

Instrument introduction guidelines in Biovis

Before going on to the guideline, start with reading the information on the Biovis' homepage:
<https://www.uu.se/en/research/biovis---biological-visualization/courses--introductions/instrument-introductions>

BioVis provides the following introductory education for new users:

- 1) Basic education (lectures) on imaging techniques
- 2) Specific training on the instruments and techniques.

After the basic and specific training, users can book the instrument they have trained on.

Additional assistance can be given also by the instrument, which will result in a service fee.

The basic education is mandatory – it must be taken once

The specific instrument training is mandatory – for each instrument

In this guideline our introduction procedure is described, therefore we ask all newcomers to read and understand our procedure before applying for any introduction.

Basic education

To provide essential knowledge to new users, BioVis provides a mandatory basic education on the imaging techniques and related topics for all untrained customers. This half-day training will cover fluorescence, microscopy, and related techniques on a basic level to give a general understanding for microscopy and flow cytometry. For the introduction no credit points are given.

The following lectures are given in the basic education:

1. Basic knowledge on fluorescence, (approx.: 1 h). Covers the theory and application of fluorescence in microscopy and flow cytometry techniques. Keywords: properties of light; excitation-emission; Stokes-shift; bleaching; filters and optical elements; multicolor imaging.
2. Light and fluorescence microscopy, (approx.: 1 h). Covers the basics of microscopy. The lecture starts with the different microscopic techniques (bright field, DIC, fluorescence); explains the optical pathway and parts of the microscope; discusses resolution and magnification; and shows some practical tips on using the microscope.
3. Confocal microscopy, (approx.: 1 h).
Lecture covers the basic understanding of confocal microscopy. Keywords: Widefield vs confocal; optical sectioning; illumination of the specimen; resolution; parts of the microscope; imaging and sampling; 3D imaging; spectral imaging.

Specific training on instruments and techniques

This specific training aims to teach users on how to run and operate the instruments available at BioVis.

Most introductions starts with a lecture (around 30 min – 1 h, depending on instrument), where the theory and principles of the specific imaging technique are described.

After the lecture we give the training on how to use the specific instrument and related software. For some more advanced instruments we finish the training with a 2 h hands on session in the afternoon where users can try the instrument in their own in groups. For detailed info, check the dates and schedule for the specific instrument.

1	Fluorescence microscope - Zeiss Axioimager M2	Jeremy Adler
2-3	Confocal microscope - Zeiss LSM 700; Leica Stellaris 5	Jeremy; Matyas
4	STED superresolution - Abberior Instruments Stedycon	Matyas Molnar
5	Slide scanner - Zeiss Axio Scan Z1	Jeremy Adler
6	Multiphoton microscope - Leica SP8 DIVE	Matyas Molnar
7-9	Flow cytometry – BC Cytoflex; BD Fortessa; Cytoflex SRT	Dirk Pacholsky

Coming dates and schedule

Basic education (lectures) - mandatory*	16 Jan / 13 Feb / 19 March / 16 April / 21 May / 17 Sep / 15 Oct / 19 Nov 9.00 – 10.00 Basic knowledge on fluorescence 10.00 – 11.15 Light and fluorescence microscopy 11.15 – 12.30 Confocal microscopy
Specific training: Light and fluorescence microscope - Zeiss Axioimager M2	To arrange a time and date, contact Jeremy.adler@igp.uu.se
Specific training: Confocal microscope - Zeiss LSM 700	17 Jan / 14 Feb / 20 March / 17 April / 22 May / 18 Sep / 16 Oct / 20 Nov Attendees are divided into groups of max two person. Email Jeremy.adler@igp.uu.se with your preferred time slot

	<p>Group 1: 9.30 - 11.30</p> <p>Group 2: 11.30 - 13.30</p> <p>Group 3: 13.30 - 15.30</p> <p>Group 4: 15.30 - 17.30</p>										
Specific training: Confocal microscope – Leica Stellaris 5	<p>- Jan / 15 Feb / 21 March / 18 April / 23 May / 19 Sep / 17 Oct / 21 Nov</p> <p>9.30-11.30 Introduction to the instrument</p>										
Specific training: STED superresolution - Abberior Instruments Stedycon	<p>23 Jan / 20 Feb / 26 March / 23 April / 28 May / 24 Sep / 22 Oct / 26 Nov</p> <p>9.30-10.00 Basics and theory</p> <p>10.00-12.00 Introduction to the instrument</p> <p>13.00-15.00 User hands on session</p>										
Specific training: Slide scanner - Zeiss Axio Scan Z1	<p>24 Jan / 21 Feb / 27 March / 24 April / 29 May / 25 Sep / 23 Oct / 27 Nov</p> <p>To arrange a time, contact Jeremy.adler@igp.uu.se</p>										
Specific training: Multiphoton microscope - Leica SP8 DIVE	<p>25 Jan / 22 Feb / 27 March / 25 April / 30 May / 26 Sep / 24 Oct / 28 Nov</p> <p>9.30 - 10.00 Basics and theory</p> <p>10.00 - 12.00 Introduction to the instrument</p> <p>13.00 - 15.00 User hands on session</p>										
Specific training: Flow cytometry - BC Cytoflex (flow); BD Fortessa (flow); Cytoflex SRT (sorter)	<p>Room for Lecture will be announced by mail, hands-ons on session at 3rd floor, Rudbeck Lab, BioVis. Use stairs in the reception to come to 3rd floor. We meet there. Be in time, i.e. 10 min before session/lecture start. Lecture is mandatory if you not otherwise had the lecture in the past by BioVis staff. Responsible person: Dirk Pacholsky, 0701679338</p> <table border="1"> <thead> <tr> <th>Month</th> <th>Lecture</th> <th>Fortessa</th> <th>Cytoflex</th> <th>Sorter</th> </tr> </thead> <tbody> <tr> <td>January</td> <td>24/01</td> <td>25/01</td> <td>25/01</td> <td>26/1</td> </tr> </tbody> </table>	Month	Lecture	Fortessa	Cytoflex	Sorter	January	24/01	25/01	25/01	26/1
Month	Lecture	Fortessa	Cytoflex	Sorter							
January	24/01	25/01	25/01	26/1							

		13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00
February	21/02	22/02	22/02	22/02	23/2
		13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00
March	26/03	27/03	27/03	27/03	25/3
		13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00
April	24/04	25/04	25/04	25/04	26/4
		13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00
May	29/05	30/05	30/05	30/05	31/5
		13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00
September	25/09	26/09	26/09	26/09	27/9
		13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00
October	23/10	24/10	24/10	24/10	25/10
		13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00
November	27/11	28/11	28/11	28/11	29/11
		13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00

Note:

* Minimum applicants for the Basic education: 4. If there are less than 4 applicants, students are asked to take the Basic education in the coming month. If this is the case, mails would be sent out to the participants before the date of the Basic Education.

To arrange instrument training groups, we will do the following:

- Jeremy will contact all Fluorescence Microscopy, Confocal microscopy and Slide scanner applicants to split them into groups for the instrument trainings, and arrange meeting times and place with them.
- Matyas will contact all STED, Two-photon microscopy and Leica Stellaris confocal applicants and arrange a meeting time and place for the instrument trainings.

- Pacho (Dirk Pacholsky) will contact all Flow cytometry and Flow sorting applicants and arrange a meeting time and place for the instrument trainings.

We always meet for the Basic education and Instrument trainings 5 minutes before the starting time at the reception of Rudbeck laboratory unless stated otherwise. All the introductions are held in Biovis at Rudbeck laboratory (Dag Hammarskjölds väg 20). Please come in time, as we start the lectures and trainings SHARP!

Fees for the introduction

The fees for the introduction is listed and updated on the Biovis homepage.

Shortcut link: <https://www.uu.se/en/research/biovis---biological-visualization/start-here>

How to apply

Maximum available instrument training per applicant per month is two from the microscope node and two from the flow node. If you need to use more than two microscope or flow instrument simultaneously, please contact us first.

For applying to the coming months, use the following links to reach the application forms when the application is open.

Please read carefully the text for each questions in the application form and fill in your answers.

Only applicants with correct email address AND group leader name AND payment code will be accepted.

We won't send out a confirmation email that your application is accepted.

If there is any problem or question regarding your application we will contact you before the training starts, otherwise your application is accepted automatically.

January:	https://doit.medfarm.uu.se/bin/kurt3/kurt/83557	Application open: 2023-12-14 – 2024-01-14
February:	https://doit.medfarm.uu.se/bin/kurt3/kurt/83566	Application open: 2024-01-11 – 2024-02-11
March:	https://doit.medfarm.uu.se/bin/kurt3/kurt/83569	Application open: 2024-02-17 – 2024-03-17
April:	https://doit.medfarm.uu.se/bin/kurt3/kurt/83573	Application open: 2024-03-14 – 2024-04-14
May:	https://doit.medfarm.uu.se/bin/kurt3/kurt/83575	Application open: 2024-04-19 – 2024-05-19

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September: <https://doit.medfarm.uu.se/bin/kurt3/kurt/83576> Application open: 2024-08-15 – 2024-09-15

October: <https://doit.medfarm.uu.se/bin/kurt3/kurt/83584> Application open: 2024-09-13 – 2024-10-13

November: <https://doit.medfarm.uu.se/bin/kurt3/kurt/83587> Application open: 2024-10-17 – 2024-11-17