



**Protocol General Assembly 2024**  
**Max Planck Institute for Multidisciplinary Sciences (MPI-NAT), 22 - 24 October 2024**  
**“High resolution in space and time”**

Local organizers: Christian Dienemann, Peter Lenart, Mišo Mitkovski, Wiebke Möbius,  
Antonio Politi

**October 22<sup>nd</sup>, 2024**

11:00 Arrival at the City Campus and Registration, lunch at 12:00

13:00 Welcome notes by Antonio Politi

13:15: Public symposium:

1. Keynote by Constantin Pape: Artificial intelligence for microscopy - building image analysis foundation models
2. Mostafa Aakhte: Flamingo: Tailored light sheet microscopy for live and cleared tissue imaging
3. Liran Fu: Evolved into a transporter: How the HIV capsid delivers a (viral) genome into the nucleus

15:00 Coffee break

15:39 Public symposium:

1. Julia Preobraschenski: Deciphering the role of Ferlins in membrane docking and fusion using cryo-EM and cryo-ET
2. Niels Fisher: Transient states and molecular pathways by cryo EM
3. Frauke Alves: Comprehensive characterization of tumor tissue by correlative multimodal 3D imaging *Prof.*

17:00 Tour: Imaging facilities City Campus

18:00 Keynote by Stefan Hell: Why MINFLUX changes the localization game

19:30 Dinner and discussion about the future development of MaxBI

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## October 23<sup>rd</sup>, 2024

9:00 Public symposium:

1. *cancelled*: Ruta Gerasimaite: Labeling biomolecules for live-cell nanoscopy: molecular mechanisms behind beautiful pictures
2. Ida Jentoft: Visualizing the oocyte cytoplasm to understand maternal protein inheritance

10.00 Break and transfer to Zeiss lens manufacture

10:30 Tour: Imaging facilities Faßberg Campus

12:00 Lunch

13:00 Public talk:  
Julian Kunkel: Unlocking Bioscience Breakthroughs: Where HPC and AI Converge

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### 14:55 Internal Part: MaxBI General Assembly

Welcome by the MaxBI spokesperson Wiebke Möbius

Thorsten Mielke offered to organize the GA 2025 in Berlin

#### 1. Report from WG1 (Stephan Junek):

Concerning advanced methods courses, the possibility of single particle cryo-EM course and the flow cytometry course were discussed.

Inspired by the talk of Julian Kunkel (GWDG) a suggestion for a Hackathon was made once the GWDG KISSKIN image analysis service is up and running and exploit the possibilities. It was also discussed to what extent mass spectrometry has organized itself into a network and whether this could not also be a good model for software developers, data analysts and also animal care takers. We also discussed that a precise definition of service (like animal house) versus core facilities (like us) would be helpful.

Coffee breaks on career paths would be a place to discuss the implications of the planned reformed Wissenschaftszeitvertragsgesetz. Finally, it was proposed to represent the workgroups better on our webpage.

#### 2. Report from WG2 (Wiebke Möbius):

We were reminded that the instrument database is a very helpful resource in finding expertise and available equipment within MaxBI. In this context there was a suggestion made to store it in a place "safer" than an excel sheet: solutions can be found with support of MPDL. To continue our fruitful cooperation with the General Administration, it is recommended to keep the reviewer data base for large equipment proposals up to date. Achievements of MaxBI together with MPDL and the central purchase department were the centralized purchase of software like Arivis and IMARIS and the "Zeiss-MPG Advanced"

service contract. Zeiss reported 27 contracts. Unfortunately, this is far from the numbers (>90 systems) required for future 15% discount that we have now. Problems/reasons for this are:

- The numbers are outdated/not correct: Facility heads are encouraged to check their instruments in the excel-list (on NextCloud) and indicate any mistake
- Several microscopes are under premium contracts running longer than the test time of the agreement
- Too many microscopes have been originally considered as possible instruments, but several microscopes are too simple to have service contract
- Could premium contracts be included in what is counted?
- Suggestion of having hybrid between advanced and premium contracts?
- Other facilities have only preventive maintenance and other premium, should we suggest and “average”?

Lesson learned:

- Lists from companies have to be treated with caution
- Talk to facility heads who have the instruments to identify their needs

The next evaluation meeting with the purchase department and Zeiss will take place November 27, 2024.

Concerning our activities together with GerBI GMB, this networking activity is now boosted by the fact that Elisa D'Este was elected as a member of the GerBI board. The next joint activity is the “Ask the expert” event on tissue clearing on November 27, 2024.

The last outside activity together with Zeiss was the User Meeting “News and Views on Imaging and Artificial Intelligence (AI) based Image analysis” taking place June 25-27 2024 at the Zeiss Microscopy Customer Center Europe, Oberkochen and Unterkochen. This workshop was evaluated as a great success and met with enthusiasm. However, a resumé discussion with Zeiss and participating MaxBI delegates revealed potential for improvement:

- The number of participants was low: An earlier and more widespread advertisement of future workshops is recommended. Maybe the group of participants could be increased by also addressing power users.
- The expected level of expertise was not clear: Here, a better definition of the target group could be helpful.

As an outcome we would aim at a biannual event. Smaller events for groups with special interests (e.g. electron microscopy) or software-directed events at higher frequency are options for the future. In addition, Zeiss can offer webinars for topics on demand.

Finally, a small change of the statutes was proposed: Under paragraph “2.6 Working Groups” the words “Steering Group” are added to WG2, so that the text is: “WG 2: Steering Group: Finance, Legal & Strategy”.

### **3. Report from the financial officer (Christian Kukat):**

Discussion on the budget and how to spend money:

- Consumables used in methods courses can be paid by the MaxBI budget
- Covering different amount of money for facility head or staff?
- Collecting the requests and distributing the money at the end of the year?
- Reimbursement (via Max-Planck internal billing) 50% up to 1000€? E.g.?
- Or reimbursing who needs the money, and if people have money, not?
- Follow up during an online discussion

Request for cost-neutral funding prolongation: this needs careful argumentation to not lose the money.

#### **4. Report from WG3 (Gabriele Malengo):**

Kikhi announced an advanced 3 day-course on flow cytometry with Derek Davies including one day for theory and 2 days hands-on planned for March 2025 with 3 trainers and 3-4 participants per trainer.

Training: Provide certificate to people who attended the course. Kenny makes the layout. Mišo provided feedback on the Leica course. In the discussion it became clear that the instructions were quite basic and not comparable with the Zeiss maintenance course. However, the participants found the workshop useful.

#### **6. Survey presentation (Elisa D'Este):**

The survey will be closed end of October. Until Friday 18<sup>th</sup> of October, 92 surveys were done, 60 of them were finished, 32 only partially filled in.

Elisa also reminded us to check and update the list of MaxBI members:

[https://cloud.bioimagingnet.mpg.de/index.php/apps/onlyoffice/35710?filePath=%2FMaxBiWG\\_Communication%2FMembers%2FMembers%20list%20Oct2024StV.xlsx](https://cloud.bioimagingnet.mpg.de/index.php/apps/onlyoffice/35710?filePath=%2FMaxBiWG_Communication%2FMembers%2FMembers%20list%20Oct2024StV.xlsx)

#### **6. Election of the new steering board and change of statutes:**

Election committee: Heiko Röhse (MPI-NAT) and Torben Ruhwedel (MPI-NAT)

Results:

Spokesperson: Dr. Wiebke Möbius (MPI Multidisciplinary Sciences, Göttingen):  
yes: 22

Deputy Spokesperson: Dr. Elisa D'Este (MPI Medical Research)  
yes: 22

Financial Officer: Dr. Christian Kukat (MPI Biology of Ageing, Cologne)  
yes: 21, abstention: 1

Committee member: Dr. Jan Peychl (MPI Molecular Cell Biology and Genetics, Dresden)  
yes: 22

Committee member: Dr. Stefan Volkery (MPI Molecular Biomedicine)  
yes: 22

Change of statutes:

WG 2: Steering Group: Finance, Legal and Strategy  
yes: 22

**End at 17.30**

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**October 24<sup>th</sup>, 2024: Satellite Workshop at Abberior**

**Venue: Abberior, Hans-Adolf-Krebs-Weg 6, 37077 Göttingen**

Morning session: Discussion about super-resolution applications in the facility context (limitations, accessibility, protocols)

Afternoon session: Hands-on sessions using different imaging modalities (STED large tissue imaging, STED multi-color imaging, and MINFLUX).