MAX IV/ESS-based imaging for medical and biomedical research, introduction

Lectures Synopsis

**Monday MAX-IV , Feb. 25, 2019:**

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| 9:00 – 9:30 | Registration at MAXIV | MAX-IV, Oxana Klementieva |
| 9:30 – 10:30 | A brief introduction to synchrotrons in general and MAX IV in particular.  How does it work? Excursion at MAX IV. | MAX-IV, Emelie Hilner |
| 10:30 – 10:45 | Pause |  |
| 10:45 – 11:45 | A brief introduction to synchrotrons in general and MAX IV in particular.  How does it work? " | MAX-IV, Per Uvdal |
| 10:45 – 12:00 | As a practical exercise: design and discussion the best beamline for the biomedical/medical project. | MAX-IV, Oxana Klementieva |

**Tuesday BMC D1513b Bengt Borgström, Feb. 26, 2019:**

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| 9:30 – 10:30 | Short introduction to the different techniques: solution and surface scattering of X-rays and neutrons from biological samples. | Oxana Klementieva/  Ann Terry (to confirm) |
| 10:30 – 10:45 | Coffee pause |  |
| 11:45 – 12:15 | Short introduction to the different techniques: Biomedical application of X-ray tomography. | Peter Gutman (BESSY) |
| 11:15 – 10:45 | Short introduction to the different techniques: X-ray tomography beamline | Peter Gutman (BESSY) |

**Wednesday BMC I 1308, Feb. 27, 2019:**

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| 9:00 – 10:00 | Short introduction to the different techniques: Infrared imaging, biomedical and medical applications | Christopher Sandt (SOLEIL) |
| 10:00 – 10:15 | Coffee pause |  |
| 10:15 – 10:45 | Short introduction to the different techniques: Infrared imaging, biomedical and medical applications | Christopher Sandt (SOLEIL) |
| 10:45 – 11:45 | Christopher Sandt (SOLEIL) | Christopher Sandt (SOLEIL) |
| 14-00 – 16:00 | Infrared imaging, Hands on session | Ecology house, Michiel Op de Beeck |

**Thursday BMC I 1308, Feb. 28, 2019:**

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| 9:00 – 10:00 | Short introduction to the different techniques: X-Ray fluorescence imaging, biomedical and medical applications | Angel Rodriguez Fernandez (MAX IV) |
| 10:00 – 10:15 | Coffee pause |  |
| 10:15 – 11:15 | Short introduction to the different techniques: X-Ray fluorescence imaging,  how it works | Angel Rodriguez Fernandez (MAX IV) |
| 11:15 – 11:45 | X-Ray fluorescence imaging,  example of the project | Oxana Klemetieva or someone from Jens Lagerstedt |
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**Friday BMC I 1308, March 01, 2019:**

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| 9:30– 10:30 | Short introduction to the different techniques: neutron scattering | Zoe Fisher (ESS) |
| 10:30 – 10:45 | Coffee pause |  |
| 10:45 – 12:00 | Project presentation: The best beamline for the biomedical/medical project. | Oxana Klemetieva |
| 12:00 – 12:30 | Wrap up | Oxana Klemetieva |

**Homework:**

Writing of the essay “The best beamline for my project”.

Peer review of the essay.

**Assessment:**

Group presentation and discussion of the personal projects.

**Budget for the course:**

4 fika for 15 persons

Travel and accommodation for Peter Gutman (Flight, 1500 SEK) and Christopher Sandt

(Flight 4200 SEK)