bmpn.ch — the biomedical photonics network

Biomedical Photonics 2026

November 20, 2026 from 9:30 to 17:00
University of Basel

Program

09:30-10:20 Registration, coffee and hang up posters.

Presentations (Lecture room) Chairs: TBD

10:20-10:30 Welcome and introduction Martin Wolf, President BMPN

10:30-10:45 **Yoginder Singh***, E. Massarellia, P. Pozzia, A. Candeoa, F. Bragherib and A. Bassi, Politecnico di Milano
Light-sheet imaging flow cytometry for quantitative single-particle analysis

10:45-11:00 **Alexandra Latshaw**, M. Wiggert, V. Multian, T. Krähenbühl, D. Kim, R. Fabbri, A. Spada, S. Spinozzi, S. Gerber-Lemaire, S. Guené-Girard, Y. Mugnier, J. Teyssier, A. Simone, S. Karpf, and L. Bonacina, University of Geneva
Expanding the excitation regimes of nonlinear microscopy

11:00-11:15 **Daniil Riabov***, Abtin Saateh, W. Yang, I. Sinev, Y. Kivshar, and H. Altug, Ecole Polytechnique Federale de Lausanne
Digital nanophotonic biosensing empowered by silicon Mie voids

11:15-11:30 **Arsham Hamidi*,** M. Liu, V. Vinamrata, and F. Canbaz, University of Basel,
Smart Laser arthroscopy

11:30-11:45 **Valerio Poratti***, D. J. Hall, J. Hochstatter, M. Schläppi, F. Canbaz, P. Wahl, R. Pourzal, Rush University, University of Basel
Inflammatory responses to particles from highly cross-linked polyethylene bearings in total hip arthroplasty

11:45-12:00 **Tarcisi Cantieni*,** A. Baumgartner, C. Häfliger, N. Diviani, U. Schonhardt, U. Wolf, U. Arnet, and A. Hertig-Godeschalk, University of Bern
Tissue oxygenation during wheelchair sitting: An adaptive cushion compared to passive cushions

12:00-12:15 **Mahsa Nasehi*,** D. Stahl, E. Hassanpour, M. Bonmarin, and L. Witthauer, University of Bern
Liquid crystal-based interferometric detection of optical activity for chiral sensing

12:15-12:30 **Oleksii Ustinov***, D. Mruga, H. Büchel, O. Soldatkin, Y. Ding, L. Shkotova, M. Wolf, S. Dzyadevych and A. C. Mataa, University of Zurich
Novel on-skin microdialysis probe for continuous glucose monitoring in preterm infants

*competing for best presentation award

We gratefully acknowledge financial support:

HAMAMATSU PHOTON IS OUR BUSINESS
PROSPECTIVE
GMP PHOTONICS & MICROTECHNOLOGY
SSOM Swiss Society for Optics and Microscopy
3 MICRON LASER TECHNOLOGY High quality diode-pumped 2.94um lasers Optimized for deep and fast bone cutting
SHIMADZU Excellence in Science
THORLABS

12:30-14:45 Lunch break and poster viewing

Presentations (Lecture room) Chairs: TBD

14:45-15:15 **Florian Schueder**, EPFL, Invited Talk
Programming DNA for multiplexed super-resolution microscopy

15:15-15:45 **Manuela Cedrun-Morales**, EPFL, Invited Talk
Study and optimization of the photobiomodulation effects induced on mitochondrial metabolic activity for different radiometric and spectral conditions

15:45-16:15 **Francesco Boschetto**, University of Basel, Invited Talk
Spectro-histology of periprosthetic tissue: Linking cell morphology to biochemical signatures of inflammation

16:15-16:25 Award ceremony and closing

16:30-17:00 Laboratory tour: Center for Intelligent Optics (optional)

Poster Session

1. **Mingyi Liu***, A. Hamidi, D. Wilson, F. Canbaz, University of Basel
   Fiber bundle for high-speed laser osteotomy
2. **Leya Pauly***, A. Hamidi, P. C. Cattin, and F. Canbaz, University of Basel
   Towards raman-guided laser osteotomy: Development and preliminary evaluation of a compact spectroscopic system
3. **Milad Malek Mohammadi***, A. Hamidi, D. B. Blaser, P. Cattin, F. Canbaz, University of Basel
   Comparison of bone cutting depth using gaussian and Bessel-like beams
4. **Özgür Eroglu***, A. Hamidi, F. Frank, F. Canbaz, University of Basel
   Differentiation of bone and bone cement using endoscopic OCT
5. **Aikaterina Grava***, M. M. Mohammadi, E. Freiermuth, H. Yavari, C. Semiz, B. Mehrjouei, Z. Gatzioufas, A. Hamidi, P. C. Cattinc, and F. Canbaz, University of Basel
   Development of a full-field optical coherence tomography system for high-resolution ocular imaging
6. **Vinamrata***, O. Eroglu, A. Hamidi, D. Mock, F. Inhoff, A. Barbero, G. Rauter, and F. Canbaz, University of Basel
   Quantitative mapping of articular cartilage degeneration using depth-resolved oct attenuation profiles
7. **Eric Freiermuth***, F. Boschetto, M. Krummenacher, C. Seppi, D. Hall, R. Pourzal, P. C. Cattin, and F. Canbaz, University of Basel
   Registration of spectral maps with histology slices
8. **Sofia Korshunova***, L. Pauly, F. Canbaz, University of Basel
   An automated data reduction pipeline for a custom echelle spectrometer via pypeit integration

*competing for best presentation award

We gratefully acknowledge financial support:

HAMAMATSU PHOTON IS OUR BUSINESS
PROSPECTIVE
GMP PHOTONICS & MICROTECHNOLOGY
SSOM Swiss Society for Optics and Microscopy Société Suisse pour l'Optique et la Microscopie Schweizerische Gesellschaft für Optik und Mikroskopie
3 MICRON LASER TECHNOLOGY High quality diode-pumped 2.94um lasers Optimized for deep and fast bone cutting
SHIMADZU Excellence in Science
THORLABS

9. **Djazia Yacheur***, L. Lanini, D. Gaiki, A. Kalyanov, M. Wolf, and J. Jiang, University of Zurich
   Investigating short-distance reflectance and multiwavelength spectroscopy for enhanced tissue oxygenation mapping
10. **Hasti Yavari***, Aikaterina Grava, Arsham Hamidi, Ferda Canbaz, University of Basel
    Corneal laser ablation and monitoring
11. **Maxime Maret***, W. Lackinger, F. Scholkmann, University of Zurich
    Estimating arterial oxygenation measured on the finger with a commercial functional near infrared spectroscopy device: Comparison of different algorithms
12. **Daniel Gaiki**, P . Mos, S. Spinthaki, A. Serrano Martinez, L. Lanini, D. Yacheur, M. Ackermann, J. Jiang, E. Charbon, M. Wolf, A. Kalyanov, University of Zurich
    Development and experimental characterisation of an actively cooled modular imaging system for time-domain near-infrared optical tomography
13. **Hamoon Zohdi**, K. Haudenschild, J, Liechti, N, Sutter, F, Scholkmann, and U. Wolf, University of Bern
    Characterizing brain-body signal correlations during transient and steady-state colored light exposure using SPA-fNIRS
14. **Alejandro Serrano***, D. Gaiki, S. Spinthaki, M. Ackermann, L. Lanini, D. Yacheur, A. Kalyanov, M. Wolf, J. Jiang, University of Zurich
    FEM-PINN: Joint absorption and transient fluence rate reconstruction for time-domain diffuse optical tomography
15. **Sofia Spinthaki***, D. Gaiki, P. Mos, A. Serrano, M. Ackermann, L. Lanini, J. Jiang, M. Wolf, and A. Kalyanov, University of Zurich
    Towards wide-field, non-contact time-domain near-infrared optical tomography: Preventing early-photon saturation with time-gated SPAD camera
16. **Wieland Lackinger***, M. Wolf, F. Scholkmann, University of Zurich
    A new open-access SPA-fNIRS dataset: fNIRS neuroimaging and 32 systemic physiological signals
17. **Virginia d'Adamo*,** B. Burgat, A. Farnier, F. Braun, P. Renevey, V. Stergiopoulou, N. Scapuso, R. Rusconi, M. Frosio and D. Ferrario
    Going with the flow beyond classical ppg: coherent light for cardiovascular biomarker sensing
18. **Maximiliane Beyer**, G. Esposito, H. Essig, H. Walt, University of Zurich
    Opportunistic intraoral white-light and fluorescence documentation in patients undergoing 5-ala-guided glioma surgery: plan for a workflow feasibility study

Registration is **required.**

Register **here** by Nov. 12th, 2026. Registration fee is 50Fr. payable in cash on site. Registration is **free** for members of SSOM: **become member for 40Fr./year here.**

For further information about the Biomedical Photonics Network: www.bmpn.ch.

Contact: Prof. Martin Wolf (martin.wolf@usz.ch), Tel 044 2555346, Dr. Ferda Canbaz (ferda.canbaz@unibas.ch), Tel: 061 2075467

*competing for best presentation award

We gratefully acknowledge financial support:

HAMAMATSU PHOTON IS OUR BUSINESS
PROSPECTIVE
GMP PHOTONICS & MICROTECHNOLOGY
SSOM Swiss Society for Optics and Microscopy Société Suisse pour l'Optique et la Microscopie Schweizerische Gesellschaft für Optik und Mikroskopie
3 MICRON LASER TECHNOLOGY High quality diode-pumped 2.94um lasers Optimized for deep and fast bone cutting
SHIMADZU Excellence in Science
THORLABS