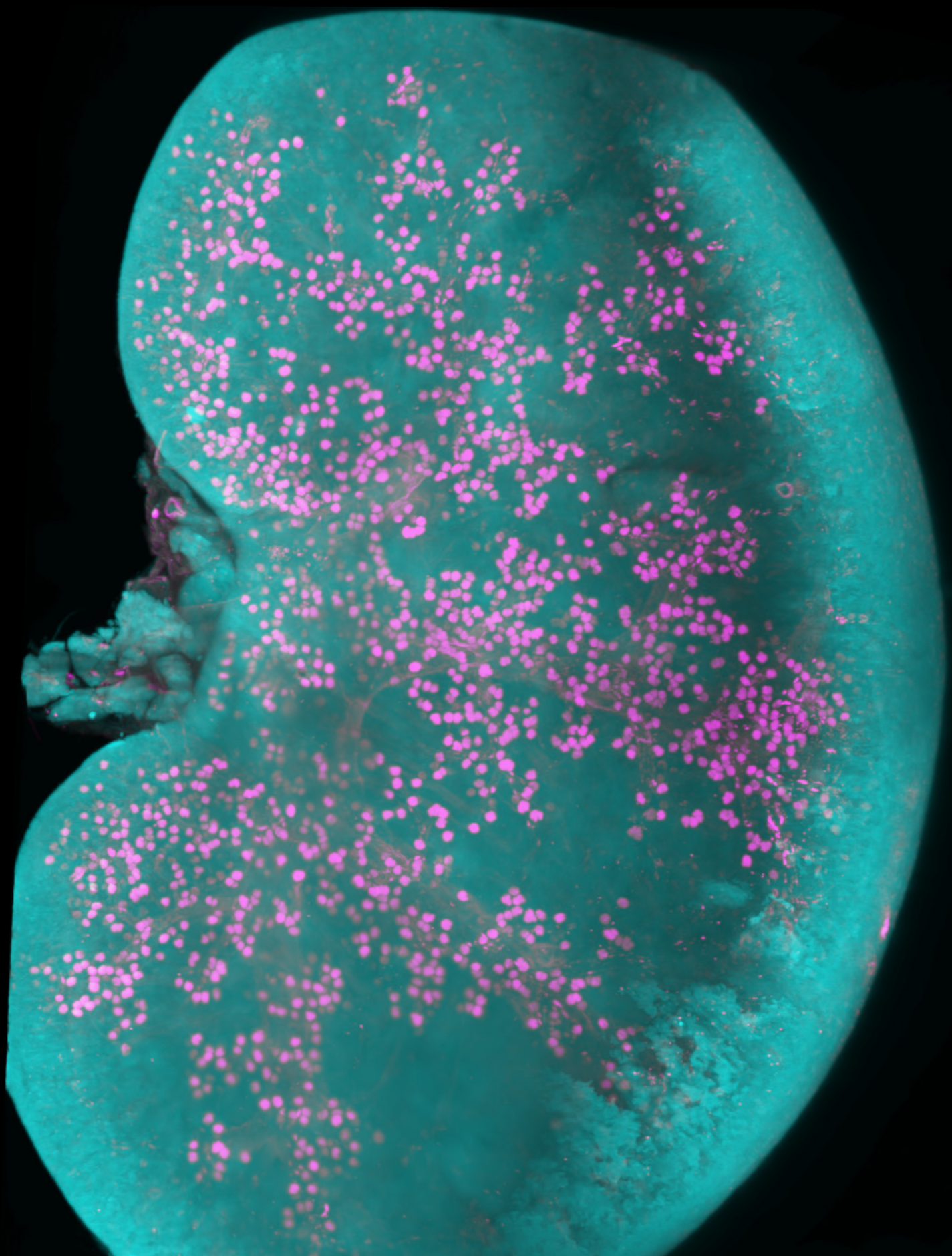
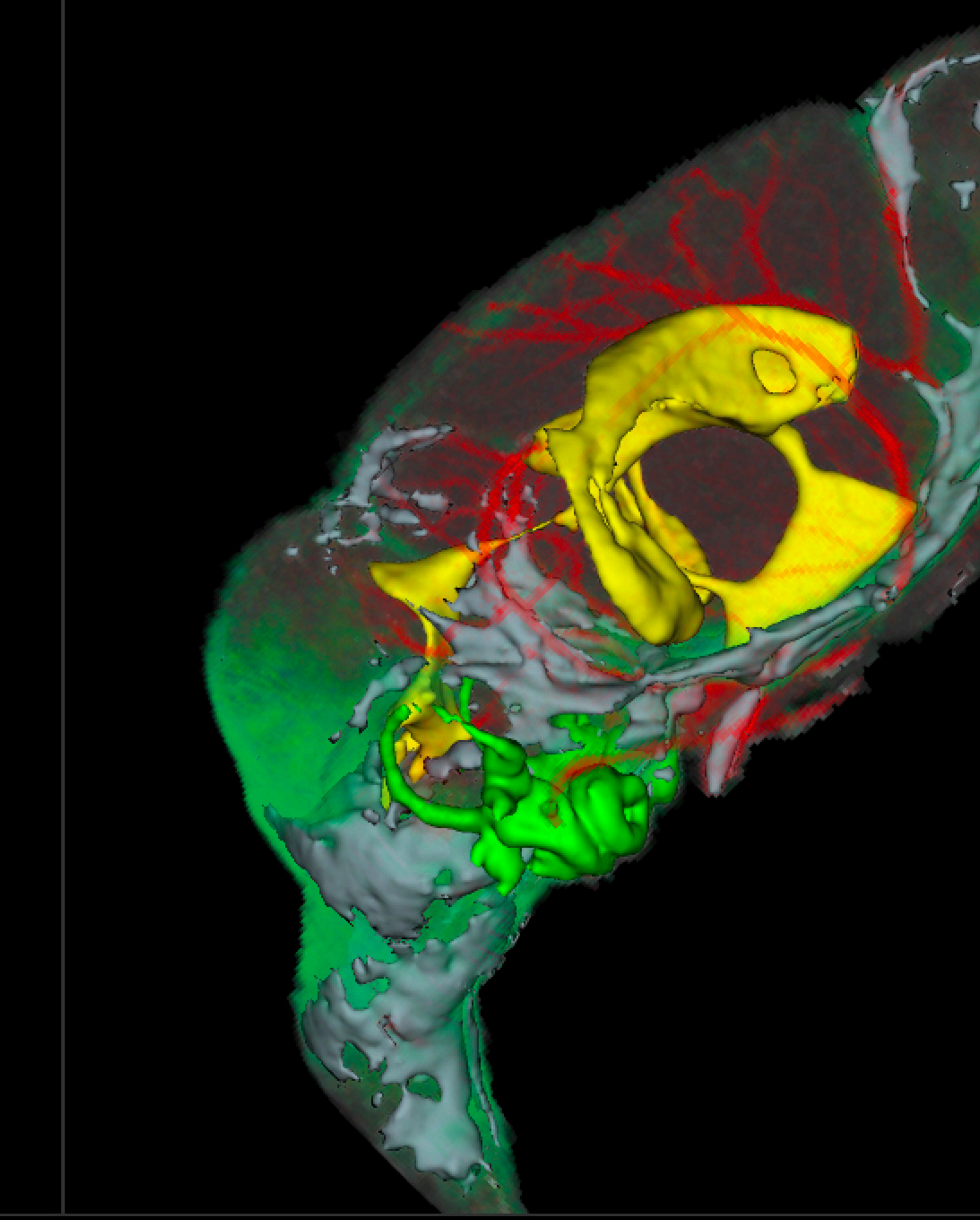
2025 annual report

DANISH BIOIMAGING INFRASTRUCTURE





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Foreword from the DBI-INFRA EXECUTIVE BOARD

Dear readers,

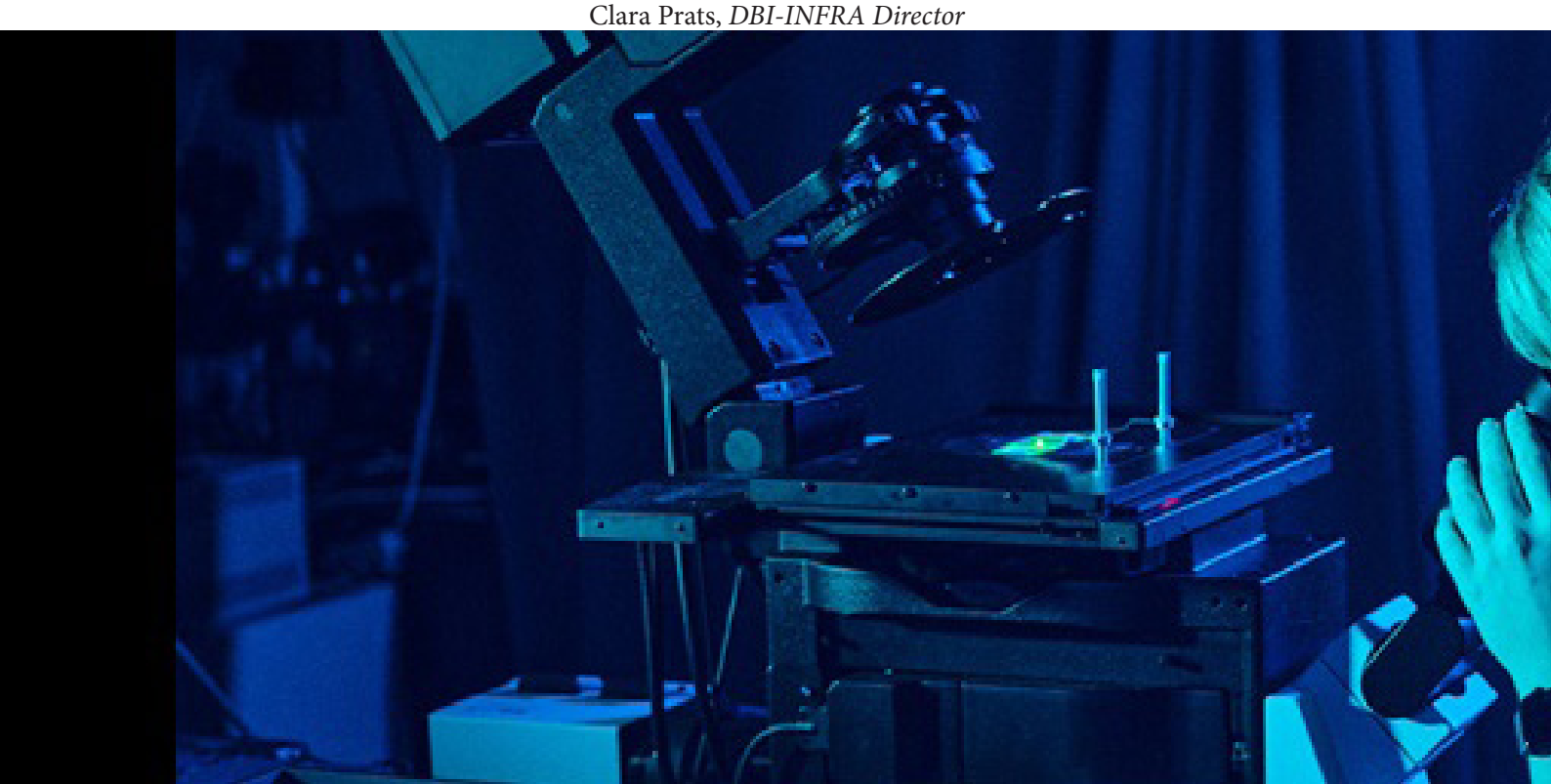
It is our pleasure to welcome you to the DBI-INFRA Annual Report 2025. Over a remarkably short period, DBI-INFRA has developed from a strong scientific community into a coherent national research infrastructure. By connecting imaging facilities and expertise across Denmark, we have expanded access to advanced technologies, strengthened training and collaboration, and established the national Image Analysis Core Facility as a distinctive strategic resource. The growing number of users, services, and scientific outputs demonstrates the value of this shared national effort.

These achievements are the result of the dedication and trust of our facility staff, researchers, institutional partners, funders, and national and international collaborators. We extend our sincere thanks to our collaborators and supporters. As we enter the last implementation year of the DBI-INFRA, we have developed a strategic plan towards long-term sustainability. The DBI-INFRA's Strategic Plan 2025–2030 sets out a shared vision for a strong, accessible, and sustainable national bioimaging infrastructure. It aims to provide life scientists with open access to advanced imaging technologies, expertise, and data support while strengthening collaboration among researchers, technology developers, institutions, and funding bodies. Through technology development, knowledge exchange, and the DBI-NET community, DBI-INFRA will promote scientific excellence and innovation across Denmark. Long-term financial sustainability and continued stakeholder engagement are central to securing the infrastructure's future and impact.

We invite you to explore this report and discover how DBI-INFRA is empowering life scientists, advancing innovation, and helping position Denmark as one of Europe's most coherent and forward-looking bioimaging ecosystems.

On behalf of the Executive Board,

Clara Prats, *DBI-INFRA Director*



Open Access to Bioimaging Technologies

DBI-INFRA

IDENTITY AND VALUES

DBI-INFRA empowers life Scientists to excel in their use of bioimaging technologies through education, training, support and expert advice

DBI-INFRA is gatekeeper of research quality, striving for research excellence by defining and implementing quality control standards

DBI-INFRA is highly interdisciplinary, connecting life sciences with technology sciences to boost bioimaging technology and method development

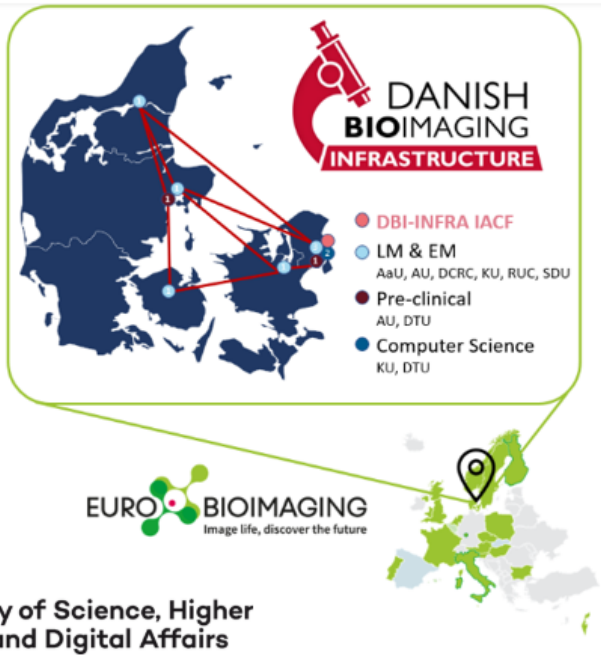
DBI-INFRA is composed by technology experts and Bioimaging researchers that work for the benefit of everyone

Open Access to Bioimaging Technologies

DBI-INFRA

2025 IN NUMBERS

11	Core Facilities
619	Number of external academic users
1491	Total number of users at DBI-INFRA facilities in 2025
43	Number of industry users (from private sector)
>100	User Publications
25	Staff Involved at DBI-INFRA
>500	Researchers receiving training through DBI INFRA courses



Ministry of Science, Higher Education and Digital Affairs

DBI-INFRA News from facilities

Roskilde University Node

Microscope Core Facility at Department of Science and Environment summary of progress

By Pia Nyeng
Department of Science and Environment, Roskilde University

The Microscope Core Facility at RUC more than doubled its user base, increasing from 12 to 29 unique confocal users, while the number of logged hours increased from 802 to 1,307 hours.

The facility manages two confocal microscopy systems, three widefield fluorescent microscopes, a histology lab, and an image analysis workstation. We have a small, but wide user group, with diverse needs. Our core facility is embedded in an institute containing four sections spanning the natural sciences: Section of Chemistry, Section of Mathematics and Physics, Section of Environmental Dynamics, and Section of Molecular and Medical Biology. This places us in a unique position to support interdisciplinary research. During the DBI-INFRA period we have developed and upgraded hardware, software, user groups, teaching activities, expertise, and networking activities. **Equipment and service upgrades:** DBI-INFRA equipment and service upgrades are fully implemented. In 2025 we received service and training enabling the GaAsp detectors on our Olympus laser scanning microscope, resulting in highly increased sensitivity. We have taken over management of the institute's widefield and stereo microscopes ensuring that these are operational and shared. We have implemented Argolight-based confocal system monitoring. **A large expansion of our user base:** In 2025 we more than doubled our user base. We increased our user base from 12 (2024) to 29 unique confocal users and logged hours increased from 802 to 1307 hours. Student project work is part of RUC's DNA, and our facility is therefore distinguished by a large user-base among undergraduate, MSc and PhD students, putting a relatively large demand on training. In total, we trained/supported imaging and image analysis for 70 hours in 2025. **Activities and impact stories:** the 8th Danish BioImaging Symposium was hosted at RUC. A lively event with a focus on knowledge exchange and community building among bioimaging facilities and technology development groups. Attendees networked, explored emerging bioimaging technologies, and brainstormed new technology ideas with the aim of establishing new cross-disciplinary collaborations. New user cases involving method development include imaging of wound healing in human skin biopsies, 3D imaging of whole pancreatic adult islets, and imaging of peptoid nanosheets **Next steps:** We are planning on acquiring a spinning disk confocal system for live cell and organoid imaging. We are also involved in the planning of a mouse facility at our department.

DBI Symposium at Roskilde University. Images taken during the event.

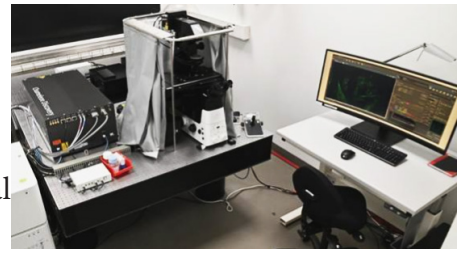
Susanne Sørensen, *Dean of Natural and Mathematical Sciences Roskilde University, with Pia Nyeng and Clara Prats,*

University of Southern Denmark Node

The Danish Molecular Biomedical Imaging Center in 2025 consolidated the multiphoton microscope into service provision operations.

By Jonathan Brewer
Danish Molecular Biomedical Imaging Center. (DaMBIC).
University of Southern Denmark, SDU

The DBI-INFRA funded multiphoton was installed in 2024 and is today fully consolidated. The system is operational and embedded in advanced deep-tissue and long time-lapse workflows, enabling low-photodamage imaging in thick and living specimens and supporting demanding experiments that are not feasible on standard widefield/confocal workflows. In 2025 the instrument reached 1323 hours of booking, reflecting sustained demand and confirming that the investment is delivering broad, measurable value to the user community. Facility-wide in 2025, The Danish Molecular Biomedical Imaging Center (DaMBIC) supported ~140 users, delivered >10,000 total user hours, and trained 193 users, strengthening user independence while maintaining access to expert support for complex experimental designs (e.g., intravital-style imaging, long acquisitions, quantitative time-series analysis). The impact for users is improved access to deep, high-quality imaging in challenging specimens and data suitable for robust quantitative analysis and publication.



Highlighted 2025 user case

Intravital imaging example (*Mikkel Green Terp, IMM – Cancer*): A representative 2025 user project led by Mikkel Green Terp (IMM, Cancer) leveraged the Nikon multiphoton platform for intravital-style imaging of mitochondrial dynamics in the tumour microenvironment. **Figure 2** shows the live-imaging configuration, with an anaesthetised mouse positioned on the microscope stage to enable stable acquisition during physiology-relevant measurements.

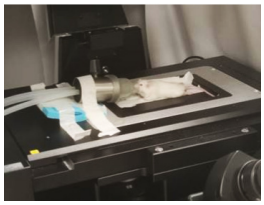
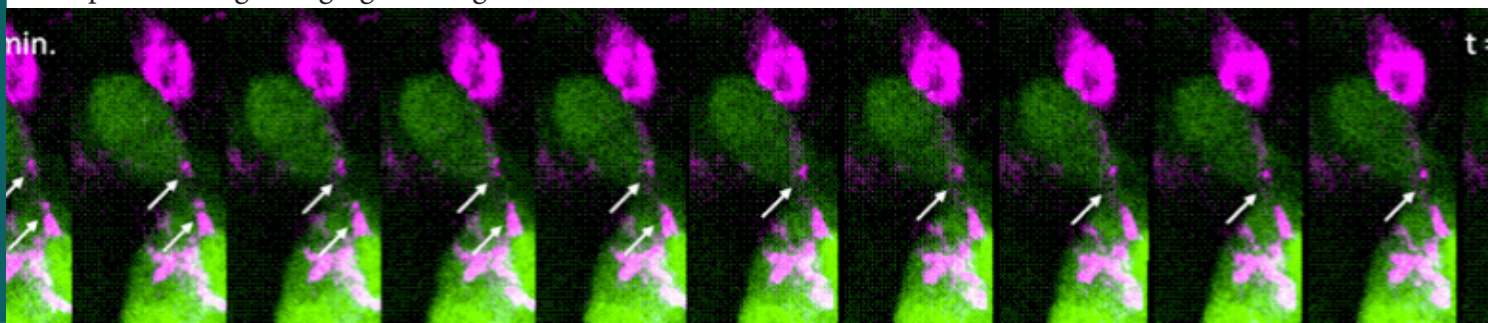


Figure 2

Figure 3 presents a ~55-minute time-lapse in which mitochondria (magenta) exhibit directed movement (arrows) toward a cancer cell (green), demonstrating why the system is critical for capturing dynamic cellular processes that are not accessible from fixed samples or endpoint imaging. These data support quantitative follow-up (e.g., kymograph-based analysis of transport trajectories and rates) and illustrate the platform's value for user-driven mechanistic cancer biology studies requiring long, low-photodamage imaging in living tissue.



DBI-INFRA News from facilities

Aarhus University Node

The Bioimaging Core Facility hosts 15 high-end microscopes.

Morten Schallburg Nielsen
Deputy Director DBI-INFRA
Bioimaging Core facility AU
Aarhus University

One of the key instruments is the Zeiss Light Sheet 7 (LS7), which was acquired through the 2022 Roadmap Grant. The LS7 is a light-sheet microscope designed for imaging relatively small organs (up to 1 cm^3) with outstanding resolution compared with other commercial light-sheet systems. This capability has been widely utilized by researchers for detailed imaging of neuronal circuits, brain barriers, brain tumours, and related neurobiological structures, thereby making a significant impact on neuroscience research within the department.
The LS7 has been installed in proximity to both a Zeiss slide scanner and a Zeiss Airyscan confocal microscope. Integrated software enables correlative imaging workflows, while connection to the HIVE server and imaging infrastructure facilitates machine learning–based image analysis, even for very large datasets.

The Danish Cancer Institute Node

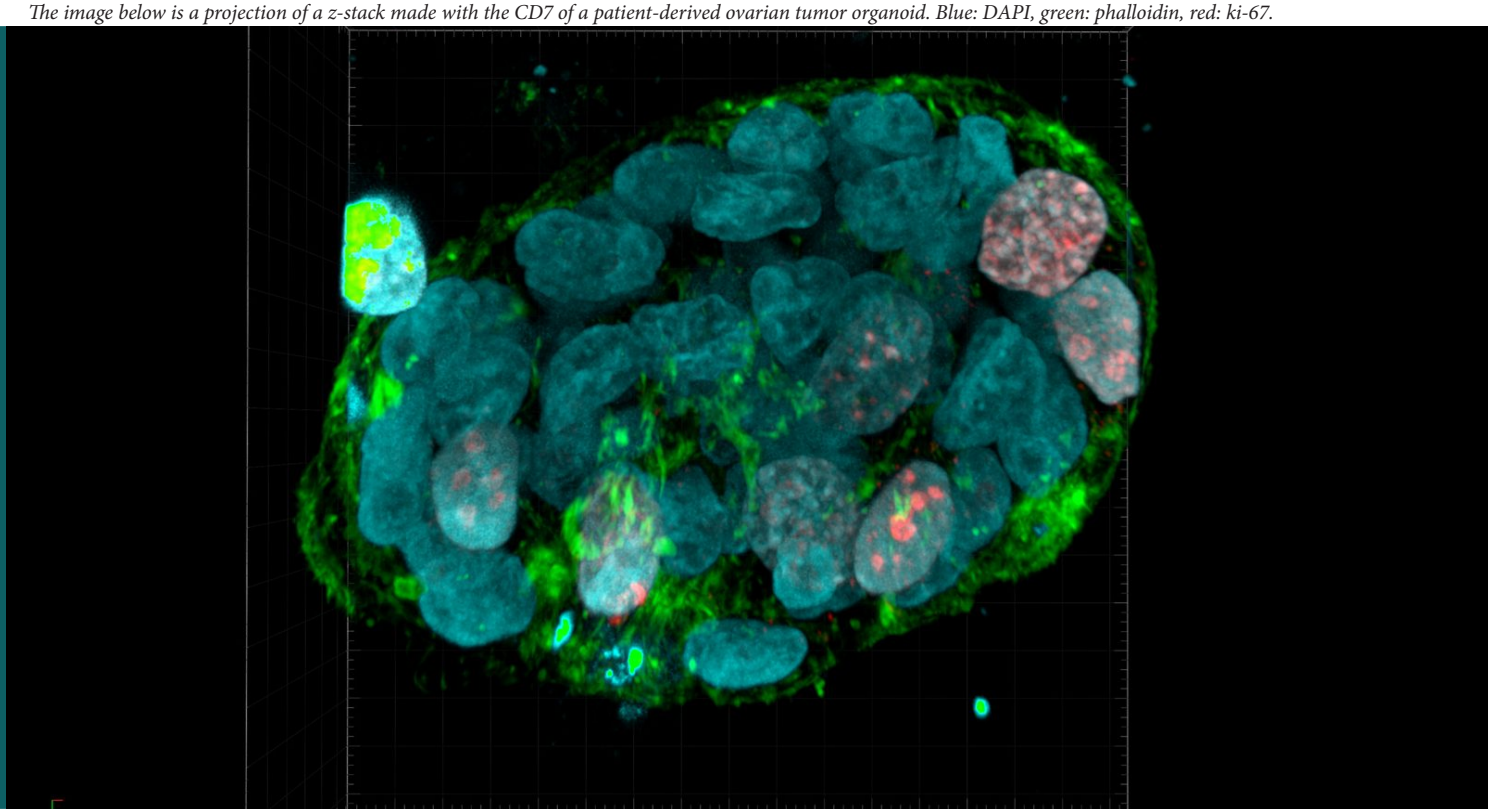
The DCI Bioimaging Core (BIM) has moved from a capacity-limited service to a high-throughput imaging hub that directly supports cancer research.

By Christoffel Dinant
Danish Cancer Institute (DCI)
Bioimaging Core facility

Since the 2022 grant, the Core Facility for Bioimaging (BIM) has moved from a capacity limited service to a high throughput imaging hub that directly supports cancer research. New equipment has played a major role in this shift. The Zeiss Cell Discoverer 7 that was purchased with the DBI-INFRA grant, enables automated widefield and confocal screening, and the Zeiss Axioscan 7 expands our digital pathology and large area tissue imaging. The Zeiss Elyra 7 Super Resolution system provides sub diffraction imaging, and a dedicated Hive compute server handles the demands of high content and high resolution datasets. Alongside the Cell Discoverer 7, our high throughput portfolio includes a Molecular Devices ImageXpress HT.ai, and ImageXpress Pico and two Evident ScanR systems. This increase in capacity for high-throughput imaging has been essential to keeping pace with the growing demand.

In 2025, four former University of Copenhagen research groups joined the Danish Cancer Institute. This increased our active user base to 85 and broadened the scientific profile of the facility. Today, our strengths lie in automated microscopy and quantitative image analysis for drug and genetic screens, live cell kinetics, and studies of subcellular mechanisms. These activities are supported by structured training, guidance on experimental design, and end to end analytical workflows.

The image below is a projection of a z-stack made with the CD7 of a patient-derived ovarian tumor organoid. Blue: DAPI, green: phalloidin, red: ki-67.



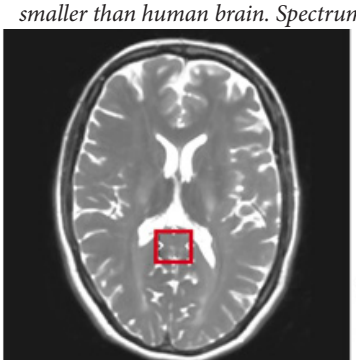
The Danish Technical University Node

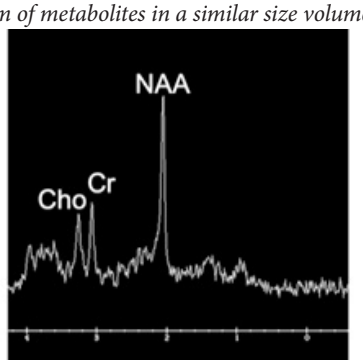
In 2025 the Translational Imaging Center (TIC) at DTU consolidated its role as a national hub for translational and preclinical imaging by advancing from implementation into the operational phase.

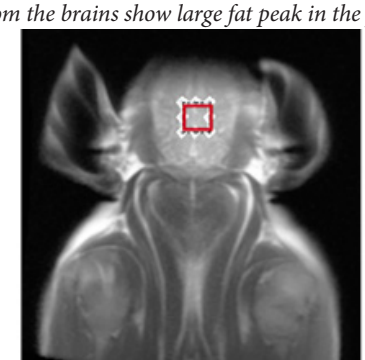
By Mathilde Hauge Lerche
DTU Translational Imaging Center. (TIC)

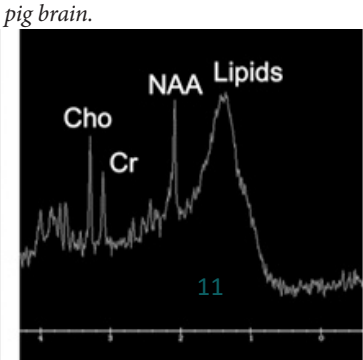
Strategic capital investments, combined with expanded staffing and growing user engagement, have significantly strengthened TIC's ability to support biomedical research across the translational pipeline. A major milestone in 2025 has been the commissioning phase of the small-animal PET/SPECT/CT platform (Mediso nanoScan), representing a substantial upgrade of TIC's molecular imaging capabilities. While regulatory approval for radioactive material handling is pending, the scanner has been temporarily installed at DTU Risø, enabling comprehensive system calibration, staff training, and protocol development using radioisotopes produced at DTU. This phased implementation has ensured that the facility will be fully operational and scientifically mature upon final approval, allowing immediate and efficient uptake by users. In parallel, the clinical MRI sub-facility expanded its scope of application, including the successful execution of large-animal imaging studies.
This achievement marks an important step in bridging small-animal research with clinically relevant models and strengthens TIC's translational profile, particularly in areas such as cardiovascular research, neurology, and intervention development. MRI activities have also continued to support extensive teaching and student-driven research projects. The small-animal MicroCT/BLT/FLT and Ultrasound sub-facilities remained fully operational throughout the year, supporting a diverse user base and contributing to both research and education. Together, TIC's four sub-facilities now provide complementary imaging modalities that enable longitudinal, multi-scale, and multimodal studies within a single coordinated infrastructure. To support this growth, TIC expanded its staffing in 2025 and includes now two full-time positions, an application scientist and a facility support specialist. This expansion substantially improves user support, scientific interaction, and operational robustness and ensures that TIC is well positioned to meet increasing demand and to further develop open-access services in the coming years. Impact in 2025 : 74 users across academic and commercial sectors, 3 complementary imaging sub-facilities in operation, 2 FTE dedicated staff supporting open-access services and PET/SPECT/CT facility fully commissioned pending regulatory approval.

Image below: *Large-animal imaging on the clinical MRI scanner, marking a key translational milestone for TIC. Pig brain about 8 times smaller than human brain. Spectrum of metabolites in a similar size volume from the brains show large fat peak in the pig brain.*









The Translational Imaging Center

Highlighted activities and impact stories

From isotope to image: advancing molecular imaging at DTU

The temporary installation of the nanoScan PET/SPECT/CT system at **DTU Risø** has enabled hands-on training of staff and users, system calibration with multiple isotopes, and early development of imaging protocols. Leveraging DTU's in-house radioisotope production, researchers can now design and optimize molecular imaging studies that will directly translate into future preclinical and translational research projects. This integration uniquely positions TIC within the Danish bioimaging landscape.

Bridging scales: large-animal MRI as a translational milestone

In 2025, TIC successfully conducted its first large-animal (pig) imaging studies using the clinical MRI scanner. This milestone extends TIC's capabilities beyond small-animal imaging and enables research models that more closely resemble human physiology. The activity has already attracted interest from new academic and industrial collaborators seeking advanced translational imaging solutions.

Capacity building for sustainable open access

The expansion to two full-time staff members has been critical for sustaining open-access services, strengthening user training, and supporting increasingly complex imaging projects. This investment has improved turnaround times, user experience, and the facility's ability to engage in collaborative and interdisciplinary research.

nanoScan PET/SPECT/CT at DTU Risø

Image 3

Image 2

Image 1: Training and protocol development on the Mediso nanoScan PET/SPECT/CT system during its commissioning phase at DTU Risø, using DTU-produced radioisotopes.
Image 2: Clinical MRI in use / preparation of large-animal study
Image 3: TIC staff and collaborators during hands-on training and calibration of the new PET/SPECT/CT platform.

Image 1

DBI-INFRA News from facilities

The University of Copenhagen, Faculty of Health and Medical Sciences Node

The Core Facility for Integrated Microscopy has changed name to Core Facility for Integrated BioImaging.

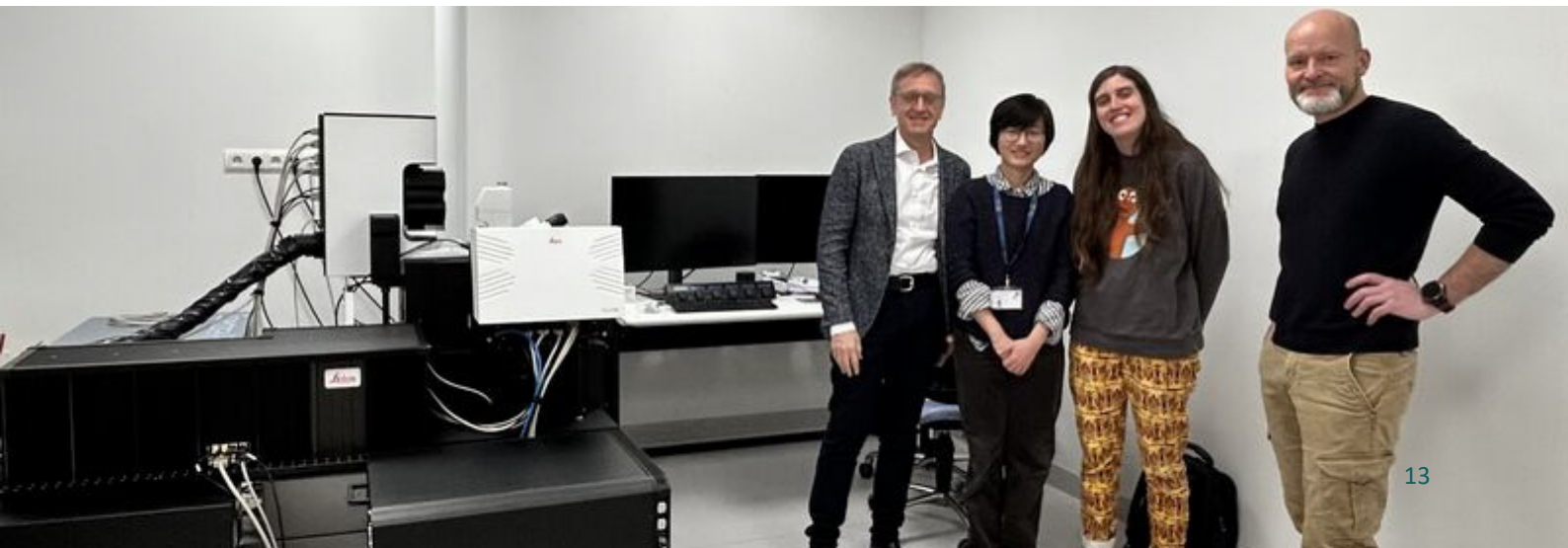
By Nicolai Urban
Director of the Core Facility for Integrated BioImaging (CFIB)

This change reflects an important strategy development of the facility from a technology centric to a multi-modal application centric service provider, and methodology developer. This means that users of the facility will have easier access to working with preclinical and microscopical modalities in the same workflow, maximizing the information for their studies. The scanner is a high resolution 9.4 Tesla Bio-Spec preclinical MRI scanner, that can house both dead and living animals up to rabbits in size.

Yuki Mori, Research Core Director of the NMR facility, showing the possibilities for scanning smaller animals in the 9.4 T NMR scanner.

Implementation of a new IntraVital Facility

The new IntraVital Facility, housing a brand-new multiphoton Leica microscope, Stellaris 8, in a newly opened facility that allows to house animals close by, typically mice, used for deep live imaging in brain, liver or other organs. The new facility inaugurated in September 2025 is placed at Panum, University of Copenhagen.

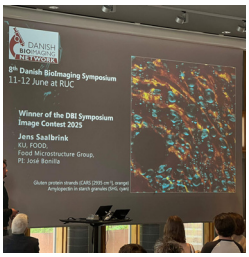


The University of Copenhagen, Faculty of Science Node

The Center for Advanced Bioimaging (CAB) marked the successful renewal of large parts of its instrument park with a celebration *of CAB 2.0.*

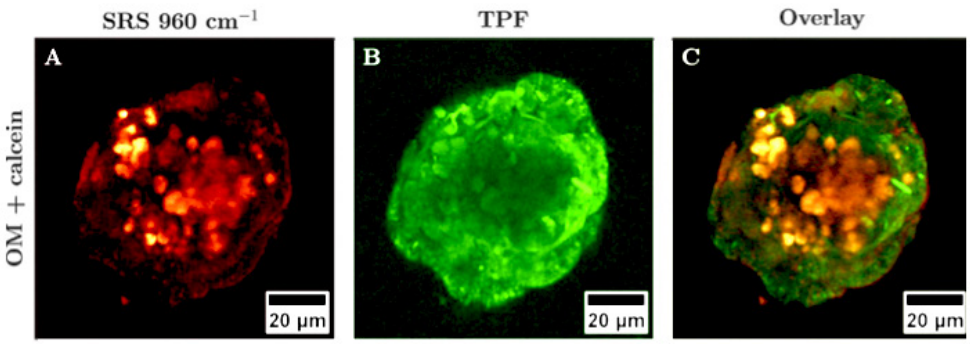
By Michael Lisby
Center for Advanced Bioimaging. CAB.
Copenhagen University

Two large infrastructure grants, the Danish Roadmap for Research Infrastructure and the Novo Nordisk Foundation Infrastructure grant contributed significantly to this renewal and expansion of the available methods at CAB, and the acquired instruments were fully operational in early 2025.
They give our users access to state-of-the-art instruments that allow label-free and chemical imaging modalities, extending CAB's focus on analytical imaging methods.



The celebration of CAB 2.0 was held on the 16th of June 2025 with participation of the Associate Dean for Research of the Faculty of Science, Lise Arleth, and the Heads of Department for Plant and Environmental Sciences, Morten Petersen, and Biology, Niels Kroer. Presentations of the new instruments as well as demonstrations of different instruments at CAB.

The new Leica Stellaris Coherent Raman Scattering (CRS) microscope was well-adopted by local as well as external users The instrument allows label-free, chemical imaging of samples. In fall 2025, CAB was visited for a job-shadowing and research visit by core facility staff as well as a PhD student from NTNU in Trondheim, Norway. The visit was supported by the Bridging Nordic Microscopy Infrastructure (BNMI) consortium and was a great opportunity for knowledge exchange. Apart from networking and technical discussions, the data generated during the visit demonstrated the usefulness of the new modality. **Experimental Microscopy Lab** CAB also hosts the Experimental Microscopy Lab, which is a collaboration with researchers from the Niels Bohr Institute and others from the Bioimaging community. It represents our commitment to innovative research and sustainable scientific practices. By repurposing and recycling unused imaging equipment, we have created a cutting-edge space dedicated to exploring non-commercial microscopy techniques such as interferometric and Brillouin microscopy. Our researchers collaborate across disciplines to pioneer solutions that push beyond conventional limitations. **A highlight of 2025** was the award of a DKK 18 million **Villum Fonden Infrastructure grant** for the Multimodal & Modular Microscopy (M^3) platform, which builds directly on the Experimental Microscopy Lab's foundations and will further establish CAB as a hub for advanced, non-commercial microscopy development.



Stimulated Raman Scattering can be used to image and analyze the chemical composition of a sample. No external label is required. Figure from D. Boscaro, S. Kjeldgaard-Nintemann, A. Bjørkøy & P. Sikorski: Label-Free Imaging of Matrix Mineralization in Alginate-Encapsulated Bone Spheroids Using Coherent Raman Scattering Microscopy. Chem. Biomed. Imaging 2026

DBI-INFRA News from facilities

Aarhus University Hospital Node PreClinical Core Facility

By Michael Pedersen
Department of Clinical Medicine.
Aarhus University

AU Preclinical section of DBI is Aarhus University's core facility for translational bioimaging, providing advanced imaging technologies for both experimental and clinical research. **Our imaging platform includes high-frequency ultrasound (2–70 MHz), microCT, optical imaging, fluorescence imaging, and advanced 3D image reconstruction and quantitative image analysis.** Combined with expertise in artificial intelligence, image segmentation, and computational biomarker development, these technologies enable researchers to visualize anatomy, physiology, and disease processes from small animal models to human patients. The platform supports numerous interdisciplinary collaborations across DBI's research partners.

Salamander imaging.
DOI: 10.1038/s41684-026-01692-y

AU Pre-clinical key research areas in 2025:

Regenerative Biology: High-resolution microCT was used to create three-dimensional models of salamander skeletons during limb regeneration. The studies revealed how bone architecture changes throughout regeneration and provide new knowledge relevant for regenerative medicine. **Quantitative Musculoskeletal Imaging:** Novel ultrasound-based image analysis methods were developed to objectively quantify muscles, tendons, and connective tissues. These techniques are being translated into clinical tools for improved diagnosis and monitoring of musculoskeletal disorders. **Kidney and Metabolic Disease:** Imaging biomarkers were developed for diabetic kidney disease by combining quantitative ultrasound with advanced image analysis. The aim is to enable earlier detection of tissue alterations and improve monitoring of disease progression and treatment response. **Lymphatic Imaging:** New imaging approaches are being established to visualize lymphatic function and tissue remodeling in patients at risk of breast cancer-related lymphedema. The long-term goal is earlier diagnosis through objective quantitative imaging biomarkers. **Dermatology and Women's Health:** Optical coherence tomography (OCT) and high-frequency ultrasound were evaluated as non-invasive tools for assessing vulvar tissue structure in women with provoked vestibulodynia. The studies identified candidate imaging biomarkers that may improve the understanding and future diagnosis of chronic vulvar pain. **Artificial Intelligence and Image Analysis:** Machine learning and automated segmentation methods were increasingly integrated into imaging workflows, enabling rapid and reproducible extraction of quantitative biomarkers from large imaging datasets across multiple biomedical applications. **Emerging Imaging Technologies:** AU Preclinical group also initiated projects exploring next-generation imaging technologies, including optoacoustic imaging, advanced optical methods, and novel image-guided approaches for regenerative medicine and precision diagnostics.

Center for Quantification of Imaging Data from MAX IV Node - QIM

Department of Computer Science

Regular Hackathons & Code Reviews with the Image Section at DIKU

In 2025, the IACF began running regular hackathons and code-review sessions together with colleagues from the IMAGE section at the Computer Science department (DIKU) of the University of Copenhagen. These events were created as an informal space where the IACF team and computer science researchers can meet to exchange ideas and new research, test new software tools, and learn from each other. For the IACF, they provide dedicated time to explore promising new tools, stay up to date with current research and technologies, and reflect on best coding practices, as these are oftentimes hard to fit into everyday facility work. At the same time, DIKU researchers gain insight into practical use cases, real-world datasets, and the challenges that come with those datasets and with supporting a diverse user community. Next to the core IACF team and their close collaborator Prof. Jon Sporring, participation included several members of the IMAGE section, among them Postdocs and PhD students, as well as most recently the research software engineer Felipe Delestro from the QIM center. The hackathons were flexible in format and usually combined short presentations, hands-on software testing, code reviews and open discussion, allowing for an adaptive agenda according to the individual interests of the attendees.

In 2025, the IACF held four hackathons in March, September, November and December. In the image, Tricia Loo, Jon Sporring. Felipe Delestro, Jesko Wagner and Julia Mertesdorf during the Hackathon at DIKU on December.

Across the hackathons, a wide range of topics and tools were explored. This included testing and comparing image analysis software such as RootPainter, Segment Anything (SAM), Bilayers, Fractal, Ultrack, as well as napari-phasors for FLIM and hyperspectral data. Some sessions focused on running a set of different tools on varying real datasets, e.g. RGB plant images, fluorescence images of blood vessels and OCT angiography data, and comparing their performance, usability, and accessibility. Additional discussions and presentations covered topics such as larger-than-memory image processing, tracking approaches, topological data analysis, spatial statistics for spatial transcriptomics, and promising tools for fast, intuitive visualization of image processing results. These hackathons and code reviews have been a very positive addition to the facility's activities. They strengthen the collaboration between IACF and DIKU's Image section, create room for experimentation and learning, and help ensure that the facility remains well connected to current developments in bioimage analysis. Based on these positive experiences in 2025, the IACF is planning to continue these events in the coming years.

DBI-INFRA News from facilities

The DBI-INFRA Image Analysis Core Facility During 2025, the IACF focused on improving accessibility and user experience based on feedback from DBI user community.

As part of DBI-INFRA, the Image Analysis Core Facility (IACF) provides nationwide bioimage analysis services that connect computational methods and expertise with life science research needs. Since its launch in September 2023, the IACF has now been in open service for 28 months, supporting a growing community of researchers by providing custom bioimage analysis software development, software training and courses, as well as access to commercial software tools and computing infrastructure. In parallel, the IACF website was updated to more clearly highlight available services, events, the user access portal, and user guides. The updated website also introduced a new project gallery showcasing completed projects, including links to associated publications and code, helping to increase transparency and visibility of the facility's activities. Outreach and collaboration remained a key focus area throughout the year. The IACF continued to strengthen connections with other DBI-INFRA facilities by organising and participating in joint training events and consultation activities, helping to promote bioimage analysis knowledge, best practices, and awareness of IACF services. In addition, the facility began piloting the placement of IACF-managed image analysis workstations directly within partner core facilities to improve access to infrastructure. This service was first tested in September 2025 with the installation of a workstation at Aarhus University Hospital. The IACF team also experienced personnel changes during 2025. Peidi Xu left the team at the end of August, and the position was filled by Jesko Wagner, who joined the facility in December, ensuring continuity of expertise and service capacity. Lastly, the facility continued to promote its activities via the DBI-INFRA website, printed materials, and DBI social media channels.

Meet the Team

Tricia Loo

BIOIMAGE ANALYST / BIOLOGIST

Julia Mertesdorf

BIOIMAGE ANALYST / COMPUTER SCIENTIST

Jesko Wagner

BIOIMAGE ANALYST / BIOLOGIST

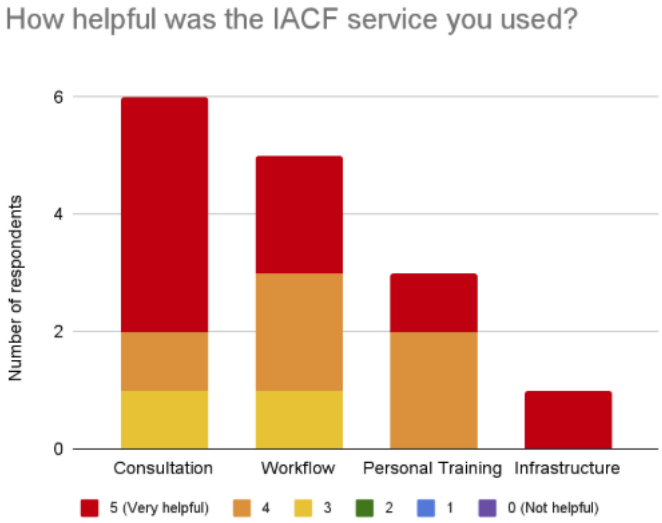
Image Analysis Core Facility

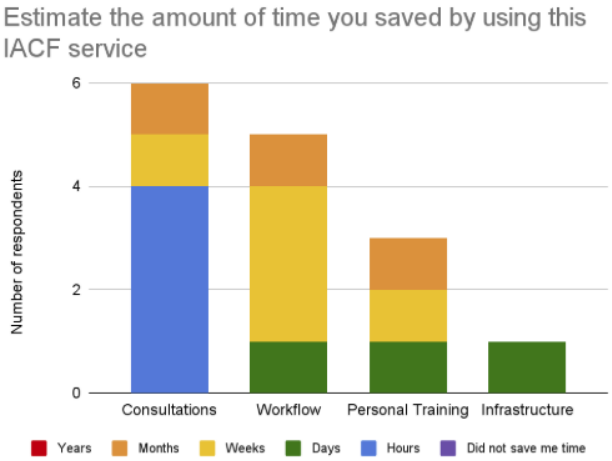
Project Management, Open Science & FAIR Data Sharing

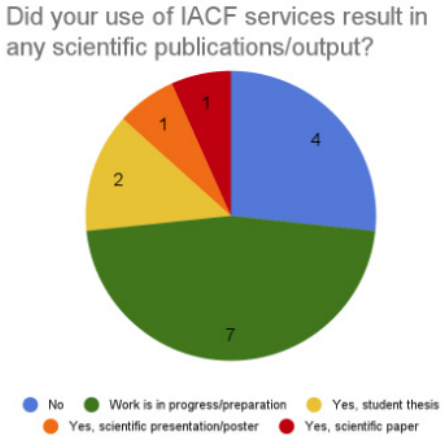
Supporting open science and reproducible research continues to be an important focus. The analysis scripts, tools and workflows developed as part of our collaborations and user projects are shared on our public GitHub workspace found under https://github.com/orgs/DBI-INFRA/repositories. Furthermore, the course materials are now publicly available under the same workspace and plan to extend on that in the upcoming year.

IACF Service Impact

The IACF works on a total of 16 user projects and training in 2025, including 5 which were initiated from previous years. The facility has also provided free consultation services to 31 registered participants across 13 consultation events. At the end of 2025, the DBI-INFRA Image Analysis Core Facility ran a survey with DBI INFRA IACF users to obtain feedback on how IACF Services have impacted their work. Respondents generally found the services they used to be helpful for their work, estimating that it saved them hours to months of work.







Σ Project Hours	User Institution
10	AU
25.5	KU
27.5	KU
14	KU
39	KU
1	KU
25	KU
2	KU
7	KU
11	AU
15.5	AU
2	AU
23	SDU
39	AU
28	KU
20	AU

2025 Consultations (Call4Help, Open Office)

251127 Call4Help	3	Call4Help
251016 Call4Help	1	Call4Help
251002 Call4Help	1	Call4Help
250915 Open Office Aarhus	8	Open Office
250904 Call4Help	2	Call4Help
250807 Call4Help	2	Call4Help
250626 Call4Help	1	Call4Help
250612 Open Office Roskilde (DBI Symposium)	3	Open Office
250515 Call4Help	1	Call4Help
250403 Call4Help	1	Call4Help
250306 Call4Help	2	Call4Help
250220 Call4Help	3	Call4Help
250121 Open Office SDU	3	Open Office

DBI-INFRA

Image Analysis Core Facility (IACF)

Service Provision Infrastructure

The IACF infrastructure is currently distributed across two locations, with two workstations located at the University of Copenhagen and one workstation placed at Aarhus University. Users affiliated with the University of Copenhagen or Aarhus University can access the infrastructure using their institutional credentials while external users can be provided with temporary external user access accounts at the University of Copenhagen. In addition, remote access can be granted to all three workstations, allowing users to run software and analyses without being physically present.

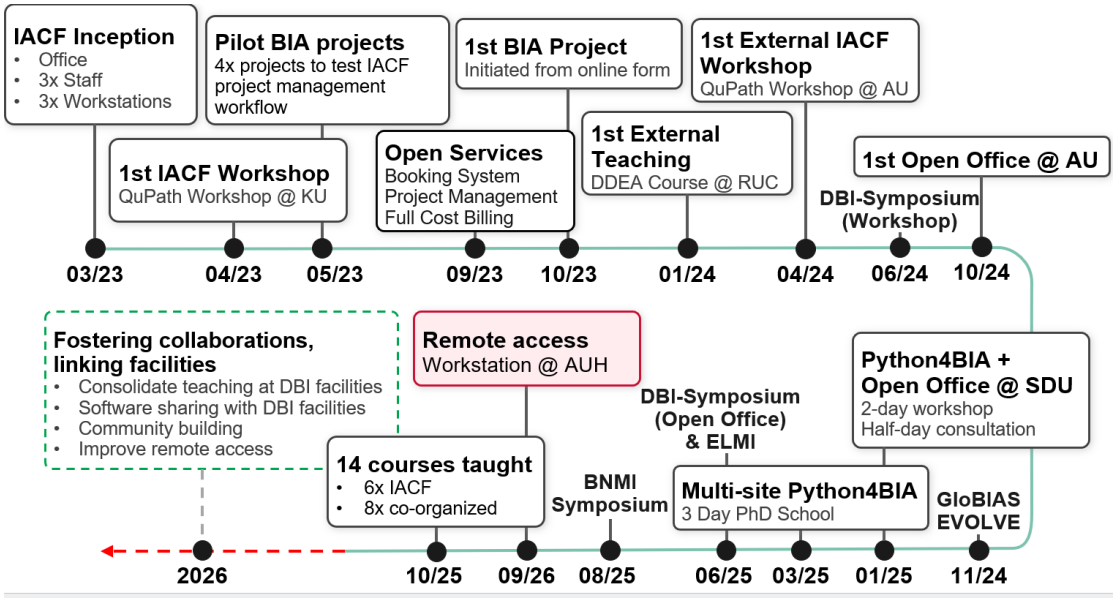
Image 1

Image 1: IACF image analysis workstation at Aarhus University Hospital, installed in September 2025 as part of the pilot to bring image analysis infrastructure closer to partner core facilities.

Software Tools and Training

OXFORD INSTRUMENTS | IMARIS

IACF offers on-demand, project-specific training based on the user's own datasets, covering both open-source tools (such as ImageJ/Fiji, QuPath, CellProfiler and Napari) and commercial software available through the IACF facility.



IACF Users projects

Detection and Classification of Amyloid Plaques from histopathological images

Collaborators: A. Eskelund, *Department of Clinical Medicine, Aarhus University*
Context & Goals: This study uses viral infection models of mouse brains to investigate if the number of viral infections is correlated with the amount of amyloid-beta plaques formed in the brain. Histopathological sections of post-infection mouse brains with DAB-stained plaques were acquired with whole slide imaging. The image analysis goal is to automatically detect and count plaques in different cortical areas of the brain, and to classify the plaques based on their texture and morphology. Image 1.

Quantification of Microglia Morphology from Fluorescence Images

Collaborators: M. Sunesen-Laursen and S. Pankratova, Comparative Pediatrics and Nutrition, *Faculty of Health and Medical Sciences, Copenhagen University*
Goal & Method: Adaptation of an existing pipeline for automated analysis of microglia morphology in brightfield images to fluorescence images. The general logic and processing steps of the original pipeline remain, but some additional steps were included to account for challenges specific to fluorescence images. Image 2.

Tracking Arabidopsis growth from time-lapse images

Collaborators: F. Lambert, Department of Biology, *Faculty of Science, University of Copenhagen*
Context & Goals: The project aims to investigate if specific RNA methylations affect plant growth. Arabidopsis plants are seeded on a petri dish, and imaged from an aerial view using a standard digital camera every 24 hours, with a ruler in the image for scale. To see if the mutations cause plants to grow at different rates, we need to track each plant and measure their area over time. Image 3.

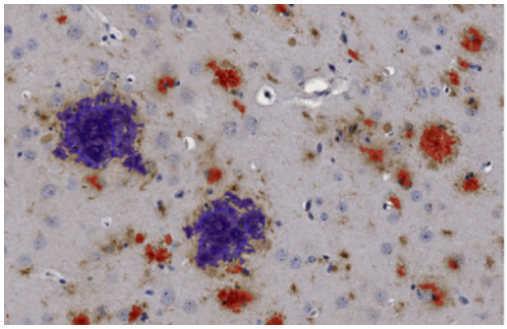
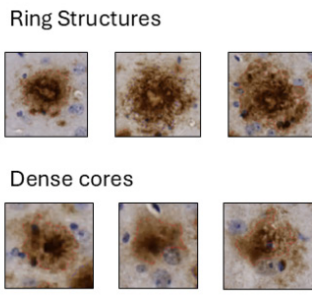


Image 1



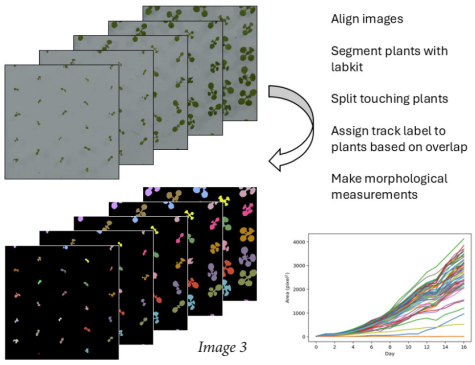


Image 3

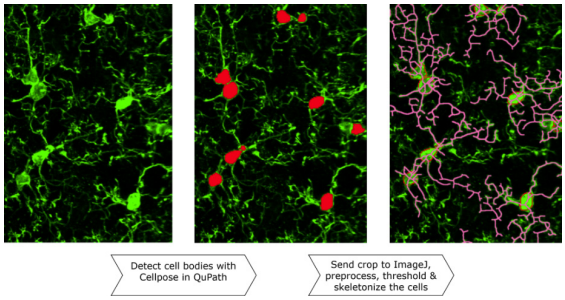


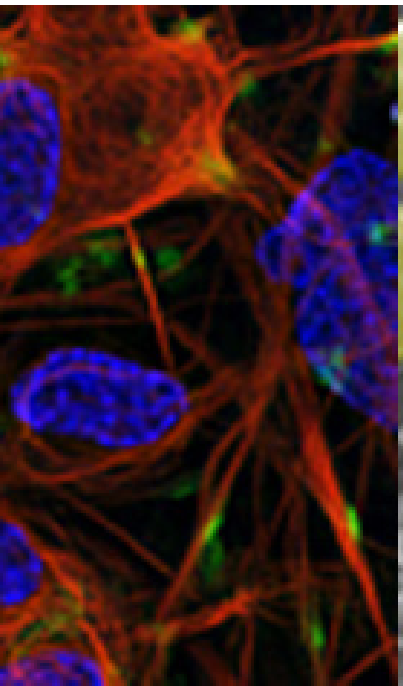
Image 2

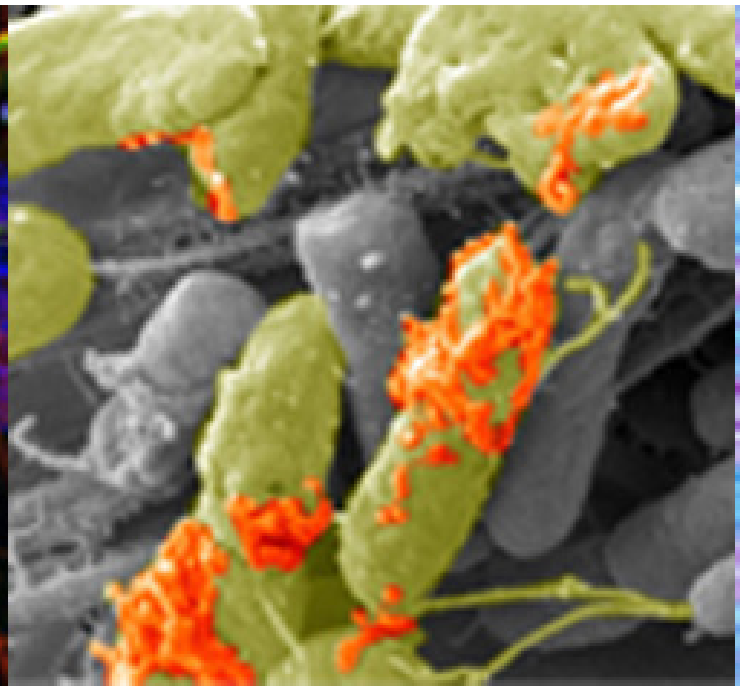
DBI INFRA events

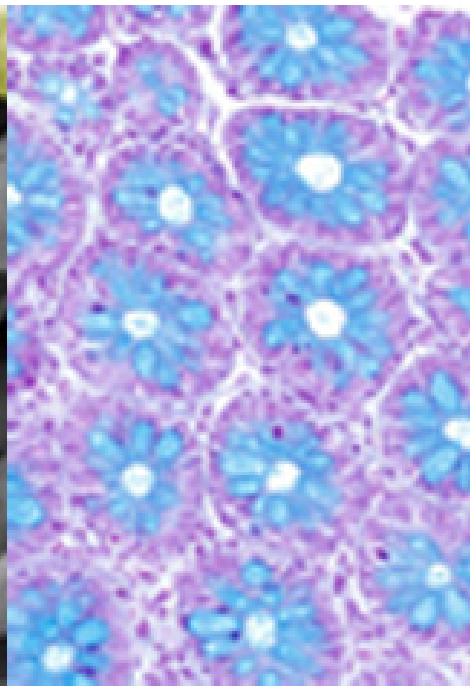
Scientific and Professional Meetings

The IACF team attended these meetings in 2025

- **March 2025**
  Euro-BioImaging All Hands Nodes Meeting, EMBL Heidelberg, Germany.
- **April 2025**
- *Euro-Bioimaging Image Data Community Days,* Virtual Event.
- *QIM International workshop on Image analyses and simulation 3 and 4 dimensions,* University of Copenhagen.
- **May 2025**
  BioImage Informatics Finland Symposium, Seili island, Turku Archipelago, Finland.
- *AI4Life Community Event,* Helsinki, Finland
- **June 2025**
- *Danish Bioimaging Scientific Symposium,* Roskilde University, Denmark.
- **August 2025**
- *Bridging Nordic Microscopy Infrastructure annual meeting,* Gothenburg, Sweden.
- **October 2025**
- *GloBIAS Bioimage Analysis Conference;* Kobe, Japan.
- **November 2025**
- *Virtual Halfway to I2K;* Virtual Event.
- *Crick Bioimage Analysis Symposium;* London, UK (Virtual Attendance).

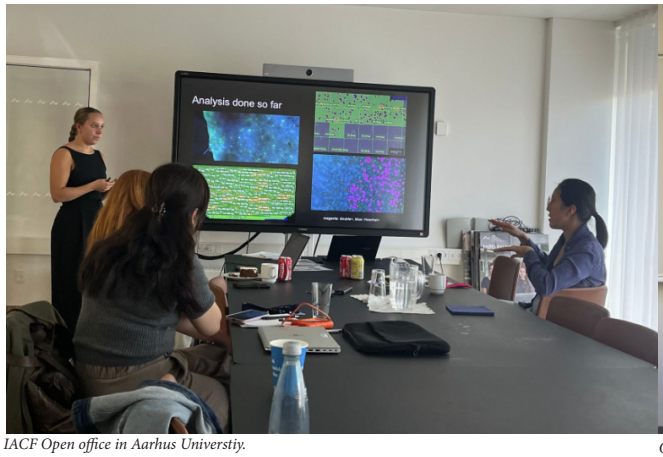




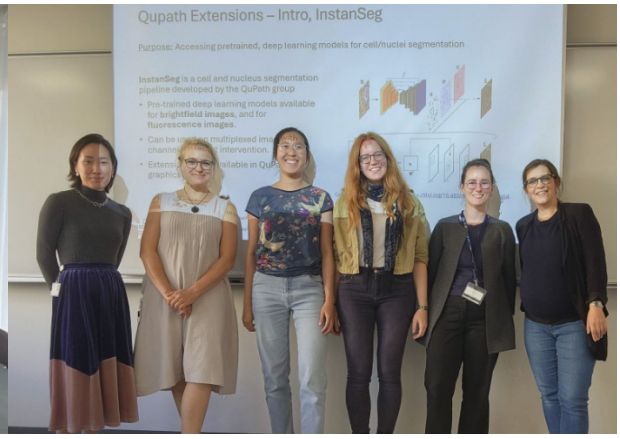


DBI INFRA Training activities

In 2025, outreach and training remained a core part of the IACF's activities, with a continued focus on making bioimage analysis knowledge, tools, and services accessible to researchers across institutions and disciplines. The team contributed to a wide range of training activities, from introductory workshops to advanced PhD-level courses, including organising the first distributed Python for BioImage Analysis PhD School taught simultaneously across multiple sites. These events provided hands-on training in bioimage analysis methods and software, while also serving as an important entry point for researchers to learn about the facility's services and connect with the team.
Outreach efforts were further supported through conference participation, facility visits, and in-person consultation sessions. The team promoted IACF services through talks and posters at scientific meetings, including the *European Chemokine and Cell Migration Conference,* and during a facility visit to Aarhus University Hospital. Continuing the successful format of in-person open office consultations that we first trialled in October 2024, three more Open Office sessions were organised in Odense, Roskilde, and Aarhus, providing researchers with direct access to image analysis advice.



IACF Open office in Aarhus Universtiy.



Organisers of the QuPath Workshop, Bioimaging Core Facility at Aarhus University.

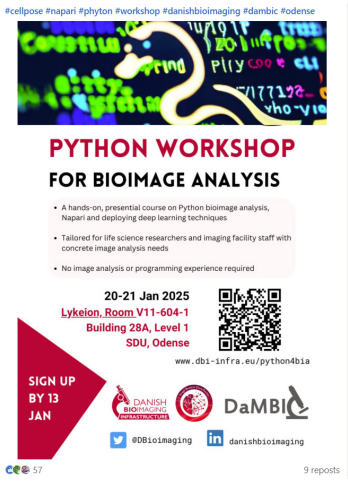
Collaboration with national and international partners remains an important part of the IACF's activities. A key goal of the facility is to help bridge the gap between life scientists working with imaging data and computer scientists developing new analysis methods and tools.

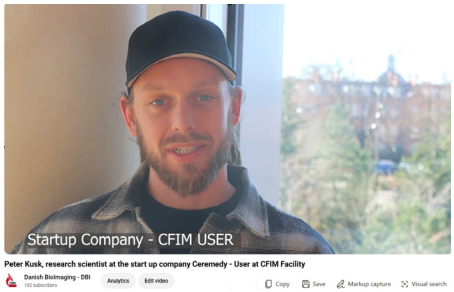
To support this, IACF staff regularly participate in recurring expert meetings and community forums. These include the monthly QIM working group meetings (a collaboration between DIKU, DTU and the University of Lund), IMAGE section symposia at the University of Copenhagen, and the Euro-BioImaging Image Data and Image Steward Expert Group meetings. These meetings provide opportunities to exchange knowledge, stay informed about new developments in image analysis and data management, and contribute to discussions on best practices.

DBI-INFRA Activities

Courses and Workshops (co-)organized by the IACF

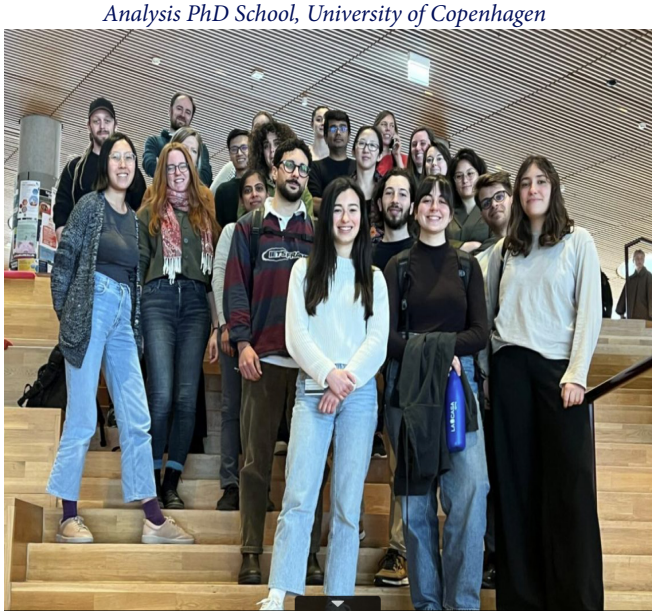
- **January 2025:** Python for BioImage Analysis, *Danish Molecular Biomedical Imaging Center, University of Southern Denmark, DaMBIC.*
- **March 2025:** Python for BioImage Analysis PhD School (Distributed Course), *University of Copenhagen, SUND.* The course was taught simultaneously with a partner site in P*ompeu Fabra University* (Barcelona, Spain) with lectures from teachers in both locations broadcast simultaneously to the other site, and with local teachers assisting with practical exercises.
- **May 2025:** Biological Imaging, *University of Copenhagen, Science.* 1 Day guest teaching on Image Processing.
- **June 2025:** Image Analysis PhD School, *University of Copenhagen, SUND*. Co-organized and taught 5 days of the 6-day-PhD-course with the Core Facility for Integrated Microscopy (CFIM)
- **September 2025:** Introduction to Image Analysis for Life Science, *University of Gothenburg,* Sweden. 1-day guest teaching on Filters and Spatial Operations - QuPath Workshop, *Bioimaging Core Facility at Biomedicine, Aarhus University.*
- **October 2025:** Cross Institutional BioImaging PhD Course, DBI-INFRA (University of Copenhagen, SUND) - One day teaching on Machine Learning Techniques for Image Analysis.





In March, 2025 the DBI-INFRA Image Analysis Core Facility team organized a three-day Python course across two institutions: the Faculty of Health and Medical Sciences at the University of Copenhagen (UCPH) and the Universitat Pompeu Fabra in Barcelona. The course was fully booked, with participants from both academia and industry. Use the QR code below to watch on the Danish Bioimaging YouTube channel the short interview with Peter Kusk, research scientist at the start-up company Ceremedy and learn how valuable the Python course was for him.

- *Group photo on March 2025: Python for BioImage Analysis PhD School, University of Copenhagen*



8th Danish Bioimaging Symposium

Roskilde University

11 -12 June, 2025

100 participants attended the 8th Danish Bioimaging Scientific Symposium at Roskilde University on June 11-12, 2025. It was a great pleasure to welcome all to our DBI annual event, which in 2025 aimed to create space and opportunities for interdisciplinary interactions and collaborations between three key communities in Denmark: technology developers, bioimaging experts, and those working at the intersection of technology and biology using bioimaging technologies to excel and discover. We were honored with the participation of Susanne Sørensen, *Dean of Natural and Mathematical Sciences Roskilde University* who welcomed the participants. The symposium was a unique opportunity to network, explore emerging bioimaging technologies, brainstorm new ideas based on life science user needs, and establish collaborations across the community. Furthermore, the event featured a great program of talks, a poster session, the second Danish BioImaging Microscopy Image Contest, a booth area and a symposium dinner. The organising committee consisted of researchers and academic staff from Roskilde University (RUC) and the University of Copenhagen (KU). From RUC, the committee included Pia Nyeng, *DBI INFRA Executive Board Member and Associate Professor*; Pratik Shah, *Associate Professor*; Ole Vang, *Associate Professor;* Rikke Agerskov, *PhD Researcher;* and Marco Loaiciano, *Postdoc*. From KU, the committee included Clara Prats, *DBI-INFRA Director and Associate Professor;* Sonia Diaz Garcia, *Coordinator of the Danish Bioimaging Infrastructure;* and Jacqueline Van Hall, *Secretary at the Core Facility for Integrated Microscopy (CFIM)*. The meeting was possible with the support of our industrial sponsoring partners ZEISS Microscopy, Ramcon, Triolab Danmark, Thermo Fisher Scientific and Interherence. Check out the photo gallery of our symposium visiting the QR and a big thank you to everyone who participated.

DBI-INFRA Activities

8th Danish Bioimaging Symposium

The first day at the symposium was divided into three sessions. Session 1 about *New developments in Bioimaging research models and detection methods* with Ole Vang, Roskilde University as the Chairman. Session 2 about *New developments in bioimaging systems with* Pratik Shah, Roskilde University as Chairman and Session 3 about *Image data management and new developments in biological Image Analysis with* Rebecca Engberg, Center Manager for Center for Quantification of Imaging Data from MAX IV (QIM), DTU as Chairman. At the end of the sessions and before the poster session, Thomas Hartig Braunstein, Core Facility Manager gave a talk about the Danish Panel of Facilities. In the QR code you can also find a brief description of the sponsors' booths and poster sessions.

- The DBI Scientific Symposium invited speakers were:
- **Bo Wegge Laursen**, Professor, Department of Chemistry, University of Copenhagen
- **Victoria Birkedal**, Associate Professor, Interdisciplinary Nanoscience Center, Aarhus University
- **Javier Martin Gonzalez**, Manager of the Transgenic Core Facility, University of Copenhagen
- **Pratik Shah**, Assistant Professor, Roskilde University
- **Aimilia Nousi**, Facility Manager, Center for 4D Cell Dynamics
- **Emil Boye Kromann**, Associate Professor DTU Department of Health Technology
- **Guillermo Sergio Moreno Pescador,** Assistant professor, University of Copenhagen
- **Martin Aage Barsøe Hedegaard**, Associate Professor, University of Southern Denmark
- **Tricia Loo**, DBI INFRA Image Analysis Core Facility
- **Jon Sporring**, Professor, Image Analysis, Computational Modelling and Geometry
- **Hannah Mihai**, Data Management Consultant, DeiC
- **Ingegerd Wirehed, Emanuel Larsson,** HALRIC

The second day of the DBI Symposium featured three breakout sessions focusing on bioimaging technology uptake in facilities, method and tool development uptake in core facilities, and the creation of a national image repository and cloud/HPC analysis.

8th Danish Bioimaging Symposium

Danish BioImaging Microscopy Image Contest 2025

Congratulations to Jens Saalbrink from the José Bonilla Lab at the *Department of Food Science, University of Copenhagen* who was the winner of the Danish BioImaging Microscopy Image Contest 2025. As part of the DBI Symposium, participants were invited to vote for the Best Microscope Image of 2025. Jens Saalbrink's striking image received the highest number of votes and was selected as the winning image.The image was acquired on a Stellaris CRS microscope (Leica Microsystems) at the Center for Advanced Bioimaging (CAB), using the Stokes beam at 1032 nm. The image reveals a fibrous network surrounding a gas bubble (shown in black) and starch granules, providing insight into how food components assemble into functional networks at the microscopic level. The beautiful image is on the back cover of this annual report.

The Panel of Facilities meets three times a year, with one meeting held in person. The group photo was taken at the in-person meeting at Roskilde University, following the conclusion of the Danish BioImaging Symposium.

DBI-INFRA Activities

Train the Trainer

EVOLVE
EU project

EVOLVE TRAIN THE TRAINER

Xiaowen Wang, Ágata Silván Alcaraz and Katharina Kaiser from the Core Facility for Integrated BioImaging (CFIB) attended the first Euro-BioImaging/Evolve Train-the-Trainer course at the Imaging Center at EMBL in Heidelberg from October 20–24. Moreover, Clara Prats, DBI Director, also attended as a teacher of this program. The Train-the-Trainer course is tailored specifically for imaging core facility staff working at Euro-BioImaging Nodes who are involved in user support, training, and course organization. This course is about how to teach imaging techniques effectively and provides a comprehensive toolkit for developing and delivering impactful training sessions, user courses, and collaborative workshops. The takeaways from the team were the importance of clearly formulating learning objectives, ideas for creating interactive learning experiences and making the most of resources such as webinars and pre-recorded tutorials.

EVOLVE Job Shadowing

In October 2025, Sonia Diaz Garcia, DBI INFRA Coordinator, participated in Euro-BioImaging job shadowing with Marianna Childress-Poli, Communications Officer at the Euro-BioImaging Bio-Hub in Heidelberg. For one week, Sonia and Marianna shared their experiences to raise visibility and awareness of a distributed research infrastructure. Topics included Annual Reports, Newsletters, and mapping the different stakeholder engagement.

On the left: Xiaowen, Katharina and Agata. On the right: Sonia Diaz and Marianna Childress Poli at EMBL in Heidelberg.

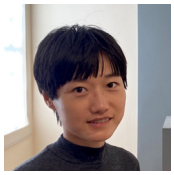
Group photo of participants, trainers and members of the Euro-BioImaging Hub team. Photo by EMBL/PhotoLab

> **I learned how to really define learning objectives and how to better think about the way that I want to teach users in the future.**
>
> *Katharina Kaiser, Danish BioImaging Node*

Xiaowen's Job Shadowing

Building Expertise Through the BNMI Job-Shadowing Programme

One of the main tasks of the **Bridging Nordic Microscopy Infrastructure** (BNMI) is to offer courses and training for both staff and users interested in expanding their knowledge and skills in microscopy. With financial support from BNMI, Xiaowen Wang, *Multi-Photon Applications Specialist at CFIB,* participated in a job-shadowing programme from 13–19 October 2025, following Christiane Peuckert at the Intravital Microscopy Facility of Stockholm University (IVMSU). During the job shadowing, Xiaowen gained hands-on experience in window implantation techniques, motion artefact minimisation, and fluorescence lifetime imaging microscopy (FLIM) for intravital imaging. In addition, Xiaowen gained valuable insights into project management at IVMSU and the ethical application and approval processes for animal experiments. The experience will support the establishment of workflows at the newly opened intravital imaging facility at the University of Copenhagen.



"My job shadowing at IVMSU in Sweden helps me to establish my own workflows at the newly opened intravital imaging facility at University of Copenhagen.

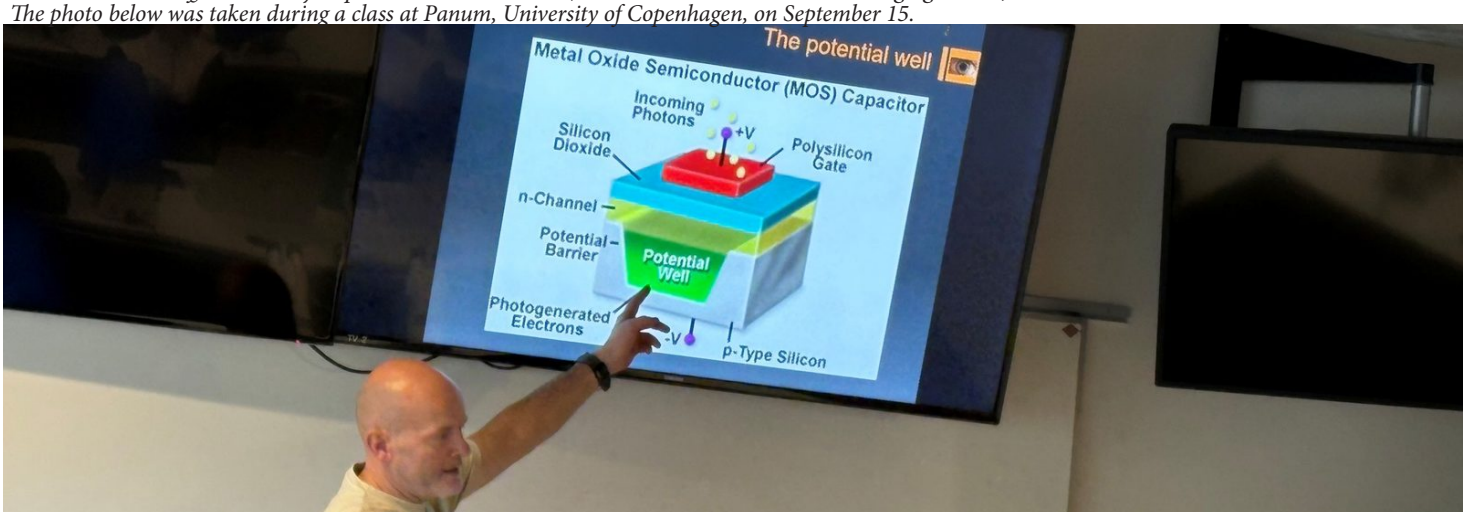
Xiaowen Wang, Multi-Photon Applications Specialist at CFIB

PhD Cross Institutional Course

Educating the new generation of bioimaging researchers

In 2025, Danish BioImaging continued to strengthen bioimaging education through the Cross-Institutional Bioimaging PhD Course, bringing together PhD students from different scientific disciplines and research institutions across Denmark. The 10-week course was aimed at PhD students within medicine, physics, chemistry, biochemistry, molecular biology, pharmaceutical sciences, agricultural science, and biology. It covered a wide range of imaging approaches, including fluorescence and two-photon microscopy, confocal microscopy, live-cell imaging, single-molecule fluorescence, image analysis, super-resolution microscopy, STED, SMLM, MINFLUX, Raman imaging, electron microscopy, and non-invasive imaging techniques. The programme combined lectures, practical exercises, and visits to facilities, providing participants with theoretical knowledge and hands-on experience.

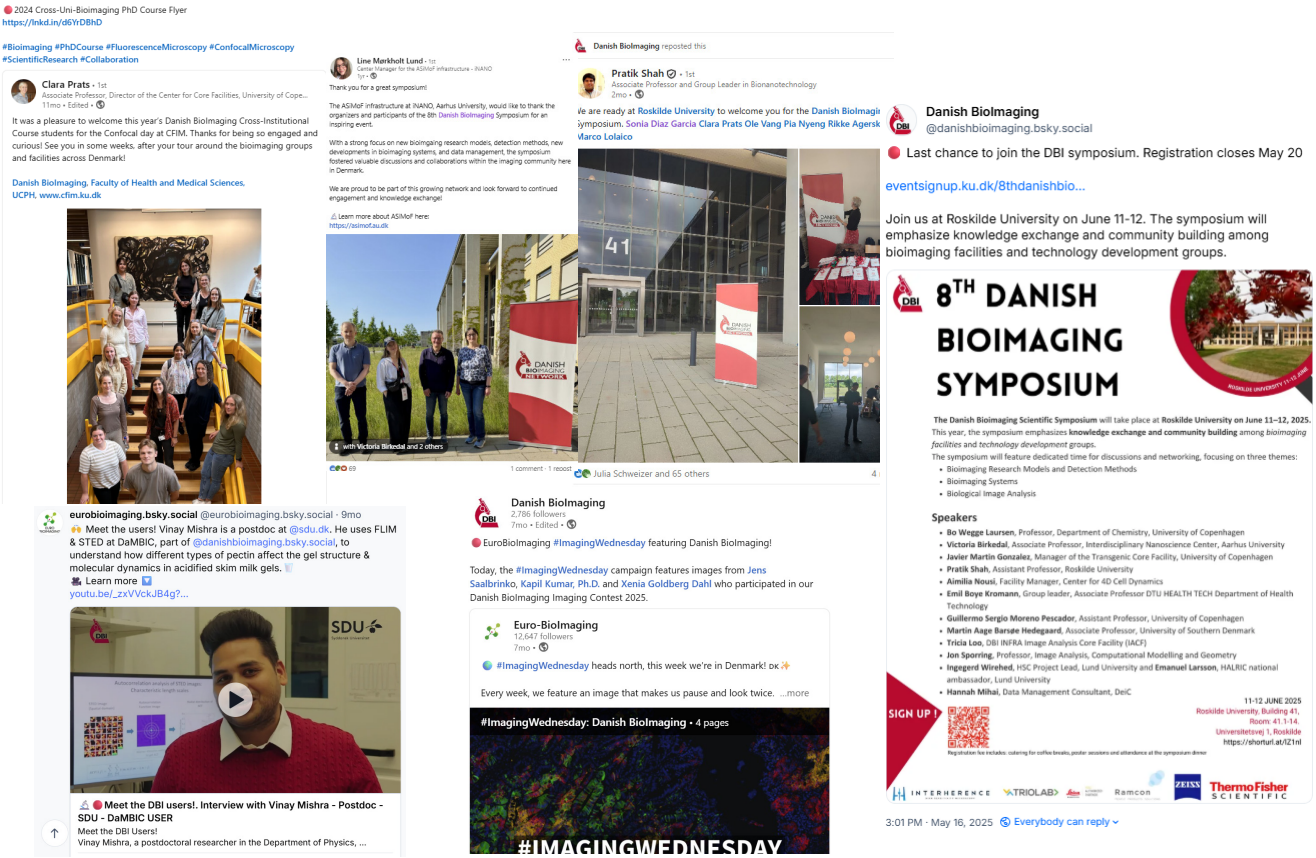
The course kicked off on Monday, September 1, at DaMBIC (Danish Molecular Biomedical Imaging Center), SDU.
The photo below was taken during a class at Panum, University of Copenhagen, on September 15.



External Communication

Communication, Visibility and Community Engagement

DBI maintains an active presence across several social media platforms, including LinkedIn, Instagram, Bluesky and YouTube, supporting the dissemination of bioimaging activities, events, job opportunities, users' testimonials, workshops, courses and community achievements.
In 2025, DBI-INFRA reached 2,000 followers on LinkedIn, reflecting continued growth in professional outreach, networking, and visibility. DBI has strengthened its role as a trusted platform for researchers worldwide and has built a strong, engaged community around bioimaging infrastructure and expertise.The DBI community is also encouraged to share relevant activities through DBI communication channels. Community members can submit events, job opportunities, and news items for inclusion in the DBI newsletter. Furthermore, in 2025, Danish BioImaging participated in the Global BioImaging Campaign celebrating and acknowledging the contributions of Core Facility staff worldwide. The campaign generated significant engagement, with DBI-related posts reaching more than 10,000 impressions and receiving over 400 likes, highlighting the strong interest and appreciation for the work of imaging facilities and their staff.
Throughout the year, DBI also published seasonal newsletters featuring updates from the community, upcoming events, opportunities, scientific highlights, and infrastructure developments. These communication activities have contributed to maintaining an active, connected, and informed DBI community while increasing awareness of Danish bioimaging capabilities nationally and internationally.

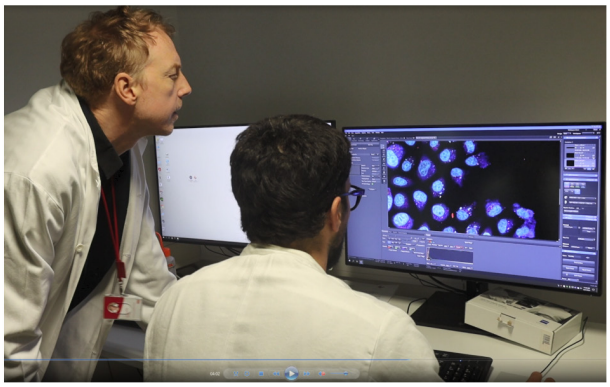


Meet the DBI users

Showcasing the Impact of Core Facilities on Research Success

In 2025, the DBI-INFRA series Meet the DBI-INFRA Users continues with two short interviews highlighting researchers from Danish universities who use the facilities and benefit from the expertise and support of Danish BioImaging staff. **Vinay Mishra, a postdoctoral researcher in the Department of Physics, Chemistry, and Pharmacy at the University of Southern Denmark (SDU) and a user of the Danish Molecular Biomedical Imaging Center (DaMBIC).** Vinay´s research explores how pectin, a natural fiber found in the cell walls of fruits and some vegetables, influences the water organization and microstructure in hybrid plant-dairy gels. Using advanced microscopy techniques (STED and FLIM at DaMBIC), the research reveals how different types of pectin affect the gel structure and molecular dynamics in acidified skim milk gels. "*Access to the advanced microscopy facilities at DaMBIC was critical to the success of my research, working with STED and FLIM required specialized training. DaMBIC is an environment that inspires excellence and collaboration. My research would not have been possible without DaMBIC*", stresses Vinay. The series also highlights **Andrea Mancini, a 27-year-old PhD researcher in the Cell Stress and Survival (CSS) group at the Danish Cancer Institute (DCI).** Andrea's research project applies automated high-throughput microscopy to investigate cellular processes using the Carl Zeiss Cell Discoverer 7 microscope. Furthermore, a teaser video featuring an upcoming interview with **Trine Schønfeldt, a PhD student in Skin Immunology at the University of Copenhagen**, was included in the DBI newsletter in December 2025. In the QR code you can also find all the interviews with the DBI users in previous years. Furthermore, subscribe to DBI YouTube channel to receive instant updates on our latest videos (https://www.youtube.com/@danishbioimaging).

Danish Cancer Institute
Open access to CD7 high-throughput microscope



Carl Zeiss Cell Discoverer 7 microscope is available through open access at the DCI bioimaging facility, providing researchers with the opportunity to use advanced imaging capabilities for their own projects. Researchers interested in accessing the CD7 at the Danish Cancer Institute can contact Chris Dinant at cdi@cancer.dk

DBI-INFRA Outreach

Together, let's make recognition visible, and standard

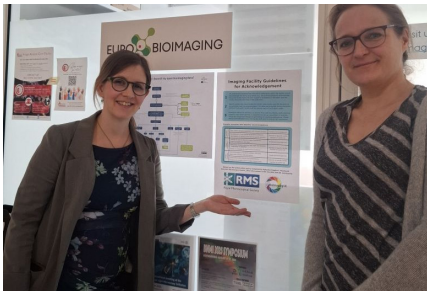
In 2025 Danish BioImaging joined the Global BioImaging social media campaign to raise awareness about proper acknowledgment of imaging facility contributions in scientific research. These guidelines have been developed to help ensure facility staff and imaging scientists, who are often left unacknowledged despite contributing to many aspects of research, get the credit they deserve. Imaging scientists are often deeply involved in research from experimental design and method development to data analysis and manuscript writing, yet too often go uncredited in publications. All our facilities were proud to display the new Acknowledgement Guidelines poster and share an image of the campaign, along with a photo from their facility, on the DBI LinkedIn page. Photos below: **Center for Advanced Bioimaging (CAB)** *Catherine Nielsen, Lab Technician with Sebastian Kjeldgaard-Nintemann, Core Facility Manager Frederiksberg Campus. Nynne Meyn Christensen, Core Facility Manager, North Campus.* **Aarhus BioImaging Core Facility:** *Nina Burmeister, Manager Aarhus Bioimaging Core Facility with Anna Lorentzen, Manager Aarhus Bioimaging Core Facility.* **Core Facility for Integrated BioImaging** *with Ágata Silván Alcaraz, Applications specialist, Light Microscopy and Xiaowen Wang, Multiphoton applications specialist, Light Microscopy. Thomas Hartig Braunstein, CFIB Manager with Tillmann Pape, Senior CryoEM Specialist/Consultant. From* **Danish Molecular Biomedical Imaging Center (DaMBIC)** *Ulla Melchior Hansen, Imaging specialist, with Morten Frendø Ebbesen, Center Manager.*

Center for Advanced Bioimaging
(CAB) Denmark

SDU Syddansk Universitet DaMBIC

Core Facility for Integrated BioImaging
Center for Core Facilities

AARHUS UNIVERSITY
Bioimaging Core Facility



Proper acknowledgement

- Supports career progression
- Justifies funding for vital facility roles
- Promotes a culture of collaboration and fairness

BNMI - Nordic partnerships

International collaboration is an important part of strengthening Danish bioimaging. Through the Bridging Nordic Microscopy Infrastructure (BNMI), Danish microscopy core facilities and researchers are connected with leading facilities and expertise across the Nordic countries. The network facilitates knowledge exchange, access to advanced imaging technologies, joint training activities, and the sharing of best practices, creating opportunities for stronger research collaborations both within the Nordic region and internationally. On August 19-23, *Danish BioImaging attended the 4th Annual Meeting of the Bridging Nordic Microscopy Infrastructure in Gothenburg, Sweden. Below some images from the event.*

At the end of the year, in December 2025, BNMI was granted NOK 5.7 million to support five more years of collaboration and synergies across Nordic microscopy core facilities. The new BNMI-II initiative will build on the existing network and further develop a coordinated Nordic platform for advanced imaging, strengthening scientific impact, international visibility, and the Nordic region's position in bioimaging.

Virtual celebration of the BNMI Board in December 2025, as Bridging Nordic Microscopy Infrastructure was granted NOK 5.7 million for five more years. Morten Schallburg Nielsen, Aarhus University; Jonathan R. Brewer, University of Southern Denmark; and Clara Prats Gavalda, University of Copenhagen, are members of the Board representing Denmark.

DBI-INFRA Collaborations

Globias

BIOMERO & FAIR Bioimage Analysis Hackathon

The Global BioImage Analysts' Society (GloBIAS) aims to be a worldwide association that brings together all those interested in bioimage analysis. The society enables learning and knowledge exchange between members by a number of different tools, such as online events, in-person workshops and online repositories. In 2025 Tricia Loo and Julia Mertesdorf attended the second in-person GloBIAS Bioimage Analysis Conference 2025 (Oct 26-31) in Kobe, Japan. The event brought together bioimage analysts, researchers and software developers working on bioimage data management, workflow platforms, and computing infrastructure, with the goal of improving interoperability and scalability in bioimage analysis. Additionally, the hackathon was centered around the idea of running FAIR bioimage analysis workflows on FAIR data, i.e. making image analysis workflows Findable, Accessible, Interoperable, and Reusable, and how these can be connected to high performance computing infrastructure. A key motivation was that in practice, image data, analysis workflows, and computing infrastructure are often disconnected, which makes large-scale, reproducible analysis difficult and hard to access for life scientists. At the core of the hackathon was the platform BIOMERO, which aims to connect FAIR image data management with scalable workflow execution. One of the main goals was to deploy BIOMERO on top of the SSBD OMERO server at the RIKEN institute, enabling FAIRly shared bioimage datasets to be processed using standardized, containerized workflows. Overall, the hackathon showed that it is already possible to connect FAIR image datasets with reproducible, containerized workflows and run them at scale on HPC infrastructure, while also making clear that there are still open challenges around interoperability, usability, and long-term sustainability. Building on these promising results, the IACF plans to stay actively involved in this work and has started setting up a local BIOMERO instance together with CFIB, the Facility for Integrated Bioimaging in Copenhagen.

DBI-INFRA Director, Clara Prats, is a member of the Global BioImage Analysis Society (GloBIAS) Steering committee. GloBIAS is funded by the CZI Foundation, and is working to create a Society to gather the bioimaging community at the global level.

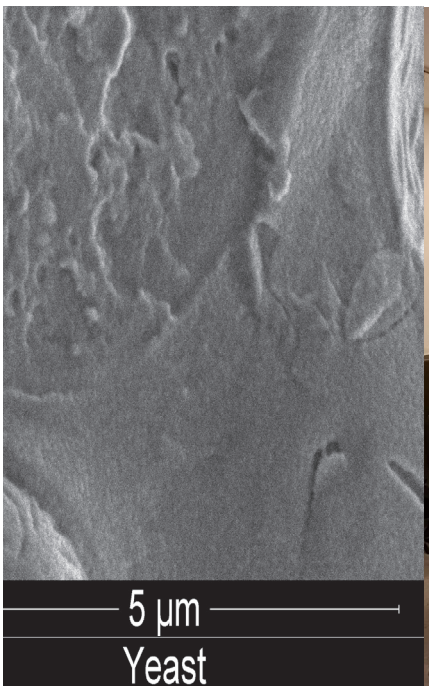
Attending the GloBIAS Bioimage Analysis Conference 2025 (October 26–31) in Kobe, Japan, helped IACF stay connected internationally and gain a better overview of emerging tools, standards, and interoperability efforts in bioimage analysis. Image below: Julia Mertesdorf from IACF with participants attending the hackathon.

Euro-BioImaging

Euro-BioImaging is the European Research Infrastructure Consortium (ERIC) for biological and biomedical imaging. Established as an ERIC in 2019, it is a distributed Research Infrastructure that brings together leading imaging facilities across Europe. These facilities, grouped together as Euro-BioImaging Nodes, provide researchers with open access to state-of-the-art imaging technologies, image analysis services, training, and expert support throughout the research lifecycle. The Euro-BioImaging ERIC infrastructure is coordinated by the Euro-BioImaging Hub, which supports and connects the Nodes through central services, including user access management, image data services, policy and advocacy activities, and community and capacity building initiatives. Danish BioImaging joined Euro-BioImaging as a mixed Node in 2021. Through Euro-BioImaging, Danish BioImaging provides open access to its imaging technologies and expertise and is connected to the European Research Area. In addition, Euro-BioImaging ERIC membership provides collaboration opportunities with a vibrant international community of imaging facilities, facilitating professional development and technology knowledge exchange for Danish BioImaging staff. The Euro-BioImaging Expert Groups help increase collaboration and connections between Euro-BioImaging Nodes and provide opportunities to share and advance knowledge on relevant topics. Node staff from Danish BioImaging are actively involved in five of Euro-BioImaging's Expert Groups: Plant Imaging, Preclinical in vivo imaging, Image data, Data Stewards and Communications.

EU Funded Projects - PRIMTECH-3R

Developing new technologies and services for Research Infrastructures is a key priority. In the PRIMTECH-3R project, Euro-BioImaging is partnering with fellow ERICs Infrafrontier and BBMRI. The team of Morten Nielsen from Aarhus University, part of the Danish BioImaging Node, are project partners, contributing to the development of a model for respiratory infections with high-throughput microscopy and analysis in collaboration with the Infrafrontier center in France (CIPHE).



In 2025, two of Euro-BioImaging's Scientific Ambassadors were based in Copenhagen. Scientific Ambassador Lieke Stockmann interviewed Cristiano di Benedetto, a microscopy specialist at the Core Facility for Integrated Microscopy Bioimaging (CFIB).

DBI-INFRA Collaborations

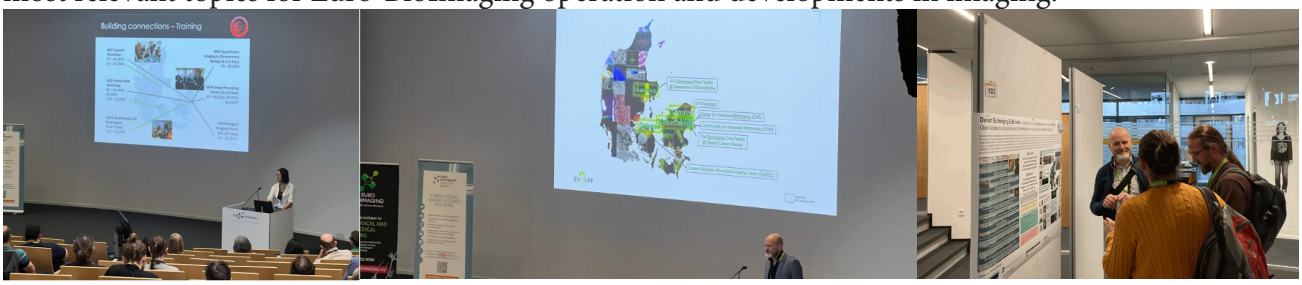
Euro-BioImaging

EVOLVE Mentoring programme

In 2025, Danish BioImaging's Mette Hauge Lauritzen, Lab Manager at the Technical University of Denmark's new pre-clinical radioisotope imaging facility, participated Euro-BioImaging's EVOLVE Mentorship Programme. She was paired with Professor Harish Poptani from the University of Liverpool's UK Node. Through this cross-border mentoring relationship, Mette gained practical guidance on establishing and managing a state-of-the-art imaging facility, including laboratory design, safety procedures, user communication, strategic planning and leadership.

All Hands Nodes Meeting at EMBL

The Euro-BioImaging All Hands Nodes meeting took place in person at EMBL Heidelberg from March 25-28, 2025. The aim of the annual All-Hands'meeting is to bring together scientists from the Euro-BioImaging Nodes to meet each other, encourage interdisciplinary collaborations, and to discuss most relevant topics for Euro-BioImaging operation and developments in imaging.

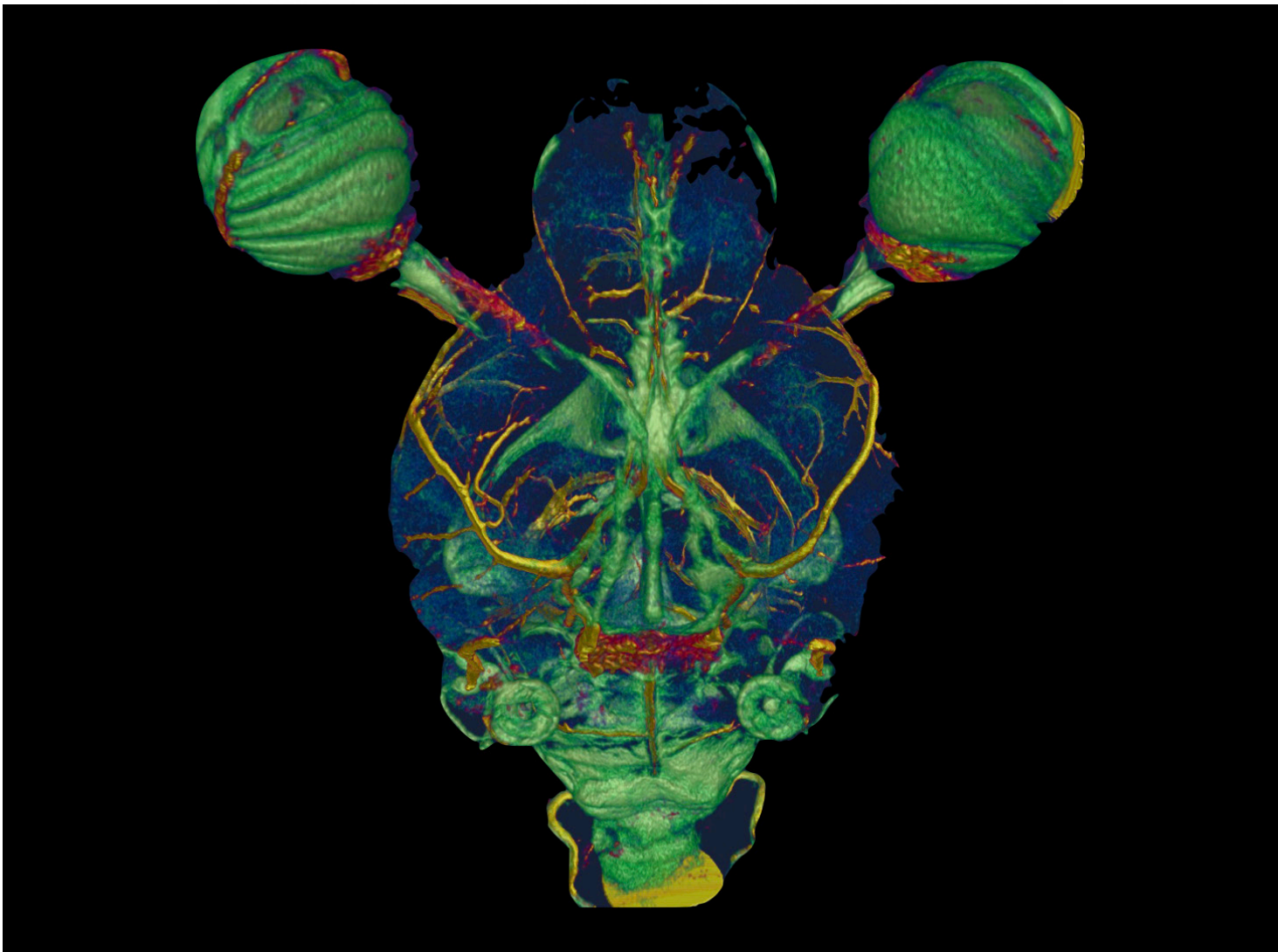


Danish BioImaging participated actively in the Euro-BioImaging All Hands Nodes meeting at EMBL Heidelberg from March 25-28, 2025. Middle of the image: Thomas Hartig Braunstein, CFIB Core Facility Manager and Chair of the Danish Node in Euro-BioImaging showcases how is the user access experience at the Danish Bioimaging Node. Upper left of the image: Tricia Loo, from DBI INFRA IACF, presents the status of the implementation of the IACF services and take-home learnings from implementing image analysis open-access services in Denmark. Image below: group photo at EMBL.

Industrial Collaborations

THANKS TO OUR INDUSTRIAL PARTNERS IN THE DBI NETWORK

Miltenyi Biotec, Revvity, Ramcon, Triolab, Leica, Zeiss, Visiopharm, and BioNordika.



DBI-INFRA Strategy

Towards technology excellence, impact and long-term sustainability

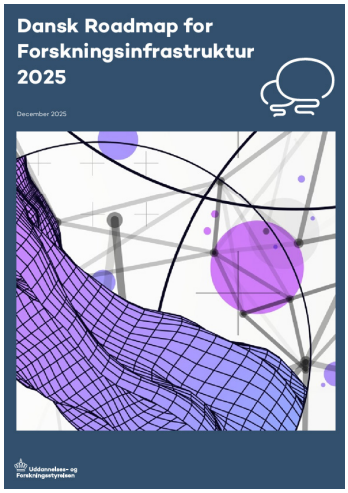
The DBI-INFRA Strategic Plan towards technology excellence and long-term sustainability (2025-2030), includes four strategic pillars: **1)** we need to integrate/connect technology and method development into our facilities, **2)** we need to secure stable funds to support excellent open-access bioimaging infrastructures, **3)** our services need to be visible and accessible to all bioimaging life science communities, and **4)** we need a fundraising strategy aligned with our long-term financial sustainability plan.

The first pillar focuses on integrating technology and method development into the national core facilities, ensuring that emerging imaging modalities, computational approaches, and image analysis tools are rapidly made available to researchers. Throughout 2025, continued investments in advanced instrumentation, AI-enabled image analysis, multimodal imaging, and collaborative technology development strengthened the scientific capabilities of the network and supported innovative research across the life sciences.

The second pillar addresses the long-term sustainability of the infrastructure through stable funding. During 2025, DBI-INFRA continued to work closely with national funding agencies, universities, hospitals, and European partners to secure sustainable financial support for open-access research infrastructure. Diversifying funding sources remains essential for maintaining technological excellence, supporting highly qualified staff, and ensuring continuous renewal of facilities and services.

Increasing the visibility and accessibility of DBI-INFRA services represents the **third strategic pillar.** Throughout the year, the infrastructure expanded outreach activities, strengthened user engagement, and continued to provide high-quality training, scientific workshops, and expert support to researchers from academia, hospitals, and industry. By lowering barriers to access and fostering interdisciplinary collaboration, DBI-INFRA continues to broaden its user community while promoting best practices in imaging and image data analysis.

The fourth pillar focuses on establishing a long-term fundraising strategy aligned with the infrastructure's sustainability objectives. During 2025, efforts were directed towards developing strategic partnerships with national and international stakeholders, identifying new funding opportunities, and aligning investment priorities with future scientific needs. These activities provide the foundation for maintaining Denmark's leadership position in bioimaging while ensuring that the infrastructure remains responsive to emerging technologies and evolving research challenges.



In December 2025 DBI received the great news that the DBI-INFRA has entered the catalogue for the Danish Research Infrastructures Roadmap 2025 for the renewal of national funding toward major critical upgrades, reinforcing its long-term commitment to supporting cutting-edge life science research in Denmark (DBI-INFRA 2.0). We don't yet know if it will be funded, but it made it into the national roadmap!

THIS ANNUAL REPORT IS A
PUBLICATION OF
DANISH BIOIMAGING INFRASTRUCTURE

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THANKS TO THE DANISH ROADMAP FOR RESEARCH INFRASTRUCTURES 2020 FOR FINANCING

OUR ROADMAP INFRASTRUCTURE

Ministry of Science, Higher Education and Digital Affairs

UNIVERSITY OF COPENHAGEN

AARHUS UNIVERSITET

DTU

Roskilde Universitet

SDU

Danish Cancer Society | RESEARCH CENTER

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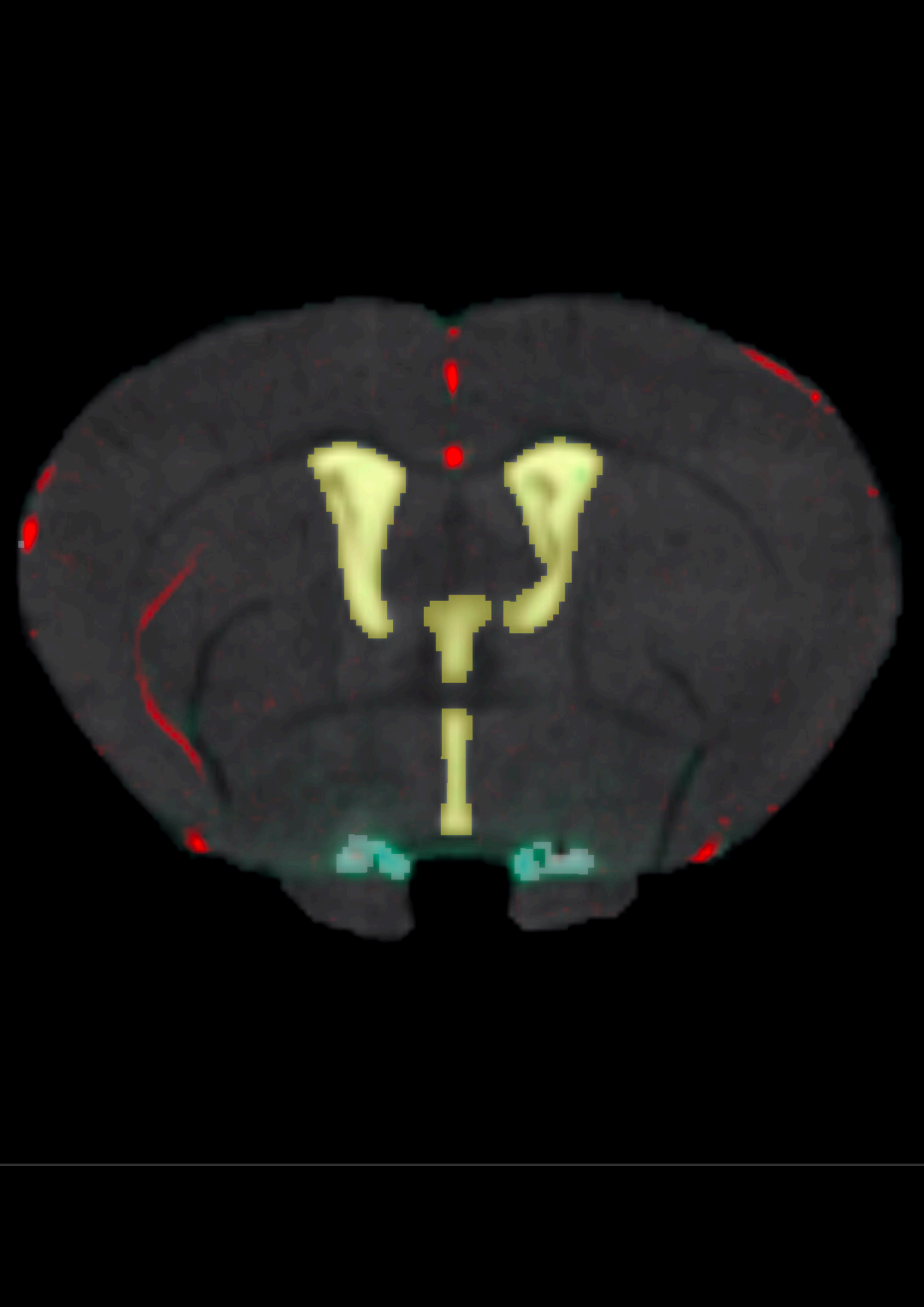

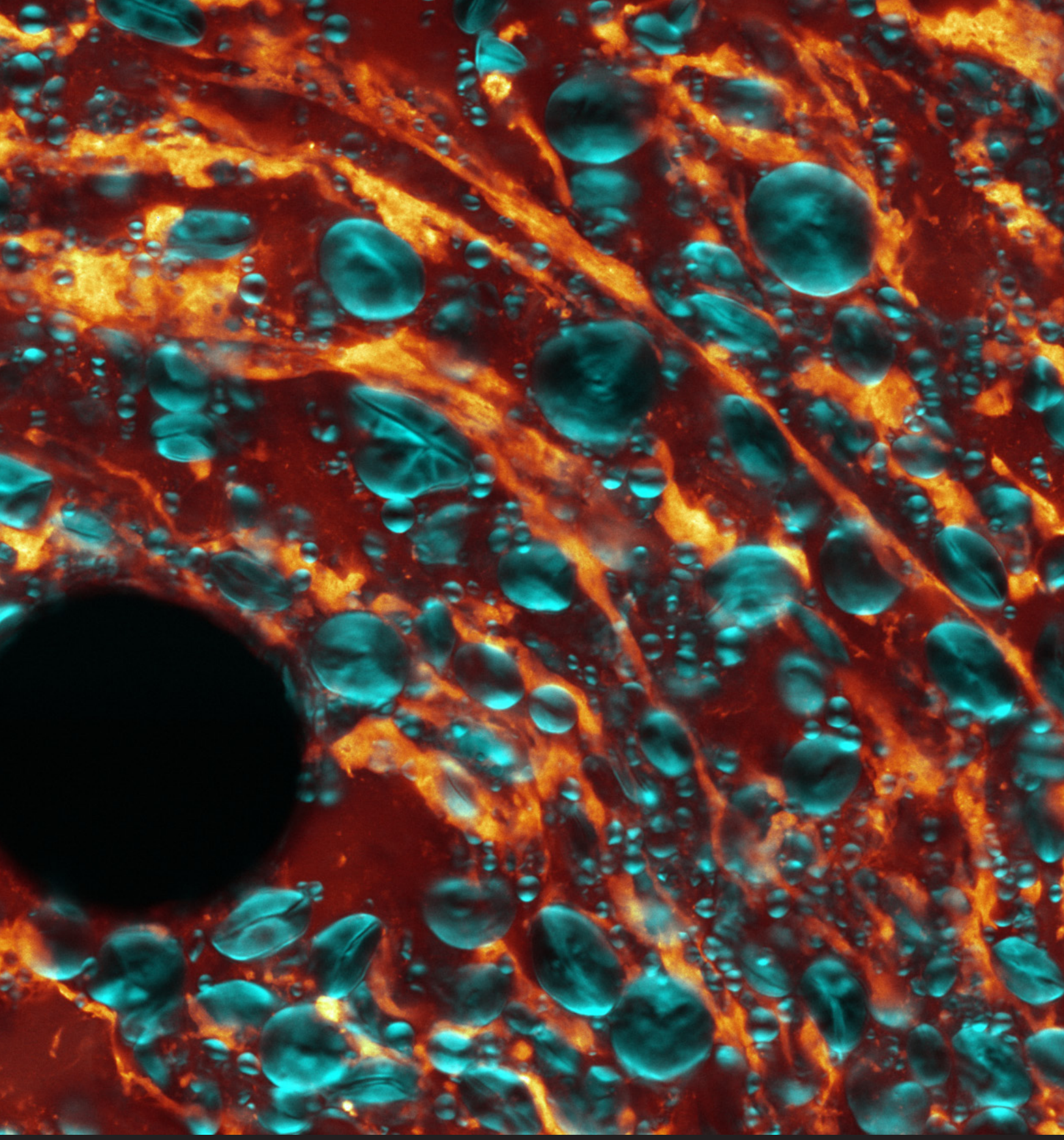

DBI-INFRA

Blegdamsvej 3B,
University of Copenhagen

Website
www.dbi-infra.eu

Email
clara.prats@sund.ku.dk
sonia.garcia@sund.ku.dk

Front cover: Half mouse kidney labeled for Podocin and cleared with ECi. Hanne Duus Laustsen from CFIB.
Inside: Image taken at the NMR Platform
Back cover: Winning image of the 2025 Danish BioImaging Microscopy Image Contest, by Jens Saalbrink.