Nets in Human Post-Mortem Ischaemic Stroke Brain Tissue

Elizabeth Ferguson,

Background: Ischaemic stroke (IS) is a leading cause of chronic neurological disability; however, endogenous mechanisms restricting cortical recovery remain underexplored. Functional outcome depends on neuronal loss and alterations in the extracellular microenvironment, which regulate network stability and constrain synaptic plasticity. Perineuronal nets (PNNs) are extracellular matrix (ECM) components in the mature nervous system, found surrounding parvalbumin (PV) expressing inhibitory interneurons. Experimental animal models demonstrate rapid PNN degradation following ischaemia, but corresponding evidence in human brain tissue has not been systematically investigated.

Proposed methods: This study will characterise PNN alterations in human post-mortem (PM) cortical tissue following IS. Formalin-fixed, paraffin-embedded (FFPE) brain samples from twenty stroke cases and four controls will be analysed using fluorescent histochemistry. Wisteria floribunda agglutinin (WFA) will be used alongside aggrecan immunolabelling. Standardised regions spanning the infarct core, the peri-infarct and the contralateral cortex will be examined using confocal microscopy and quantitative imaging. PNN-PV interneuron associations will be assessed using co-labelling. NeuN, GFAP and Iba1 stains will examine neuronal survival and inflammatory responses. Mixed-effects statistical modelling will quantify these associations while accounting for within-brain variability.

Expected results: The infarct core is hypothesised to demonstrate marked PNN degradation, neuronal loss, and reactive gliosis, whereas the peri-infarct cortex will exhibit PNN alterations, preserved neurons, and moderate gliosis, particularly around PV interneurons, implicating potential adaptive plastic remodelling and recovery. Examination of PNNs in human IS tissue will provide translational insight into the mechanisms that balance plasticity and circuit stability, guiding future therapeutic strategies aimed at enhancing post-stroke recovery.

P02 Potential Health Risks of 420-450 nm Light Exposure: Metabolic, Immune, and Behavioural Effects in Mice

Heba Al-Hussaini [1*], **Sonia M. Hasan [2]**, Mohammed Al-Onaizi [1], Bara S. Abed [1], Michael B. Powner[3], Glen Jeffery [4].

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Background: Mitochondria exhibit a pronounced absorption peak at approximately 420 nm, an effect linked to reduced ATP production and impaired mobility. As wavelengths within the 420-450 nm range are prominent components of contemporary LED lighting and digital displays, concerns have emerged regarding their potential biological effects.

Methods: Freely moving mice were exposed to either 420 nm or 450 nm light, and metabolic, immunological, and behavioural outcomes were assessed. Body weight was monitored over one week, serum cytokine profiles were evaluated, and locomotor behaviour was examined using the open-field test.

Results: Exposure to both 420 nm and 450 nm wavelengths produced rapid weight gain within one week compared with controls. This effect may reflect reduced mitochondrial utilization of circulating carbohydrates, although the underlying mechanism requires further investigation. Both exposure groups also demonstrated marked alterations in serum cytokine profiles, suggesting systemic immunological effects. In the open-field test, total distance travelled did not differ significantly between exposed and control animals, indicating preservation of overall locomotor activity. However, mice exposed to short-wavelength light displayed reduced exploration of central regions of the arena, consistent with anxiety-like behaviour. This response was most pronounced and statistically significant in animals exposed to 420 nm light, the wavelength closest to peak mitochondrial absorbance.

Conclusions: Exposure to short visible wavelengths commonly present in modern built environments induces metabolic, immunological, and behavioural changes in mice. The greater effect observed at 420 nm supports a potential role for mitochondrial light absorption in mediating these responses. These findings add to growing evidence that short-wavelength light may have systemic biological consequences and warrant further investigation into potential health risks associated with chronic exposure.

P03: Systematic characterization of aged wild-type mice at the German Mouse Clinic: a multi-tissue histopathology resource for translational ageing research

Patricia da Silva Buttkus, Manuela A. Östereicher, Adrián Sanz-Moreno, Birgit Rathkolb, Helmut Fuchs, Valerie Gailus-Durner and Martin Hrabě de Angelis

Introduction: Age-related diseases and survival in mice are of interest due to their genetic and physiological similarities to humans. Although widely used, mice studies lack standardised, multi-tissue histopathology integrated with systematic phenotyping pipeline using well-defined aged cohorts. The German Mouse Clinic (GMC), as part of the International Mouse Phenotyping Consortium, has compressively characterised young and aged mice including tissue histology to identify ageing-associated phenotypes relevant to human disease.

Materials and Methods: Adult (EO) and aged (LA) C57BL/6N mice of both sexes underwent the GMC phenotypic pipeline under standardized conditions (https://www.mouseclinic.de/). At 16 and 80 weeks of age, mice underwent blood collection and euthanasia. Body and heart, spleen and liver weights and morphological changes (Mammalian Phenotype Ontology) were recorded. A total of 28 tissues per mouse were formalin-fixed, paraffin-embedded, sectioned and stained with haematoxylin and eosin. Digitized slides were evaluated for histopathological changes and correlated with clinical chemistry parameters using appropriate statistical tests.

Results: LA mice (n=270) had higher body and relative organ weights than EO mice (n=105) in both sexes. MP terms were enriched for liver, lymph node, and spleen phenotypes. Histological liver evaluation showed an increased prevalence of hepatic steatosis, inflammatory lesions and neoplasms in LA mice. In other tissues, white adipose tissue showed alterations in adipocyte size, browning, and immune cell infiltration, while lymph nodes exhibited follicular and neoplastic changes.

Conclusions: The findings extend existing reports of age-related metabolic alterations and neoplasia in C57BL/6N mice by providing systematic, sex-stratified, multi-tissue histopathology integrated with organ weights and plasma biochemistry data from a large, standardized ageing cohort. Comprehensive end-point pathology is a key strength of the GMC phenotyping pipeline and creates opportunities to integrate automated image analysis and spatial transcriptomics into this multi-tissue ageing reference resource.

P04 Idioma: a self-supervised tissue language model that discovers an interpretable vocabulary and recurring topics in unannotated H&E images, and its potential in preclinical toxicology

Christopher Walsh, David Chang, John Le Quesne, Ke Yuan

TileBio Ltd, Glasgow, UK

Introduction/Objectives: Preclinical toxicology studies are a cornerstone of drug development, and histopathological assessment of end-organ damage is a bottleneck: it depends on scarce expert pathologists, is semi-quantitative, and suffers inter-observer variability, while supervised AI is restricted by the scarcity of morphology-specific annotations. To address this we developed Idioma, a tissue language model for unannotated H&E whole-slide images (WSIs).

Experimental Design/Methods: Histomorphological phenotype clusters (HPCs), the model's vocabulary, are established by Leiden community detection across a nearest-neighbour graph of tile embeddings from a proprietary self-supervised encoder. WSIs are translated into sequences of HPC tokens to train a transformer language model; a downstream sparse autoencoder uncovers interpretable features representing recurring architectural motifs, or tissue topics. Expert pathologists review both.

Materials: An internal repository of millions of H&E tiles from WSIs spanning 33 cancer types. All inference runs within Azure and NHS trusted research environments, so sponsor data never leave secure boundaries.

Results: The HPC vocabulary is validated: the same approach recovered 46 clusters in lung adenocarcinoma covering all six classical growth patterns plus normal, reactive, inflammatory and necrotic tissue, and 47 in colon cancer with 84–100% pathologist agreement; cluster composition alone predicts outcome in external cohorts with c-indices of 0.65–0.84 (Claudio Quiros et al., Nat Commun 2024; Liu et al., Nat Commun 2025; Coudray et al., npj Digit Med 2025).

Conclusions: From unannotated H&E WSIs, Idioma discovers a core morphological vocabulary and recurring structural motifs, offering toxicity studies reduced reliance on manual annotation, standardised cross-study scoring and automated lesion discovery. Preclinical validation is underway; collaboration partners are welcome.

P05: In-Silico Identification of Genetic Markers Associated with Anti-Tuberculosis Therapy-Induced Adverse Drug Reactions

Kamal Kishor
International Institute of Population Sciences

Introduction: Adverse drug reactions (ADRs) are associated with clinical morbidity and, in severe cases, even mortality. Globally billions of dollars are spent on managing these ADRs for common and uncommon diseases. Due to these reasons drug resistant strains have emerged and are now a serious challenge to TB eradication. To effectively deliver the available treatment regimen and ensure patient compliance it is important to manage ADRs more efficiently. Recent studies have demonstrated that drug outcomes are patient-specific and can, therefore be predicted. A few of these drugs, including a few administered for TB, have shown excellent correlation with response rates and development of ADRs.

Method: ADRs selected based on frequency of occurrence (≥1%). Anti-TB drugs were reviewed to identify the candidate genes (DMETs, HLA). Genes analysed with different web tools and databases to extract their SNPs. MAF >0.01 shortlisted using NCBI Gene and dbSNP databases (built 141). SNPs which lay in a functional domain of the gene were prioritized using SNPinfo web server (www.snpinfo.niehs.nih.gov/). Additionally, same analysis was done for Indian population.

Result: We identified 10 genes which maybe directly linked to ADRs to various anti-TB drugs, 4 of these have been documented earlier. Nearly 47 genes were identified for indirect association with ADRs by virtue of them being off-targets of the drugs. Lastly, 5 genes were reported for their allelic association with anti-TB DIH. To our knowledge, this is the first review reporting a list of possible genetic markers in context to TB ADRs to such a vast extent.

Conclusions: New gens are identified that may be associated potentially with anti-TB drug ADRs. This would translate into not just patient welfare but would also save billions of dollars spent annually on managing drug induced ADRs.

Reference:

[1] Global tuberculosis report 2013, World Health Organization, Geneva, 2013;. (http://apps.who.int/iris/bitstream/10665/91355/1/9789241564656_eng.pdf) (Accessed June 3, 2014)

[2] World Health Organization. Treatment of tuberculosis Guidelines, 4th ed.; World Health organization: Geneva, 2010.

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P06: Improving relationships between pathologists and non-pathologist scientists working with animal models; a pilot survey.

Henry George Miller[1], Simon L. Priestnall[1], Zoe Belshaw[2], Alejandro Suarez-Bonnet[1]

1. Pathobiology and Population Sciences, Royal Veterinary College (RVC), Hatfield, AL9 7TA, UK, 2. EviVet Evidence-Based Veterinary Consultancy, Nottingham NG2 5HY, UK

Introduction: Collaboration with pathologists can improve the reliability and applicability of pre-clinical research by non-pathologist scientists. Pathologists anecdotally report misunderstandings and challenges from non-pathologist scientists which impede productive collaboration. This study aimed to collect survey data from pathologists regarding their experiences and attitudes towards conducting research with non-pathologist scientists.

Materials and Methods

Participants, recruited through snowball sampling, completed an online survey comprising multiple choice and free text questions. Responses were analysed using inductive content analysis for free text, and descriptive statistics.

Results: Sixty-nine self-identifying pathologists completed the survey. Participants worked in academic (52%), governmental (10%) and commercial (38%) organisations with a median of >10 years' experience. Participants collaborated with non-pathologist scientists through histological interpretation (25%), data analysis (25%), study design (21%), training (16%) and ethical or regulatory review (10%) with a median frequency of monthly or more often. Misinterpretation of histology (25%), and inappropriate study design (19%) were the commonest areas of misunderstanding reported. Education in biological variation (26%) and awareness of when to consult a pathologist (37%) were the factors deemed most valuable for non-pathologist scientists to know. Participants recommended that pathologists should begin collaboration before the study design phase. Open communication (52%) was reported as the most effective tool to bolster productive collaboration.

Conclusions: This study identifies knowledge gaps amongst non-pathologist scientists regarding histological sampling, tissue assessment and inappropriate study design. Facilitating communication and involving pathologists early in studies are recommended to improve productive collaboration in biomedical research.

P07: Liver organoids can be used to model apoptosis and cell death

Miriam Garner, Marc Faber, Tanith Harte, Daniel Price, Ambre Chapuis, Katie Hildersley, Will Anderson, Rachel Richardson, Agatha Nabilla, Lestari, Kezia Fourie, Al Nisbet, Tom McNeilly, **Jo Moore**, David Smith

Moredun Research Institute

Organoid technologies have emerged as powerful experimental platforms for investigating tissue physiology, disease mechanisms, and cellular responses to external stimuli. Three-dimensional organoid cultures and organoid-derived monolayers recapitulate key features of tissue architecture, including functional cellular heterogeneity, and so represent a more physiologically relevant alternative to conventional cell culture systems. Organoid models are utilised in applications in veterinary pathology, disease modelling, and toxicology, including the investigation of tissue responses to pharmaceuticals, vaccine platforms, environmental contaminants, and other potentially toxic compounds. Furthermore, these systems offer opportunities to reduce reliance on live animals in experimental research, supporting the principles of the 3Rs.

At Moredun we have developed organoid models using tissues sampled from sheep, cattle and horses from a wide range of organ systems including lung, gastrointestinal tract, mammary gland and liver. Successful establishment and optimisation of organoid systems requires careful consideration of a number of factors including donor species and physiological state, tissue origin, culture conditions, cellular differentiation, and experimental configuration. We are also working to include immune cells and neurones in our models to increase their biological complexity and relevance.

Here we present the successful generation of liver organoids derived from ruminant liver which include both hepatocytes and cholangiocytes. We treated the organoids with staurosporin to induce apoptosis and used commercially-available biomarker assay kits to measure the cellular response. This has resulted in a sensitive and efficient organoid-based toxicity model that can be readily scaled for toxic article screening.

8. Exhibitors and Sponsors

Exhibitor Profiles

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Sponsors

We would like to thank the following sponsors for their generous support of this year's meeting.











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9. Announcements, Notices & Future Events

BRITISH SOCIETY OF TOXICOLOGICAL PATHOLOGY

BSTP membership

The BSTP welcomes new members and is open to anyone with an interest in the field of toxicological or experimental pathology.

To Join the BSTP membership, please follow the below link or scan the QR code:
http://www.bstp.org.uk/membership-page/

SCAN ME

BSTP

Notice of Future Meetings

Virtual CES 1: Toxicological Pathology: Today, tomorrow and the future
Tuesday 7th – Thursday 16th February 2027

This Continuing Education Symposium will give you the opportunity to learn about infectious diseases of laboratory animals, health monitoring, emerging pathogens and species differences in the mouse, rat, dog, ferrets, rabbit, pig, hamster, gerbil, guinea pig and non-human primates. You will have direct access to international key speakers during the Q&A and round table sessions.

Detailed information, including an outline programme will soon be available on the website, with registration opening soon.

BSTP Bursary Opportunities for Early Career Pathologists – 2027

The BSTP are able to offer at least three **free** places on each of our Continuing Education Symposiums (CES).

Applications are welcomed from interested members and non-members of the BSTP.

The awarding of funding will be at the discretion of the BSTP Council.

Priority will be given to individuals working within an “early career” environment, for example, postgraduate MSc or doctoral students working within a relevant scientific field, or veterinary pathology residents working towards a professional qualification and gaining more experience within the field of toxicological pathology.

In addition, if the successful candidate is not already a member of the BSTP, they will also receive a year’s free membership of BSTP.

Further information can be found at: **http://www.bstp.org.uk/funding-opportunities/**

For information on any events organised by the BSTP, please contact the BSTP Secretariat - **bstpsecretariat@gmail.com**

or visit the website – **http://www.bstp.org.uk/bstp-events/**

or **http://www.bstp.org.uk/bstp-webinars/**

Attendee List (as at 09.11.2026)

Firstname	Lastname	Company	Town
Mark	Arends	University of Edinburgh	Edinburgh
Mark	Aspinall-O'Dea	Charles River	Chinley
Karen	Beebe	Syngenta	Huntingdon
Susann	Busch	AstraZeneca	Mölndal
Stephen	Cahalan	GlaxoSmithKline	Stevenage
Jon	Carter	Labcorp Early Development Laboratories	Harrogate
Peter	Clements	GlaxoSmithKline	Stevenage
Marisa	Coetzee	Babraham Institute	Babraham
Patricia	da Silva-Buttkus	German Mouse Clinic, Helmholtz Munich	Munich
Stephen	Drew	Charles River Laboratories Edinburgh Ltd.	Tranent
Paul	Edwards	Labcorp Early Development Laboratories	Huntingdon
Sam	Eniola	LabCorp Early Development Laboratories	Alconbury
Elizabeth	Ferguson	University of Bristol	Bristol
Oliver	Greville-Heygate	AstraZeneca	Cambridge
Harry	Hamlin-Wright	LabCorp Early Development Laboratories	Norwich
Sonia	Hasan	Kuwait University	Mishrif
Richard	Haworth	RosettaPath	Hertford
Ellie	Herbert	FERA	Malmesbury
Deon	Hildebrand	GlaxoSmithKline	Stevenage
Anke	Hoffmann	Fraunhofer Institute for Cell Therapy and Immunology IZI	Leipzig
Clare	Hoover	AstraZeneca	Cambridge
Kate	Hughes	Dept of Veterinary Medicine, University of Cambridge	Cambridge
Clare	Isacke	The Institute of Cancer Research	London
Tim	Kendall	University of Edinburgh	Edinburgh
Jan	Klapwijk	Cornelis Consulting Ltd	Ware
John	Le Quesne	TileBio	Glasgow
Anna	MacDonald	Labcorp Early Development Laboratories	Otley
Gareth	Maglennon	AstraZeneca	Cambridge
Elizabeth	McInnes	Syngenta	Bracknell
Henry	Miller	Royal Veterinary College	Potters Bar
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Giovanni	Pellegrini	Evotec	Verona
Kalaiselvan	Ponnusamy	Labcorp Early Development	Huntingdon
Michelle	Porritt	AstraZeneca	Mölndal
Deepa	Rao	Rao Consulting, LLC	Ellicott City
Catherine	Ross	Labcorp Early Development Laboratories (UK) Ltd	Harrogate
Alison	Rowles	AstraZeneca R&D	Cambridge
Cheryl	Scudamore	ExePathology	Lympstone
Laura	Setyo	Tremont AI	Boston
Magnus	Söderberg	AstraZeneca	Mölndal
Jacqui	Stewart	Labcorp Early Development Laboratories	Huntingdon

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Jayne	Wright	Jayne Wright Ltd	Ledbury
Aleksandra	Zalewska	Novartis Pharma AG	Baselstadt