

Session 1

The [first session](#) of the LSSTC DSFP program focuses on an introduction to the major topics to be covered in future weeks:

- Data Science Basics
- Image Processing
- Statistics
- Machine Learning
- Time-series Analysis
- Data Visualization
- Databases, scalable programming, and data management

Schedule

Day 1 — Introduction to LSST/Fundamental Basics for Data Science

Monday, Aug 1, 2016

- 09:00 AM - 09:15 AM — Welcome and (brief) introduction to DSFP; L. Walkowicz [:octocat:](#)
- 09:15 AM - 10:00 AM — Speed meetup - everyone meets everyone, gets 1 min to describe research one on one
- 10:00 AM - 10:30 AM — BREAK
- 10:30 AM - 11:45 AM — [Introduction to LSST](#); L. Walkowicz [:octocat:](#)
- 11:45 AM - 12:00 PM — [Goals of the DSFP](#); A. Miller [:octocat:](#)
- 12:00 PM - 01:00 PM — LUNCH
- 01:00 PM - 04:00 PM — [Hands-on introduction to git](#); J. VanderPlas [:octocat:](#)
- 04:00 PM - 04:30 PM — BREAK
- 04:30 PM - 06:00 PM — Everything an Astronomer Needs to Know About Software Engineering; J. VanderPlas [:octocat:](#)

Day 2 — Introduction to Statistics/Intro to Image Processing

Tuesday, Aug 2, 2016

- 09:00 AM - 10:00 AM — [Introduction to statistics](#); M. Suveges
- 10:00 AM - 10:30 AM — BREAK
- 10:30 AM - 12:00 PM — [Intro to Stats hands-on](#); M. Suveges
- 12:00 PM - 01:00 PM — LUNCH
- 01:00 PM - 02:00 PM — Introduction to advanced inference; J. VanderPlas [:octocat:](#)
- 02:00 PM - 03:30 PM — Bayesian models break-out; J. VanderPlas [:octocat:](#)
- 03:30 PM - 04:00 PM — BREAK
- 04:00 PM - 05:00 PM — [Introduction to image processing](#); R. Lupton [:octocat:](#)
- 05:00 PM - 06:00 PM — Intro to image processing hands-on: [part 1](#) & [part 2](#); R. Lupton [:octocat:](#)

Day 3 — Introduction to Databases/Intro to Visualization

Wednesday, Aug 3, 2016

- 09:00 AM - 10:00 AM — [Introduction to databases](#); T. Budavari [:octocat:](#)
- 10:00 AM - 10:30 AM — BREAK
- 10:30 AM - 12:00 PM — [Databases hands-on #1](#)
- 12:00 PM - 01:00 PM — LUNCH
- 01:00 PM - 02:00 PM — Advanced databases; T. Budavari [:octocat:](#)
- 02:00 PM - 03:30 PM — Databases break out #2
- 03:30 PM - 04:00 PM — BREAK
- 04:00 PM - 04:15 PM — [Introduction to visualization](#); A. Miller [:octocat:](#)
- 04:15 PM - 06:00 PM — [Visualization hands-on](#); A. Miller [:octocat:](#) — — [Solutions](#)

Day 4 — Introduction to Machine Learning/Hack Session

Thursday, Aug 4, 2016

- 09:00 AM - 10:00 AM — [Introduction to machine-learning](#); A. Miller [:octocat:](#)
- 10:00 AM - 10:30 AM — BREAK
- 10:30 AM - 12:00 PM — [scikit-learn hands-on](#); A. Miller [:octocat:](#) — — [Solutions](#)
- 12:00 PM - 01:00 PM — LUNCH
- 01:00 PM - 02:00 PM — [star-galaxy supervised learning hands-on](#); A. Miller [:octocat:](#) — — [Solutions](#)
- 02:00 PM - 05:00 PM — HACK SESSION
- 05:00 PM - 05:30 PM — HACK ROUNDUPS

Day 5 — Introduction to Time-Series/Science Communication

Friday, Aug 5, 2016

- 09:00 AM - 10:00 AM — [Introduction to time-series analysis](#); M. Suveges
- 10:00 AM - 10:30 AM — BREAK
- 10:30 AM - 12:00 PM — [Time-series hands-on](#); M. Suveges
- 12:00 PM - 02:30 PM — LUNCH + train to Adler Planetarium
- 02:30 PM - 03:30 PM — [Introduction to communicating science](#); C. Lintott [:octocat:](#) and L. Walkowicz [:octocat:](#)
- 03:30 PM - 04:00 PM — BREAK
- 04:00 PM - 05:30 PM — Science communication break out
- 05:30 PM - 06:00 PM — [Session 1 wrap up](#); A. Miller [:octocat:](#)