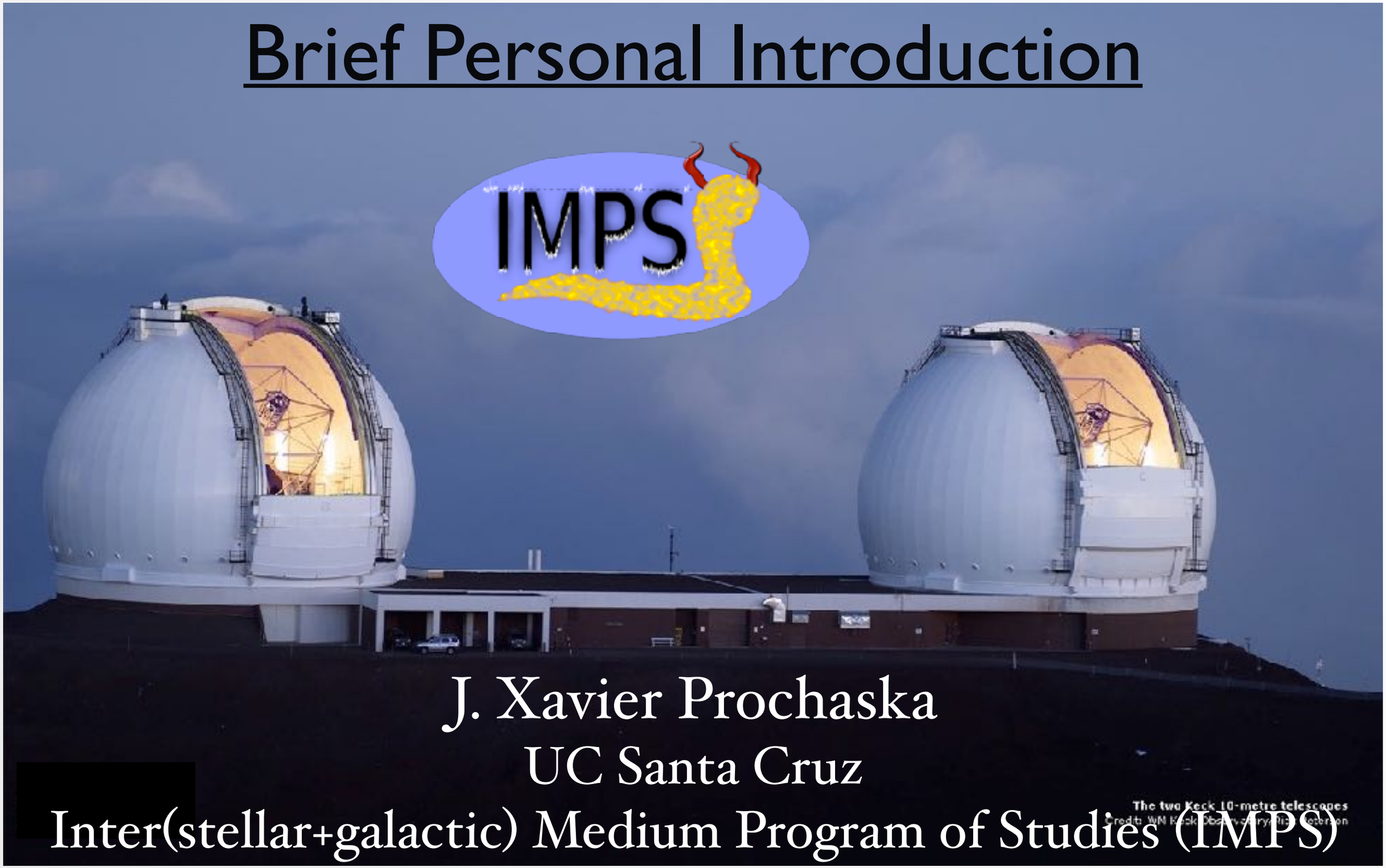
Brief Personal Introduction



J. Xavier Prochaska
UC Santa Cruz

Inter(stellar+galactic) Medium Program of Studies (IMPS)

My Background

- Education/Training
  - Physics at Princeton University
  - Physics at UC San Diego
  - Learned (some) astronomy at Carnegie Observatories
  - Assimilated more at UCSC
- Origin
  - State of Rhode Island
    - New England
  - California since 1993
- Interests
  - Tennis, skiing, hiking
  - Family (3 kids, 1 wife)
  - Astronomy

My Research

- Interstellar Medium (ISM)
  - PhD on damped Lya systems
    - Kinematics, metal enrichment, dust
  - GRB host galaxy gas
  - And far far more…
- Circumgalactic medium (CGM)
  - L* galaxies (COS-Halos)
  - Quasar environment (QPQ)
  - Lyman limit systems (LLS)
  - LRGs (coming)
  - Clusters (coming)
- Intergalactic Medium (IGM)
  - Mean free path
  - f(N)
- Misc
  - Varying fundamental constants
  - GRBs
- Techniques
  - Absorption-line spectroscopy
    - UV, optical
    - Quasars, GRBs, galaxies, stars
  - Narrow-band imaging
  - IFU (coming)
  - Close connection to numerical simulations

My Lectures

- Goals
  - Introduce you to HI Lya Absorption
    - Physics, techniques, science
  - Provide you with tools for your own exploration
  - Interact throughout the week
- Multi-media
  - Traditional lecture notes (PDF)
  - Slides (Keynote/PDF)
  - ipython Notebooks
    - some packages required
  - May make the presentation a bit 'choppy'..
- Distribution
  - Dropbox
  - Email me for read access
    - xavier@ucolick.org
- First time I will present (much) of this material
  - Hard for me to predict the timing
  - Ask questions
  - Identify typos (I will update the material)
  - Ask more questions!

My Lectures

- Astrophysics of Lyman Series Absorption (Lectures 1,2)
- A Few Basics of Spectroscopy (Lecture 2)
- Characterizing the Lya Forest (Lecture 3,4)
- Optically thick Systems (Lecture 5,6)
- Damped Lya Systems (Lecture 6)
- The Modern IGM (Lecture 7)
- Future prospects with HI Absorption (Lecture 8)