

SAIMI

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UNIVERSITÄT
BERN

Symposium on AI in Medical Imaging

Thursday 18 JUNE 2026 | 08:30 - 18:30

5003 Hörsaal, UniS | Schanzeneckstrasse 1 | 3012 Bern



Agenda

REGISTRATION

08:30 - 09:15

WELCOME & OPENING

09:15 - 09:30

09:15 Prof. Lisa Koch University of Bern, Albora de Pablo Peña University of Bern

KEYNOTE

09:30 - 10:15

09:30 Prof. Julia A. Schnabel Helmholtz Munich, TUM, Germany
"Medical Foundation Models"

LIGHTNING TALKS

10:15 - 11:00

Moderated by Tim Flühmann

10:15 Olga Trofimova, UniL, "Deep learning aging marker from retinal images unveils sex-specific clinical and genetic signatures"

10:22 Daniel Frey, TUM, "A Physics-guided Implicit Neural Representation for Streak Reduction in X-ray Dark-field CT"

10:29 Paul Friedrich, UniBas, "MedFuncta: A Unified Framework for Learning Efficient Medical Neural Fields"

10:36 Julia Wolleb, Yale University, "Low-Rank-Modulated Functa: Exploring the Latent Space of Implicit Neural Representations for Interpretable Ultrasound Video Analysis"

10:43 Jérôme Schmid, HES-SO, "Robust multimodal deep learning for medical image diagnosis"

10:50 Susu Sun, Uni Tübingen, "ProtoMIL: Prototype-Based Multiple Instance Learning for Gigapixel Whole Slide Image Classification"

11:00 - 11:15 COFFEE BREAK & POSTER SETUP (SESSION 1)

INTERACTIVE SESSION 1: FOYER + A19 + A24

11:15 - 12:00

11:15 Industry Booths: AKROS AG, Amazon Web Services, RetinAI, ImFusion
Poster Session 1

12:00 - 13:00 LUNCH BREAK KINDLY SPONSORED BY 

KEYNOTE

13:00 - 13:45

13:00 Prof. Ender Konukoglu ETH Zürich, Switzerland
"Uncertainty quantification in medical image computing"

LIGHTNING TALKS

13:45 - 14:30

Moderated by Anna Wundram

13:45 Henrique Romão, CERN, "DeCAF: A Decentralised Compliance Assessment Framework for Medical Imaging"

13:52 Susanne Schaub, UniBas, "3D CBCT Artefact Removal Using Perpendicular Score-Based Diffusion Models"

13:59 Dondu-Busra Bulut, UniL, "PRIME-SVR: Physics-infoRmed Implicit Multi-Echo Slice-to-Volume Reconstruction for Fetal Brain T2 mapping"

- 14:06** **Maria Monzon**, ETHz, *"BE INDISCRETE: THE BENEFITS OF LEARNING CONTINUOUS SPINE DEGENERATION SEVERITY SCORES"*
- 14:13** **Jihe Li**, UniBe, *"DoMa-Seg: Dose Map Guidance for Medical Image Segmentation in Head and Neck Radiotherapy"*
- 14:20** **Linda Wermelinger**, HSLU, UniBas, *"A Systematic Comparison of Pretrained Visual Representations for Dermatologic Concept Encoding"*

14:30 - 14:45 COFFEE BREAK KINDLY SPONSORED BY  **AKROS**
& POSTER SETUP (SESSION 2)

INTERACTIVE SESSION 2: FOYER + A19 + A24

14:45 - 15:30

14:45 Industry Booths: AKROS AG, Amazon Web Services (AWS), RetinAI, ImFusion
Poster Session 2

KEYNOTE

15:30 - 16:15

15:30 **Prof. Meritxell Bach Cuadra** UNIL, CHUV, Switzerland
"Trustworthy Medical Image Analysis"

IMPULSE TALKS BY PANELISTS

16:15 - 16:35

16:15 **Kristina John** AKROS AG

16:20 **Dr. Christoph Russ** Amazon Web Services (AWS)

16:25 **Dr. Sandro de Zanet**, RetinAI

16:30 **Prof. Dr. Dr. med. Christoph Gräni**, University of Bern

PANEL DISCUSSION

16:35 - 17:00

Moderated by Albora de Pablo Peña

16:35 **Kristina John**, AKROS AG

Dr. Christoph Russ, Amazon Web Services (AWS)

Dr. Sandro de Zanet, RetinAI

Prof. Dr. Dr. med. Christoph Gräni, University of Bern

AWARDS & CLOSING

17:00 - 17:15

17:30 - 18:30 NETWORKING APÉRO

350m / 5min walk
Gesellschaftsstrasse 2
3012 Bern

Keynote Speakers



Prof. Dr. Julia A. Schnabel

Director of the Institute of Machine Learning in Biomedical Imaging, Helmholtz Munich

Prof. for Computational Imaging and AI in Medicine, Technical University of Munich

Prof. Schnabel's research interests include the topics of image reconstruction, registration, segmentation, classification and image quality control, using machine/deep learning, with applications in motion reconstruction and image compounding, physics-informed modelling, representation learning and anomaly detection, multi-organ segmentation, multimodality imaging and data integration, applied across imaging modalities (MRI, CT, PET, ultrasound, X-ray, optical imaging) and different diseases and conditions, ranging from neuroimaging, over cardiovascular imaging and perinatal imaging, to oncological imaging, for screening, early detection and treatment stratification.

Keynote talk: "Medical Foundation Models"



Prof. Dr. Ender Konukoglu

Department of Information Technology and Electrical Engineering, ETH Zürich

Prof. Konukoglu's research focuses on developing computational and machine learning methods for biomedical image analysis. The core aims are to extract semantic information from medical images, perform quantitative measurements and enable population-level comparisons in service of improving diagnosis, treatment and clinical research. His work spans a range of interconnected areas, including medical image segmentation, uncertainty quantification and anomaly detection, as well as AI-driven approaches for improving medical image acquisition and analysis.

Keynote talk: "Uncertainty quantification in medical image computing"



Prof. Dr. Meritxell Bach Cuadra

Faculty of Biology and Medicine, University of Lausanne

Head of the CIBM Signal Processing CHUV, University of Lausanne

Prof. Bach Cuadra's team addresses challenges such as image quality assessment, super-resolution, registration, detection, segmentation and normative modelling with direct applications in computer-aided diagnosis and therapy planning. The group maintains a strong emphasis on translational research through collaborations with clinical partners in radiology, neurology, oncology, neuroscience and psychiatry. To support clinical integration, their methods are developed in alignment with emerging regulatory requirements for trustworthy and explainable AI in healthcare. Bach Cuadra's section focuses on uncertainty quantification and robust domain adaptation to ensure that AI systems deliver reliable, reproducible results across diverse clinical settings. In parallel, they emphasize human-centered AI design: promoting interpretability and effective communication of model outputs to support clinical decision-making and foster clinician trust.

Keynote talk: "Trustworthy Medical Image Analysis"

Venue Map & Sponsors



We are grateful to our sponsors for supporting the 2026 Symposium on AI in Medical Imaging (SAIMI).

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Poster Session 1

CLASSIFICATION IN MEDICAL IMAGING

- A1 Deep learning aging marker from retinal images unveils sex-specific clinical and genetic signatures** Olga Trofimova, University of Lausanne
- A2 Clinical Uncertainty Impacts Machine Learning Evaluations** Simone Lionetti, Lucerne University of Applied Sciences and Arts
- A3 Automatic quality control in multi-centric fetal brain MRI super-resolution reconstruction** Thomas Sanchez, University of Lausanne
- A4 Frame to Flow: Bridging Sequential Dynamics in Fluorescein Angiography** Tymo van Rijn, Idiap Research Institute
- A5 Bi-objective Optimization for Fairness-Aware Glaucoma Detection: A Pareto Analysis using Equalized Odds** Gökhan Özbek, École Polytechnique Fédérale de Lausanne
- A6 Structure to Function: Predicting Spatially Resolved Visual Fields from OCT and SLO Images in Glaucoma Using Deep Learning** Moritz Schmid, University of Bern

CLINICAL TRANSLATION

- B1 A Physics-guided Implicit Neural Representation for Streak Reduction in X-ray Dark-field CT** Daniel Frey, Technical University of Munich
- B2 Digital Eye Clinic: A Framework for Responsible Development and Clinical Translation of In-House AI Diagnostics in Ophthalmology** Rui Santos, Stadtspital Zurich
- B3 DeepNeuroBOLD: Hypoxia BOLD fMRI for detecting infiltrative glioblastoma beyond contrast enhancement** Natalia Cantavella Franch, University of Zürich

GENERALIZABLE AI IN MEDICAL IMAGING

- C1 MedFuncta: A Unified Framework for Learning Efficient Medical Neural Fields** Paul Friedrich, University of Basel
- C2 Low-Rank-Modulated Functa: Exploring the Latent Space of Implicit Neural Representations for Interpretable Ultrasound Video Analysis** Julia Wolleb, Yale University
- C3 Intrinsic Self-Supervision for Data Quality Audits in Medical Imaging** Fabian Gröger, University of Basel, Lucerne University of Applied Sciences and Arts
- C4 Mitigating Shortcut Learning via Feature Disentanglement in Medical Imaging: A Benchmark Study** Sarah Müller, University of Tübingen
- C5 Towards Local Anatomy in Latent Space: Biclustering of Deep Network Activation** Alexandra Oswald, University of Bern
- C6 Leveraging Large-Scale Cross-Sectional Cohorts for Longitudinal Disease Progression Modelling** Ifeoma Veronica Nwabufo, University of Tübingen

IMAGE SYNTHESIS AND GENERATIVE MODELLING

- D1 From Point Estimates to Probabilistic Forecasts: Diffusion Models for Glaucoma Visual Fields** Marta Colmenar Herrera, ARTORG Center for Biomedical Engineering Research
- D2 Beyond Fluency: A Clinical Benchmark and Anomaly-Enhanced Baseline for Spine MRI Report Generation** Maria Monzon, ETH Zürich

- D3 Realistic 2D B-Mode Ultrasound Simulation from 3D Computed Tomography Scans** Declan McAlinden, University College London
- D4 From Slices to Structures: Unsupervised 3D Reconstruction of Female Pelvic Anatomy from Freehand Transvaginal Ultrasound** Max Krähenmann, University of Basel

MULTI-MODAL MODELS

- E1 Robust multimodal deep learning for medical image diagnosis** Jérôme Schmid, Geneva School of Health Sciences, HES-SO University of Applied Sciences and Arts Western Switzerland
- E2 XBench: A Comprehensive Benchmark for Visual-Language Explanations in Chest Radiography** Haozhe Luo, University of Bern
- E3 A Geometric Multimodal Foundation Model Integrating Bp-MRI and Clinical Reports in Prostate Cancer Classification** Juan Andrés Olmos, ENSTA, IP-PARIS
- E4 Hierarchical and Scalable Registration of Histology and 3D Imaging in Lymph Node Tissue Blocks** Garance Haefliger, HES-SO Valais/Wallis

SEGMENTATION IN MEDICAL IMAGING

- F1 Teeth2Point: A Two-Stage Dental CBCT ROI-to-Point Segmentation Framework** Qi Ma, ETH Zürich
- F2 CoralBay: A Self-Supervised CT Foundation Model with Hierarchical 3D Swin Transformers** Ioannis Gatopoulos, kaiko.ai
- F3 Learning from the Unseen: Synthetic Data for Scoliosis AI Segmentation** Volodimir Buchakchiyskiy, University of Basel
- F4 Self-Supervised Foreground Segmentation of 3D Micro-CT Tissue Samples Using Frozen Embeddings from DINO-ViT** Pau Altur Pastor, Empa
- F5 End2Reg: Learning Task-Specific Segmentation for Markerless Registration in Spine Surgery** Lorenzo Pettinari, University of Basel

TRUSTWORTHY AI AND FAIRNESS

- G1 ProtoMIL: Prototype-Based Multiple Instance Learning for Gigapixel Whole Slide Image Classification** Susu Sun, University of Tübingen
- G2 On Evaluating Subgroup Discovery in Medical Image Classification** Alceu Bissoto, University of Bern
- G3 Beyond Performance: Fairness and Robustness in Medical Imaging Foundation Models** Roberto Pulvirenti, Idiap Research Institute
- G4 Conformal Failure Masks for Reliable Endoscopic Super-Resolution** Julio Silva-Rodríguez, ETH Zürich
- G5 Benchmarking Bias Mitigation Strategies for Dermatology Models in Underrepresented Populations** Sofia Horlacher, Hochschule Luzern
- G6 Label-free estimation of clinically relevant performance metrics under distribution shifts** Tim Flühmann, University of Bern
- G7 Is Uncertainty Quantification a Viable Alternative to Learned Deferral?** Anna Wundram, University of Lucerne

Poster Session 2

CLASSIFICATION IN MEDICAL IMAGING

- A7** **A Parkinson's digital descriptor from a conditional diffusion model for MRI to SPECT translation.** Franklin Sierra-Jerez, Universidad Industrial de Santander
- A8** **Vision Foundation Models Enable Recurrent Pneumonia Risk Prediction in Bronchiectasis from 3D CT** AmirEhsan Khorashadizadeh, Paul Scherrer Institute PSI
- A9** **Self-Supervised Pretraining and Ensemble Learning for Peritoneal Metastasis Classification in Staging Laparoscopy** Alexander Meng, Noble and Greenough School
- A10** **Privacy-Preserving Federated Learning with Strong Differential-Privacy Guarantees for Clinical Dermatology** Philippe Gottfrois, University of Basel
- A11** **Scalable AI Model Monitoring for Medical Imaging: An Open-Source MLOps Framework for Reliable Deployment** Kristina John, Akros AG
- A12** **Knowledge-Guided Representation Learning for Dental Disease Detection from Intraoral Images** Nicolas Martin, PEEKTORIA

CLINICAL TRANSLATION

- B4** **Automated quantification of peripheral and perivascular T1 and T2 relaxation times in liver multiparametric MRI of patients with Fontan-associated liver disease (FALD)** Seyedeh Sharareh Mirzargar, ARTORG
- B5** **Soft Tissue Simulation and Force Estimation from Heterogeneous Structures using GNNs** Madina Kojanazarova, University of Basel
- B6** **Deep Learning Brain Age Estimation Reveals Postnatal Maturational Delay in Congenital Heart Disease** Misha Kaandorp, University Children's Hospital Zurich
- B7** **BE INDISCRETE: THE BENEFITS OF LEARNING CONTINUOUS SPINE DEGENERATION SEVERITY SCORES** Maria Monzon, ETH Zürich

GENERALIZABLE AI IN MEDICAL IMAGING

- C7** **DeCAF: A Decentralised Compliance Assessment Framework for Medical Imaging** Henrique Romão, CERN
- C8** **Evaluating Synthetic Data Generation for Domain Generalization in Fetal Brain MRI Segmentation** Vladyslav Zalevskyi, University of Lausanne
- C9** **GLOWORM: Generative Learning Of cortical morphometry With Outlier-aware Reconstruction Mappings for Unsupervised Epileptogenic Lesion Detection** Johannes Schwarz, Ruhr University Bochum
- C10** **NOIR: Neural Operator mapping for Implicit Representations** Sidaty El Hadramy, University of Basel
- C11** **Towards Interpretable Foundation Models for Retinal Fundus Images** Samuel Ofosu Mensah, Hertie Institute for AI in Brain Health
- C12** **A Deep Learning Framework for Voxel-wise Quantification of Cerebral Amyloid Plaque Burden from QSM MRI in Alzheimer's Disease** Yiru Yang, University of Zurich

IMAGE SYNTHESIS AND GENERATIVE MODELLING

- D5** **3D CBCT Artefact Removal Using Perpendicular Score-Based Diffusion Models** Susanne Schaub, University of Basel

- D6 Deep Generative Models for Enhanced Vitreous OCT Imaging** Simone Sarrocco, University of Basel
- D7 fastWDM3D: Fast and Accurate 3D Healthy Tissue inpainting** Alicia Durrer, University of Basel
- D8 Streak Artifact Reduction in Human-scale Dark-field CT Using 3D Gaussian Splatting** Tina Dorosti, Technical University of Munich
- D9 SynVas: Annotation-Free Synthetic Data Generation for Liver Vasculature Segmentation** Leonid Risteski, University of Innsbruck
- D10 Cleft-Pathology-Aware Infant Face and Palate 3D Shape Model** Till Schnabel, ETH Zürich

MULTI-MODAL MODELS

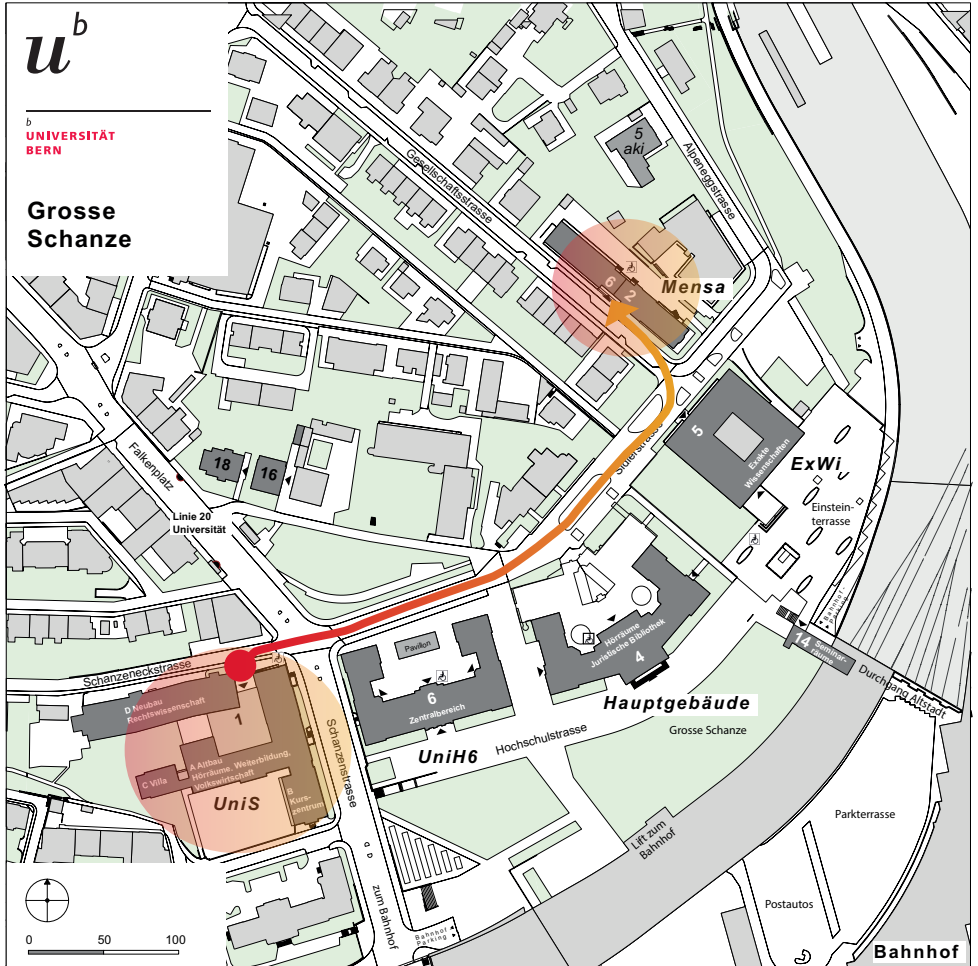
- E5 PRIME-SVR: Physics-infoRmed Implicit Multi-Echo Slice-to-Volume Reconstruction for Fetal Brain T2 mapping** Dondu-Busra Bulut, University of Lausanne
- E6 Leveraging Scientific Domain Knowledge for Vision-Language Fundus Models** Verena Jasmin Hallitschke, Hertie Institute for AI in Brain Health
- E7 Midnight v2: A Unified Self-Supervised Vision Foundation Model for Pathology and Radiology** Emil Malmsten, Kaiko.ai

SEGMENTATION IN MEDICAL IMAGING

- F6 DoMa-Seg: Dose Map Guidance for Medical Image Segmentation in Head and Neck Radiotherapy** Jihe Li, University of Bern
- F7 Automated Error Localisation and Correction Techniques for Deep-Learning-Based Segmentation of 3D MRI Sequences Based on Feature-Derived-Region Aggregation** Emma Chambers, University of Bern
- F8 Bridging the Annotation Gap Between Fetal and Neonatal Brain MRI via Protocol-Conditioned Learning** Daniela Correa Orozco, EPFL
- F9 A Generic SAM-Based Segmentation Pipeline for Surgical Planning: A Vertebra Case Study** Jonathan Dong, EPFL

TRUSTWORTHY AI AND FAIRNESS

- G8 A Systematic Comparison of Pretrained Visual Representations for Dermatologic Concept Encoding** Linda Wermelinger, HSLU, Universität Basel
- G9 A Global Atlas of Digital Dermatology to Map Innovation and Disparities** Fabian Gröger, University of Basel, Lucerne University of Applied Sciences and Arts
- G10 VIDS-Seg: Towards Fair Uncertainty Quantification in Pediatric Cardiac Ultrasound Segmentation** Paul Fischer, University of Basel
- G11 Using Visual Clinical Concepts to Retrieve Differential Diagnoses in Dermatology** Nipun Ranasekara, HSLU
- G12 Benchmarking attention-based methods for vision transformers interpretability in retinal fundus imaging** Sacha Bors, University of Lausanne
- G13 Interpretable Multi-task Deep Survival Analysis for AMD Progression Prediction** Julius Gervelmeyer, University of Tübingen



350m / 5min walk
Gesellschaftsstrasse 2
3012 Bern



Google Maps

Organisation

ORGANISING COMMITTEE



Tim Flühmann
University of Bern, Switzerland



Amith J. Kamath
University of Bern, Switzerland



Mélanie Roschewitz
ETH Zürich, Switzerland



Anna M. Wundram
University of Lucerne, Switzerland



Samin Beheshti Zavareh
University of Bern, Switzerland



Lisa M. Koch
University of Bern, Switzerland

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Christian F. Baumgartner
University of Lucerne, Switzerland



Meritxell Bach Cuadra
CIBM Center for Biomedical Imaging, Lausanne University, Radiology Department (CHUV)



Ece Özkan Elsen
University of Basel, Switzerland



Ender Konukoglu
ETH Zürich, Switzerland



Henning Müller
HES-SO Valais, Switzerland



Mauricio Reyes
University of Bern, Switzerland

LOCAL SUPPORT TEAM

Ethan Dack

Vasileios Dedousis

Nathan Hollet

Daria Laslo

Daniël Nobbe

Ekaterina Sedych



DEPARTMENT
DIGITAL
MEDICINE

University of Bern
Department of Digital Medicine
Murtenstrasse 31
3008 Bern
Switzerland

info.ddm@unibe.ch
www.ddm.unibe.ch