

Session 5

The fifth session of the LSSTC DSFP focuses on image processing.

Schedule

Day 1 — An Introduction to Optical Imaging

Monday, Jan 22, 2018

- 08:00 AM - 09:00 AM o Registration
- 09:00 AM - 09:30 AM o Introduction of the new instructors
- 09:30 AM - 10:30 AM o [Photons != Science, and the Challenges of Turning the Former into the Later](#); A. Miller [:octocat:](#) — [Solutions](#)
- 10:30 AM - 11:00 AM o Break
- 11:00 AM - 12:00 PM o [Photons != Science II](#); A. Miller [:octocat:](#) — [Solutions](#)
- 12:00 PM - 01:30 PM o LUNCH
- 01:30 PM - 02:30 PM o [The imperfection of Optical/NIR Astronomical Data](#); R. Lupton [:octocat:](#)
- 02:30 PM - 04:00 PM o Problem — detector noise: [Part 1](#) & [Part 2](#); R. Lupton [:octocat:](#)
- 04:00 PM - 04:30 PM o Break
- 04:30 PM - 06:00 PM o [Image Reduction in Python](#); E. Tollerud [:octocat:](#) [Problems](#)

Day 2 — Flux Measurements From Optical Images

Tuesday, Jan 23, 2018

- 09:00 AM - 10:00 AM o [Introduction to Photometry I — Point Sources](#); D. Fohring [:octocat:](#)
- 10:00 AM - 10:30 AM o Break
- 10:30 AM - 12:00 PM o [Problem — point sources](#); D. Fohring [:octocat:](#) — [Solutions](#)
- 12:00 PM - 01:30 PM o LUNCH
- 12:30 PM - 01:30 PM o [optional] [Preparing HST Images for Outreach](#); Z. Levay & J. Depasquale
- 01:30 PM - 03:30 PM o [Introduction to Photometry II — Galaxies](#); M. Alpaslan [:octocat:](#) — [Problems](#); [Solutions](#)
- 03:30 PM - 04:00 PM o Break
- 04:00 PM - 06:00 PM o [An Introduction to the R Computing Language](#); M. Alpaslan [:octocat:](#) — [Solutions](#)

- 06:00 PM - 07:00 PM o Group dinner

Day 3 — Astrometry

Wednesday, Jan 24, 2018

- 09:00 AM - 10:00 AM o [Introduction to Astrometry](#); D. Fohring [:octocat:](#)
- 10:00 AM - 10:30 AM o Break
- 10:30 AM - 12:00 PM o [Problem — Astrometry](#); D. Fohring [:octocat:](#)
- 12:30 PM - 01:00 PM o BREAK
- 03:30 PM - 04:30 PM o [optional] STScI colloquium — Kirsten Hall (JHU) *Infrared Galaxies Clustered around Quasars across Cosmic Time* & Giovanni Bruno (STScI) *Transiting Exoplanets with HST: Atmospheres, Clouds and Starspots*

Day 4 — Depth, Subtraction, and Follow-up

Thursday, Jan 25, 2018

- 09:00 AM - 10:00 AM o [Image Stacking and Image Subtraction](#); G. Narayan [:octocat:](#)
- 10:00 AM - 10:30 AM o Break
- 10:30 AM - 12:00 PM o Problem — image subtraction: [Part 1](#), [Part 2](#), [Part 3](#), & [Part 4](#); G. Narayan [:octocat:](#)
- 12:00 PM - 01:30 PM o LUNCH
- 01:30 PM - 03:30 PM o [Spectroscopy \(Really Just Photometry\)](#); R. Lupton [:octocat:](#) — [Problems & Solutions](#)
- 03:30 PM - 04:00 PM o Break
- 04:00 PM - 06:00 PM o [Visualizing astronomical images](#); L. Walkowicz [:octocat:](#), A. Miller [:octocat:](#), and J. Peek [:octocat:](#)

Day 5 — Multiwavelength Astronomy & Hack Session

Friday, Jan 26, 2018

- 09:00 AM - 10:00 AM o [Merging Observations Across the EM Spectrum](#); M. Alparslan [:octocat:](#)
- 10:00 AM - 10:30 AM o Break
- 10:30 AM - 12:00 PM o [Problem — Multi-wavelength Observations](#); M. Alparslan [:octocat:](#) — [Solutions](#)
- 12:00 PM - 01:30 PM o LUNCH
- 01:30 PM - 05:30 PM o Hack Session
- 05:30 PM - 06:00 PM o Session 5 wrap up; A. Miller [:octocat:](#)

