

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 are allowed to book the instrument they have trained on. Assistance can be given also by the instrument, which will result in a service fee.

The **basic education is mandatory** for all untrained BioVis users. The specific instrument training is mandatory for all users. 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. In some more advanced instruments we finish the training with a 2 h hands on session in the afternoon where users can try the instrument on 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	Confocal microscope - Zeiss LSM 700	Jeremy Adler
3	SIM-superresolution microscope - Zeiss LSM 710 SIM Introduction only for the superresolution part, participants should have basic knowledge of confocal microscopy and should be able to run the confocal part of the machine	Matyas Molnar
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; BD Melody	Dirk Pacholsky

### Coming dates and schedule

<p><b>Basic education (lectures) – mandatory*</b></p>	<p><b>19 Jan / 16 Feb / 16 March / 20 April / 18 May / 21 Sep / 19 Oct / 16 Nov</b></p> <p>9.00 – 10.00 Basic knowledge on fluorescence 10.00 – 11.15 Light and fluorescence microscopy 11.15 – 12.30 Confocal microscopy</p>
<p><b>Specific training: Light and fluorescence microscope - Zeiss Axioimager M2</b></p>	<p><b>20 Jan / 17 Feb / 17 March / 21 April / 19 May / 22 Sep / 20 Oct / 17 Nov</b></p> <p>During the Basic education attendants are divided into groups of max two person. <b>If you have already done the Basic education and you wouldn't take it again, write to <a href="mailto:matyas.molnar@igp.uu.se">matyas.molnar@igp.uu.se</a> after you sent in your application, otherwise you won't be sorted into any group!</b> The following groups are available:</p> <p>Group 1: 9.30 - 11.30 Group 2: 11.30 - 13.30 Group 3: 13.30 - 15.30 Group 4: 15.30 - 17.30</p>

<p><b>Specific training: Confocal microscope - Zeiss LSM 700</b></p>	<p><b>22 Jan / 19 Feb / 19 March / 23 April / 21 May / 24 Sep / 22 Oct / 19 Nov</b></p> <p>During the Basic education attendants are divided into groups of max two person. <b>If you have already done the Basic education and you wouldn't take it again, write to <a href="mailto:matyas.molnar@igp.uu.se">matyas.molnar@igp.uu.se</a> after you sent in your application, otherwise you won't be sorted into any group!</b> The following groups are available:</p> <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>
<p><b>Specific training: SIM-superresolution microscope - Zeiss LSM 710 SIM</b></p>	<p><b>21 Jan / 18 Feb / 18 March / 22 April / 20 May / 23 Sep / 21 Oct / 18 Nov</b></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>
<p><b>Specific training: STED superresolution - Abberior Instruments Stedycon</b></p>	<p><b>26 Jan / 23 Feb / 23 March / 27 April / 25 May / 28 Sep / 26 Oct / 23 Nov</b></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>
<p><b>Specific training: Slide scanner - Zeiss Axio Scan Z1</b></p>	<p><b>27 Jan / 24 Feb / 24 March / 28 April / 26 May / 29 Sep / 27 Oct / 24 Nov</b></p> <p>For the exact training schedule, contact <a href="mailto:jeremy.adler@igp.uu.se">jeremy.adler@igp.uu.se</a></p>
<p><b>Specific training: Multiphoton microscope – Leica SP8 DIVE</b></p>	<p><b>28 Jan / 25 Feb / 25 March / 29 April / 27 May / 30 Sep / 28 Oct / 25 Nov</b></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);  
BD Melody (sorter)**

Room for Lecture will be announced by mail, hands-ons on session at 3<sup>rd</sup> floor, Rudbeck Lab, BioVis. Use stairs in the reception to come to 3<sup>rd</sup> 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

Month	Lecture	Fortessa	Cytoflex	Melody
January	27/01	28/01	28/01	29/01
	13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00
February	24/02	25/02	25/02	26/02
	13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00
March	24/03	25/03	25/03	26/03
	13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00
April	28/04	29/04	29/04	03/05
	13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00
May	26/05	27/05	27/05	28/05
	13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00
September	29/09	30/09	30/09	01/10
	13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00
October	27/10	28/10	28/10	29/10
	13:00 – 14:30	10:00 – 12:00	13:00 – 15:00	10:00 – 15:00
November	24/12	25/12	25/12	26/12
	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.

**Location: We always meet for the introductions 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 for the introduction

The fees for the introduction is listed and updated on the Biovis homepage under the "Info about Biovis" page.

Shortcut link: <https://biovis.uu.se/faq/>

### 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.

<b>January:</b>	<a href="http://doit.medfarm.uu.se/kurt16637">http://doit.medfarm.uu.se/kurt16637</a>	Application open: 2020-12-17 – 2021-01-17
<b>February:</b>	<a href="http://doit.medfarm.uu.se/kurt16638">http://doit.medfarm.uu.se/kurt16638</a>	Application open: 2021-01-14 – 2021-02-14
<b>March:</b>	<a href="http://doit.medfarm.uu.se/kurt16639">http://doit.medfarm.uu.se/kurt16639</a>	Application open: 2021-02-14 – 2021-03-14
<b>April:</b>	<a href="http://doit.medfarm.uu.se/kurt16640">http://doit.medfarm.uu.se/kurt16640</a>	Application open: 2021-03-18 – 2021-04-18

**Continues on the next page...**

<b>May:</b>	<a href="http://doit.medfarm.uu.se/kurt16641">http://doit.medfarm.uu.se/kurt16641</a>	Application open: 2021-04-16 – 2021-05-16
<b>September:</b>	<a href="http://doit.medfarm.uu.se/kurt16642">http://doit.medfarm.uu.se/kurt16642</a>	Application open: 2021-08-19 – 2021-09-19
<b>October:</b>	<a href="http://doit.medfarm.uu.se/kurt16643">http://doit.medfarm.uu.se/kurt16643</a>	Application open: 2021-09-17 – 2021-10-17
<b>November:</b>	<a href="http://doit.medfarm.uu.se/kurt16644">http://doit.medfarm.uu.se/kurt16644</a>	Application open: 2021-10-14 – 2021-11-14