



UMCG:

Data Science Center in Health



Accelerate. Connect. Embed.

2025 in Review

Key developments, milestones and insights

2025 marked a year of strengthening and acceleration for DASH. Where previous years focused on building and positioning, this year was dedicated to further embedding data science and AI within UMCG. These are no longer experimental topics, but integral to research, education and training, and healthcare.

With the launch of UMCG's Koers30 strategy 'More healthy years for everyone', the importance of data, technology & AI has been firmly established. In this context, the DASH programme (2022–2025) concluded, laying the foundation for a new 2026–2028 programme focused on data-driven innovation and applied AI for future-proof healthcare.

DASH supports the development and implementation of AI that is effective, scientifically robust and compliant, organised across five strategic lines: machine learning & AI, (clinical cohort) data, clinical applications of AI, eHealth/digital health, and Ethical, Legal and Societal Aspects (ELSA).

In 2025, DASH actively addressed a critical challenge: only a small proportion of AI solutions reach clinical practice. By integrating research, technical innovation, and ethical and legal considerations from the outset, we invested our efforts into bridging the implementation gap. At the same time, other key achievements included advancing a UMCG-wide, basic AI-/digital literacy programme and securing funding, and contributing to the realisation of funding for an AI Factory in the Northern Netherlands.

This annual report highlights these efforts across three pillars: research, education, and impact, and looks ahead to 2026, where DASH will continue to drive innovation, strengthen AI- and digital literacy, and build a secure and compliant data science infrastructure in close collaboration with partners.

Michiel Hooiveld
Programme Manager DASH



[More information about our team and activities](#)

DASH is (co-)funded by the sector plan for Medicine and Health Sciences, theme 'Data-driven innovation' of the Ministry of Education, Culture and Science.

From model development to implementation

In 2025, DASH further shifted its focus from model development towards validation, reproducibility, and real-world implementation. The emphasis was on ensuring that research outputs can be translated into meaningful impact in healthcare practice.

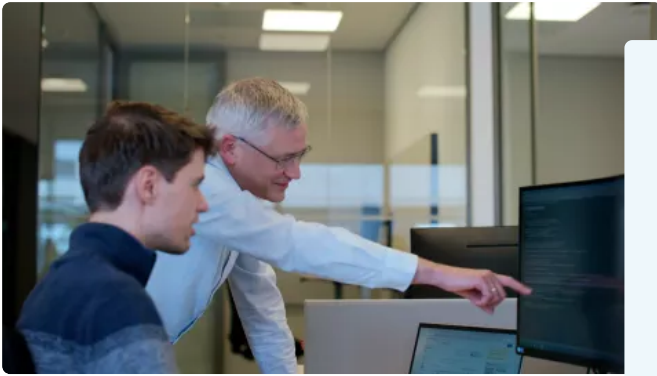
Hands-on experience for researchers

Researchers gained practical experience through a range of initiatives focused on applied data science and safe experimentation. A key development was the creation and evaluation of synthetic datasets with controlled privacy risks. These datasets enable experimentation and education without exposing patient-level data. By the end of 2025, a synthetic dataset based on the TransplantLines cohort was developed for educational use, allowing students to practise statistical methods in a secure environment.



Advancing clinical training with generative AI

In collaboration with Ligia Cayres Ribeiro and partners, Noha El-Baz and Rozemarijn Vliegthart contributed to a publication on generative AI for clinical reasoning education. The work focuses on synthetic patient vignettes derived from real questionnaire data, supporting clinical training while preserving privacy.



Research tools workshops

DASH also organised research tools workshops, offering interactive sessions on practical IT support, data infrastructure, and the application of data science and AI methods. These workshops allowed PhD candidates and researchers to immediately apply new methods in practice, while also strengthening collaboration across research groups.

Collaboration and ecosystem building

DASH worked closely with partners including the Cohort and Biobank Coordination Hub (CBCH), Datapoort, the Applied AI programme, the Digital Competence Center (DCC), and Lifelines. These collaborations strengthen data availability, infrastructure, and responsible use of health data.

Selected DASH project

The DASH project '*AI-Driven Metabolomics: Enhancing Inborn Metabolic Disease Screening*' by Joost Groen was selected in 2025, illustrating the growing focus on applied AI in clinical screening and diagnostics.

” A highlight for me in 2025 was setting up the research tools workshop with colleagues and running a successful pilot. Looking ahead, I hope to see more insights into how we can bring research into clinical practice.



Tanja de Vries
Data scientist

Key highlights:

- Development of synthetic datasets with controlled privacy risks
- TransplantLines dataset adapted for education and training
- Research tools workshops supporting hands-on data science application
- Continued development of secure AI research cloud environment
- Strong collaboration with CBCH, Datapoort, DCC, Lifelines, and Applied AI programme
- Selected DASH project on AI-driven metabolomics for metabolic disease screening

” Generating a synthetic dataset for educational use was a highlight of 2025. It allows students to learn safely, and in 2026 I aim to expand this approach to other datasets within DASH.



Alexandre Uliana

Data scientist

In 2025, DASH advanced AI readiness among students and professionals. In line with the European AI Act, DASH developed a UMCG-wide vision on AI and digital literacy and integrated data science and AI into bachelor, master, and postgraduate programmes.

Embedding digital health and AI in education programmes

During the 2024–2025 academic year, digital health education was successfully integrated across medicine, dentistry, master's, research master's, and PhD programmes. Approximately **400 first-year medical students** were introduced to generative AI within evidence-based medicine, attended a 'Doctor and AI' lecture (covering fundamentals and ELSA aspects), and engaged with the AI+ Hospital module and an eHealth lecture and assignment. Third-year students received an introduction to machine learning in clinical decision-making.

At master's level, **30 students** participated in the AI+ Hospital game and workshop on Large Language Models (LLM), while **15 research master's students** followed a new health data science course alongside LLM training. Digital health and AI competencies were also embedded in the first-year dentistry curriculum (**44 students**). At PhD level, hands-on sessions and LLM workshops reached around **100 participants**. In 2025, several supporting e-learning modules were developed, including content on AI in healthcare, the AI+ Hospital module, and guidance on generative AI use, with an eHealth module in progress.



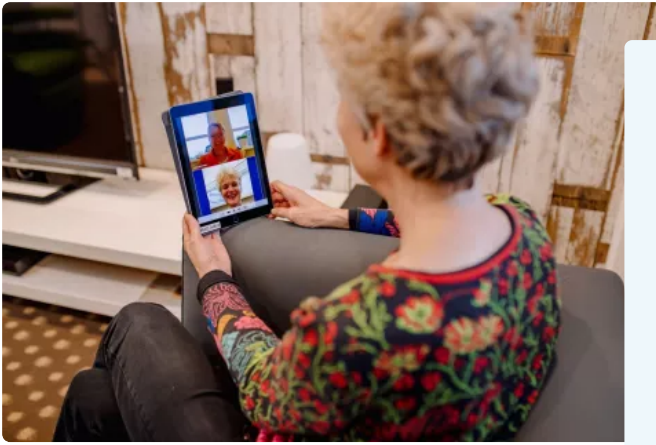
Expanding AI training

Beyond formal education programmes, DASH also expanded AI training through several initiatives. During the Exquairo bootcamp, a six-week programme for clinician-scientists and biomedical researchers, training was provided in AI for medical imaging and responsible AI. The summer school focused on synthetic data, data cleaning, and responsible AI. Participation in the eHealth course 'Technology in Healthcare: eHealth from Concept to Care' doubled compared to 2024.

Engaging younger audiences

DASH also contributed to science outreach and early engagement with technology. At the Zpannend Zernike science festival in Groningen, children and families explored science in an interactive setting. In addition, the Science Truck programme 'Your Technology of Tomorrow' introduced primary school pupils in the Netherlands and Germany to AI and machine learning, making emerging technologies accessible from an early age.





Societal application and collaboration

Digital health education was further strengthened through teaching and workshops for students, professionals, and patients. Activities included guest lectures, courses, and workshops on innovation management and eHealth implementation. Beyond academia, DASH engaged patient organisations and communities through hands-on workshops on digital healthcare tools such as telemonitoring and health apps, including Public Health Internship activities in community centres. Collaboration with Noorderpoort College further supported community-based digital assistance and interdisciplinary student collaboration.

AI+ hospital serious game

A key educational innovation is the AI+ Hospital serious game, developed in collaboration with 8D Games. The game is used in workshops with students and healthcare professionals to stimulate discussion on the ethical and practical use of AI in hospital settings. One of these sessions took place during the SURF Education Days 2025, contributing to dialogue on the role of AI in healthcare education and practice.



” It is rewarding to help people understand AI’s potential in healthcare and discuss how technology can improve care.



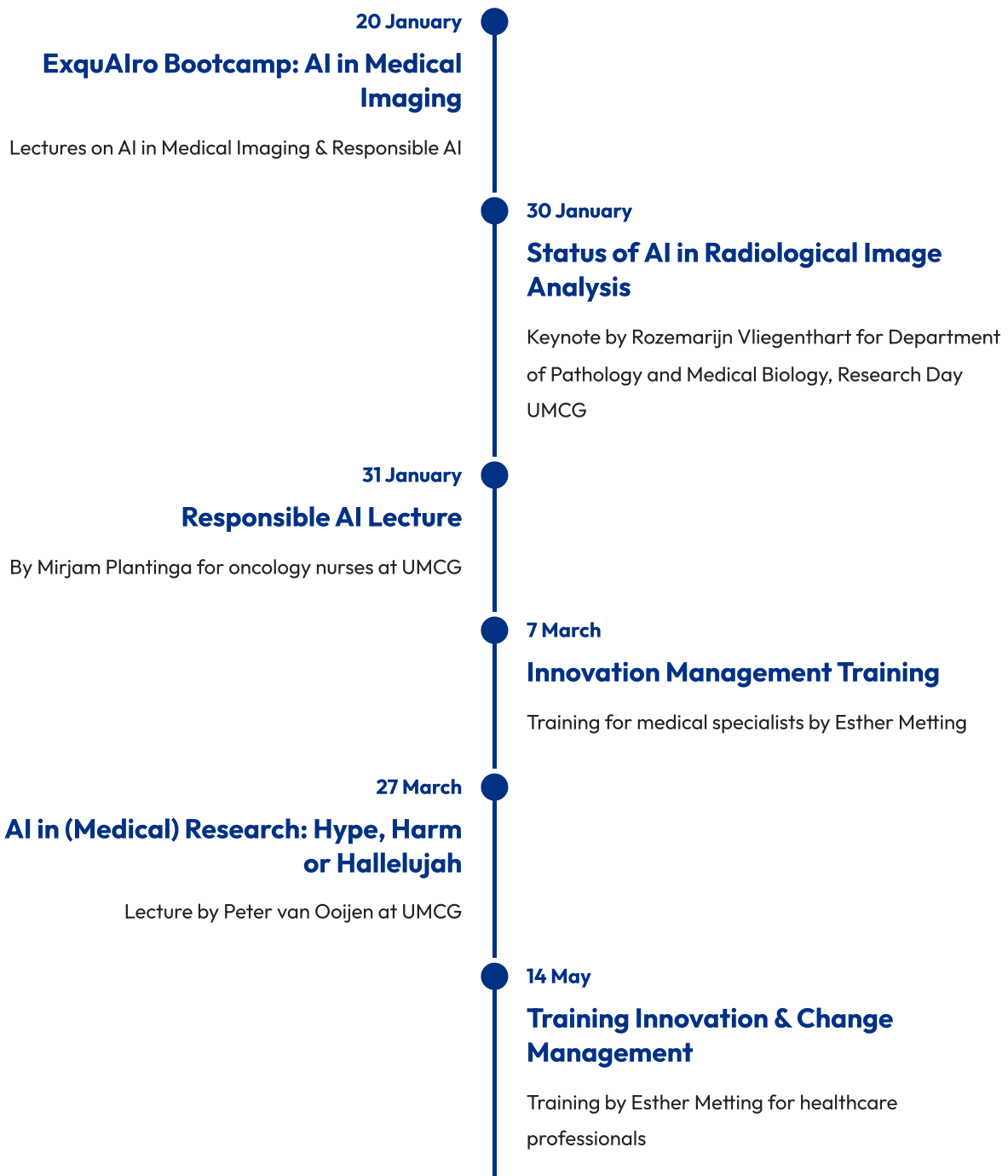
Rik Wisselink-Bijker

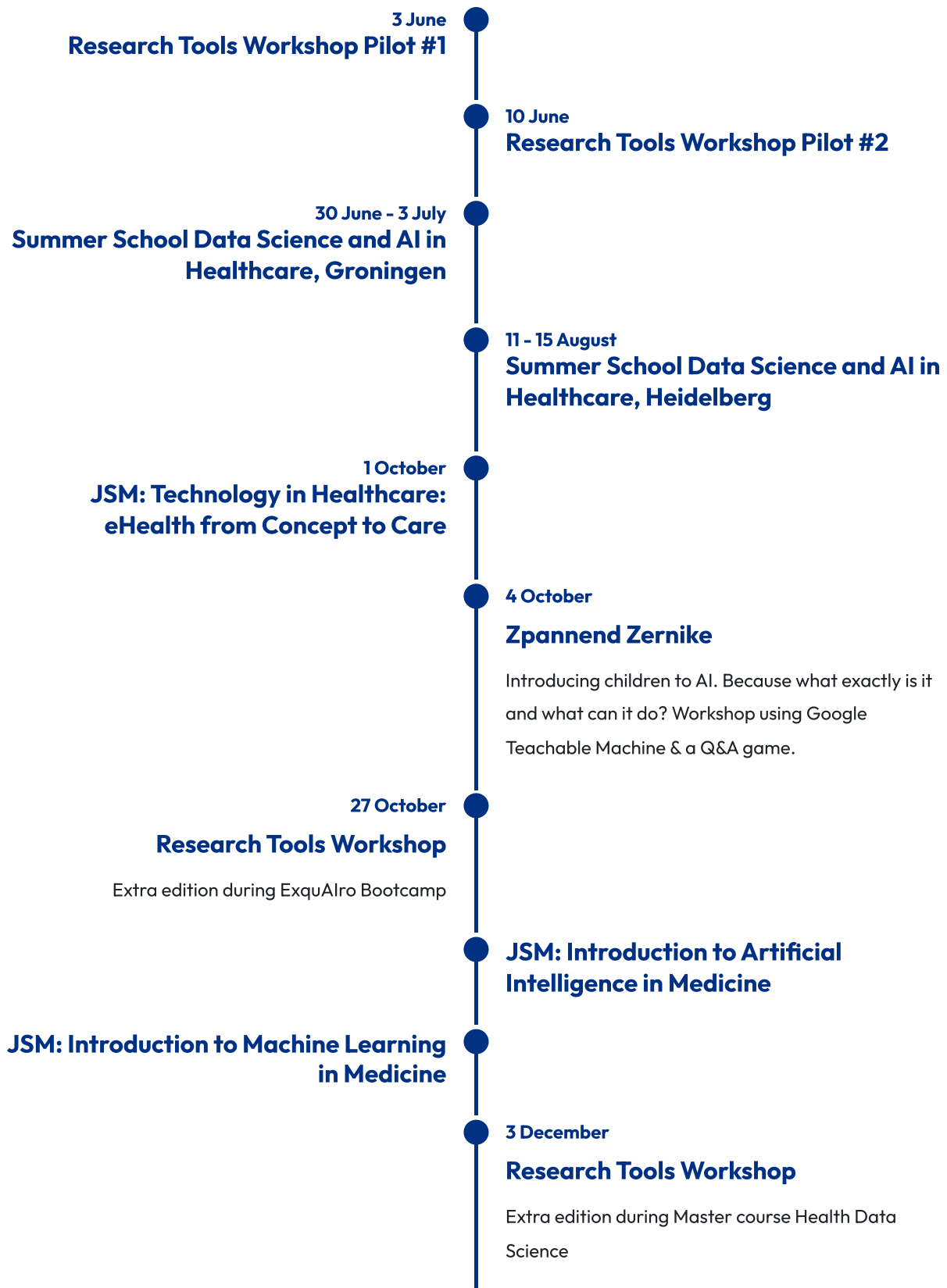
AIProHealth coordinator and lecturer AI in health

Key highlights:

- Integration of digital health across medicine, dentistry, master's, research master's, and PhD programmes
- Over 400 first-year medical students trained in AI and digital health
- Around 100 PhD participants in AI and LLM workshops
- Doubled participation in the eHealth course
- ExquAlro bootcamp and summer school focused on AI and responsible AI
- Strong outreach through Zpannend Zernike and the Science Truck programme
- Expanded collaboration with educational and community partners

Education in 2025





18 December ●

AI in UMCG Symposium

Contributions from Michiel Hooiveld, Job Doornberg and others, hosted by Bart Scheerder. An event exploring the integrated AI landscape at the UMCG.

Not a series of isolated initiatives, but a single, continuous journey from idea to impact.

From innovation to sustainable change

In 2025, DASH focused on translating AI and digital health innovations into sustainable improvements in healthcare. This was achieved by connecting research, clinical practice, and society through events, collaborations, and applied projects.

Connecting communities around AI and digital health

DASH organised two *DASH Connect* meetings, accessible gatherings on AI, data science, and eHealth that brought together participants ranging from students to researchers. These sessions included interactive discussions on topics such as eHealth implementation and AI inclusivity.

Together with Hanze University of Applied Sciences, DASH also co-organised the AI Community Symposium, focusing on the integration of AI in healthcare across multiple domains.

In addition, DASH contributed to the national *Smart Care Relay*, a travelling programme on healthcare innovation featuring interactive workshops on generative AI, personalised digital tools, and broader healthcare digitalisation.

Digital Healthcare Cafés

To support hands-on learning and experience sharing, DASH organised multiple *Digital Healthcare Cafés* in collaboration with Noorderpoort College and Forum Groningen. These sessions allowed participants to exchange experiences, identify barriers, and practise using digital health tools such as patient portals and video consultations.



Engaging the public and younger audiences

DASH invested in public engagement and education to increase understanding of AI and healthcare technology among younger audiences. At *Zpannend Zernike*, children were introduced to the basics of AI and machine learning through interactive workshops. The Science Truck programme visited schools across the Netherlands, providing pupils with insights into both the possibilities and limitations of AI and data science in healthcare.

Collaboration and Community

In collaboration with ELSA-NN, DASH organised public lectures on medical AI and inclusivity. DASH also contributed to the *AI in Healthcare at UMCG* symposium (18 December 2025), highlighting current developments in applied AI.



Digital Healthcare Community

The [Digital Healthcare Community](#) continued to serve as a platform bringing together faculty, students, clinicians, and external stakeholders. Through seminars, interactive sessions, and networking events, the community supports interdisciplinary collaboration at the intersection of AI and medical sciences. Originally established within the Jantina Tamme School, the community is increasingly aligned with DASH, with a formal transition planned for 2026.



Key projects and societal impact

Several initiatives contributed to the broader goal of improving accessibility and inclusion in digital healthcare. A key example is the *Living Lab Accessible Digital Healthcare*, part of [Nationaal Programma Groningen](#), coordinated by UMCG. This project focuses on improving the implementation and usability of digital healthcare technologies for professionals, IT companies, and end users in the region.

Making eHealth more accessible

Other important contributions include the Veni project by Esther Metting, which aims to make eHealth more accessible for people with limited digital skills, particularly those with chronic conditions. The Citrien-3 programme *Digital Inclusion in Healthcare* addresses barriers in the use of patient portals and develops co-created solutions that are shared nationally.

Dutch AI Factory

DASH played an active role in strengthening the regional AI ecosystem and contributed to the successful development of the Dutch AI Factory initiative by supporting meetings with municipal stakeholders from Groningen and Oldambt, as well as organising a working visit for the Province of Groningen on applied (generative) AI at UMCG.



AI Hub Northern Netherlands

In addition, DASH collaborates closely with the AI Hub Northern Netherlands. In 2025, this hub received a €3 million grant from the European Regional Development Fund via the Northern Netherlands Partnership (SNN), further strengthening the regional AI network of researchers, companies, and government organisations.

” The highlight of 2025 was receiving the green light for the Dutch AI Factory! It is a cohesive ecosystem of data, infrastructure, governance, and talent that drives scaling and strengthens our ecosystem.

Bart Scheerder

Business developer

Key highlights:

- DASH Connect meetings and AI Community Symposium with Hanze UAS
- Smart Care Relay sessions on AI, eHealth, and digital innovation
- Digital Healthcare Cafés with Noorderpoort College and Forum Groningen
- Outreach via Zpannend Zernike and Science Truck programme
- Public lectures with ELSA-NN on AI and inclusivity
- Strengthening of the Digital Healthcare Community
- Living Lab Accessible Digital Healthcare
- Veni project on eHealth accessibility and Citrien-3 programme on digital inclusion
- Contribution to Dutch AI Factory development and regional AI ecosystem

23 January

AI in Healthcare... Much Ado About Nothing?

Keynote by Peter van Ooijen during symposium 'Van Data naar Daadkracht' at ISALA Hospital, Zwolle.

30 January

AI in Medical Imaging

Lecture by Peter van Ooijen at the Radiology Quality Evening, Martini Hospital Groningen.

30 January

Status of AI in Radiological Image Analysis

Keynote by Rozemarijn Vliegenthart at UMCG Department of Pathology and Medical Biology Research Day 2025.

10-14 February

Inclusive Medical AI

Workshop by Mirjam Plantinga at Lorentz Center, Leiden.

28 February

AI Theatre on AI and Cybersecurity

Introduction by (Chair) Peter van Ooijen at ECR 2025, Vienna, Austria.

20 March

AI in Healthcare

Lecture by Peter van Ooijen at refresher course at the Rob Giel Research Centre.

27 March

Annual Meeting Amsterdam Movement Sciences

Keynote by Job Doornberg on 'Clinical Applications of Artificial Intelligence in Orthopaedic Surgery' in Amsterdam.

2 April

Mayor's working visit to the UMCG on AI in Healthcare & AI Factory

Contributions from, among others, Michiel Hooiveld and Job Doornberg

11 April

International Primary Care Respiratory Group

Presentations by Esther Metting on 'Culture Matters: Cross-Country Comparison of Technology Acceptance' and 'Designing a Decision Support System for Tailored eHealth Solutions'.

8 May

Responsible AI

Lecture by Mirjam Plantinga at AI Regional Tour.

8 May

AI in cardiothoracic imaging: ready for clinical implementation?

Presentation by Rozemarijn Vliegenthart at McMaster International Review Conference in Internal Medicine, Krakow.

14 May

Responsible AI for Seniors

Lecture by Mirjam Plantinga in Tolbert.

22 May

Surgeons' Days 2026

Keynote by Job Doornberg on 'Complex Elbow Fracture-Dislocations made Stupid Simple: It's All About the Coronoid' at Nieuwegein, The Netherlands.

20 June

AO Trauma Masters Course: 3D Osteotomies for Posttraumatic Deformities

Lecture by Job Doornberg on '3D Guided Intra-Articular Osteotomy for Tibial Plateau Malunion' in Groningen.

20 September

1st Frontiers in Orthopaedic Research and Translation

Keynote by Job Doornberg in Hong Kong, China.

1 & 2 October

Rimasys Tibia Pilon Course

Lecture on 'Complications of Complex Tibia Pilon Fractures' by Job Doornberg in Cologne, Germany.

11 October

From Pixels to Predictions

Lecture by Peter van Ooijen at EuSoMII Annual Meeting, Heraklion, Crete.

12 November

1st Annual Symposium Harvard-Holland Combined Orthopedic Research Collaboration

Job Doornberg as Chair at de Waag in Amsterdam.

13 November

The Pros and Cons of AI in Healthcare

Lecture by Peter van Ooijen at Conference 'Trends in Head and Neck Oncology' in Faro, Portugal.

2 December

Working visit of the Province of Groningen

On Applied (Gen)AI at the UMCG and the importance of a AI Factory for the Northern regio with presentations of Stephanie Klein Nagelvoort Schuit, Rosanne Schoonbeek , Esther Metting, Bart Scheerder, Michiel Kahmann and Wim Smit.

3 December

Lecture at Dissection Course for Residents 'Coronoid Fracture Patterns'

Lecture by Job Doornberg at the UMCG.

4 December

Collaboration in the Dutch ELSA Lab Community: Experiences and Insights

Workshop by Mirjam Plantinga on ethical, legal, social impact/aspect research frameworks: Towards an ELS-X Research Community in Europe. At Karlsruher Institute for Technology.

15 December

Annual PA!N-Congres

Keynote on the Clinical Applications of Artificial Intelligence by Job Doornberg in Veenendaal.

Want to know more?

Want to stay up to date with the latest news and developments, or learn more about our team and activities? Visit our website.

Visit our website 