

**Students led outreach initiatives at
the UVic Observatory.**

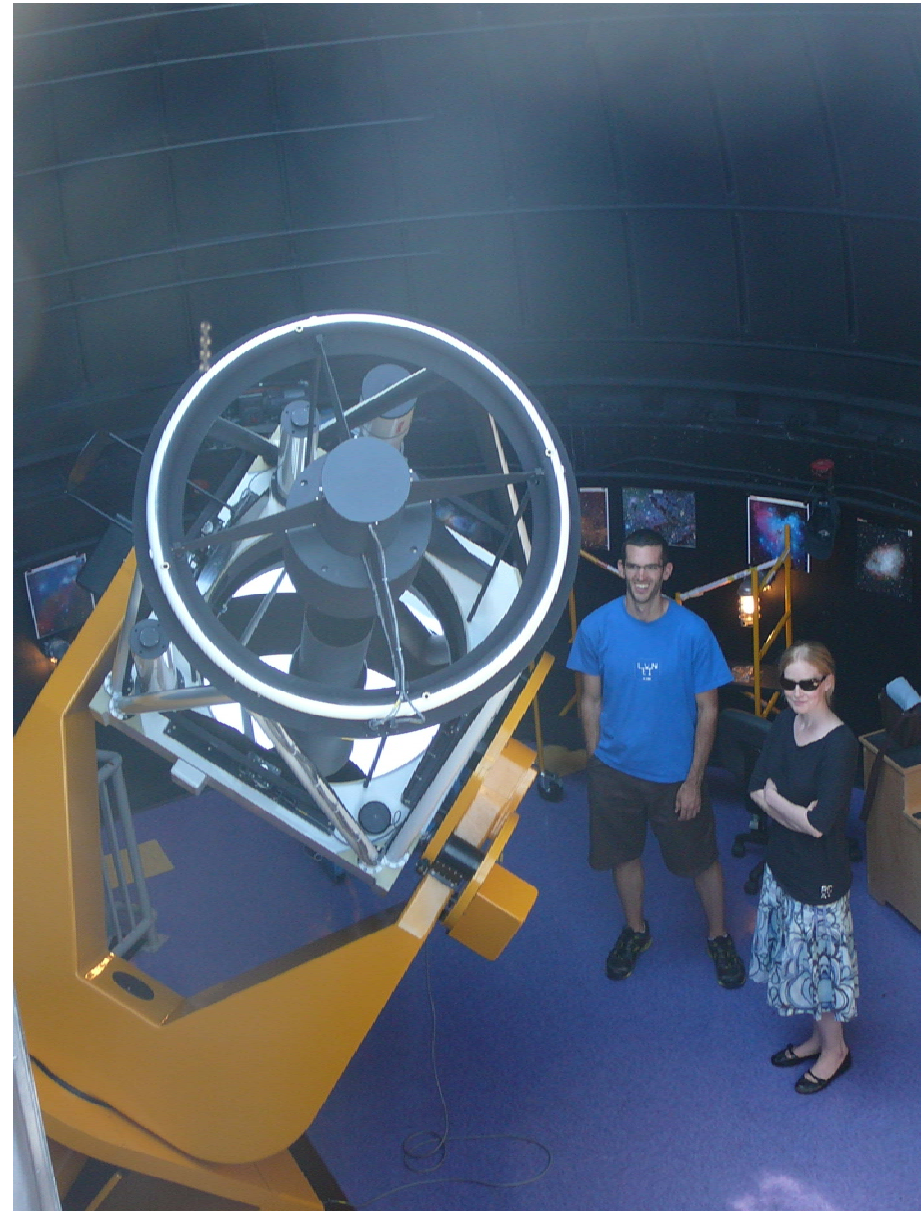


**Karun Thanjavur and members of the UVic
Outreach Committee.**

APRIM 2017, Taipei, Taiwan

Overview of the presentation

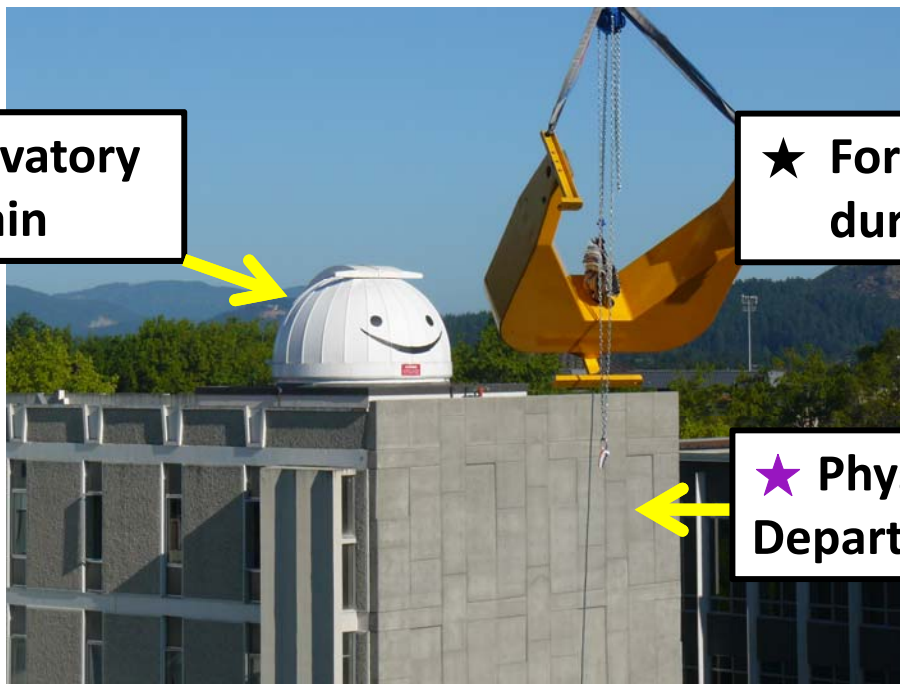
- ★ The *new* UVic Observatory
- ★ The reborn Center of the Universe
- ★ Wednesday Night Open House @ UVic Observatory
- ★ Observatory tours for school groups
- ★ Special interest groups and astronomy events
- ★ Planned upgrades to our DFM telescope
- ★ Future outreach plans



The (old) UVic Climenhaga Observatory

★ Climenhaga Observatory
Lorenz 0.5m Cassegrain

★ Fork of new telescope
during installation



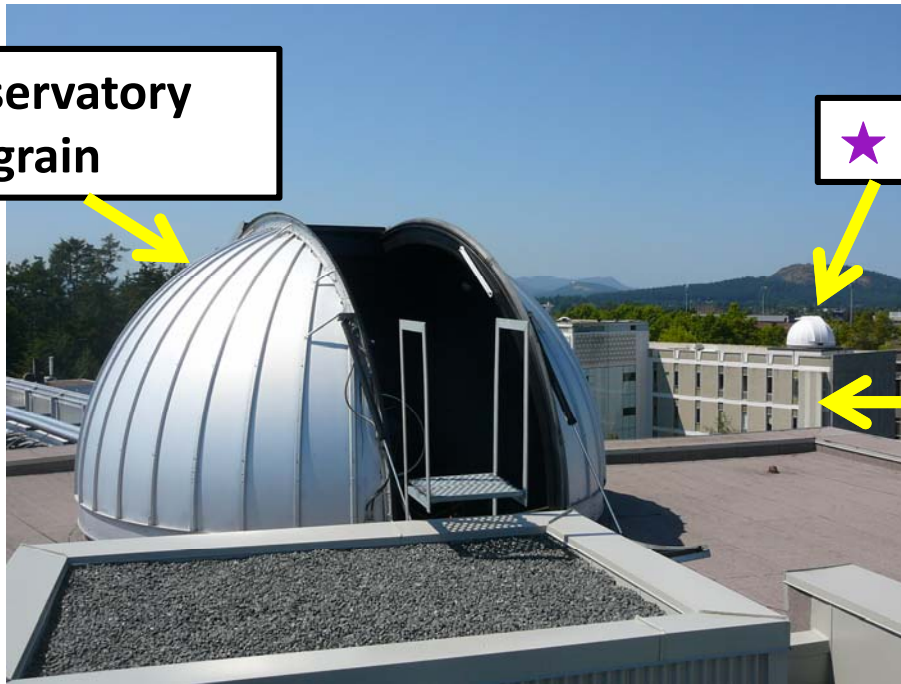
★ Physics & Astronomy
Department

- ★ Observatory built at inception of the Physics & Astronomy department (Elliott building, 1963); equipped with 5" refractor.
- ★ *Modern* Lorenz 0.5m telescope installed, 1976; refurbished with state-of-art electronics and TCS in 1985.
- ★ Used primarily for undergraduate teaching and research projects.
- ★ Outreach efforts started in 1990's

The (new) UVic Observatory

★ New UVic Observatory
DFM 0.8m Cassegrain

★ Climenhaga observatory



★ Physics & Astronomy
Department, UVic.

- ★ New observatory built on Bob Wright building, 2010.
- ★ DFM 0.8m Cassegrain telescope installed and commissioned (**fifth largest in Canada, largest in a Canadian University campus!**).
- ★ Installed with a Princeton Instruments CCD camera but no filters¹
- ★ Used for undergraduate teaching.
- ★ Vigorous outreach program for schools and general public.

¹ *Upgrades in progress, see later slides*

The Center of the Universe



★ Dominion Astrophysical Observatory (DAO)
Plaskett 1.8m telescope + Center of the
Universe (2001 – 2013).

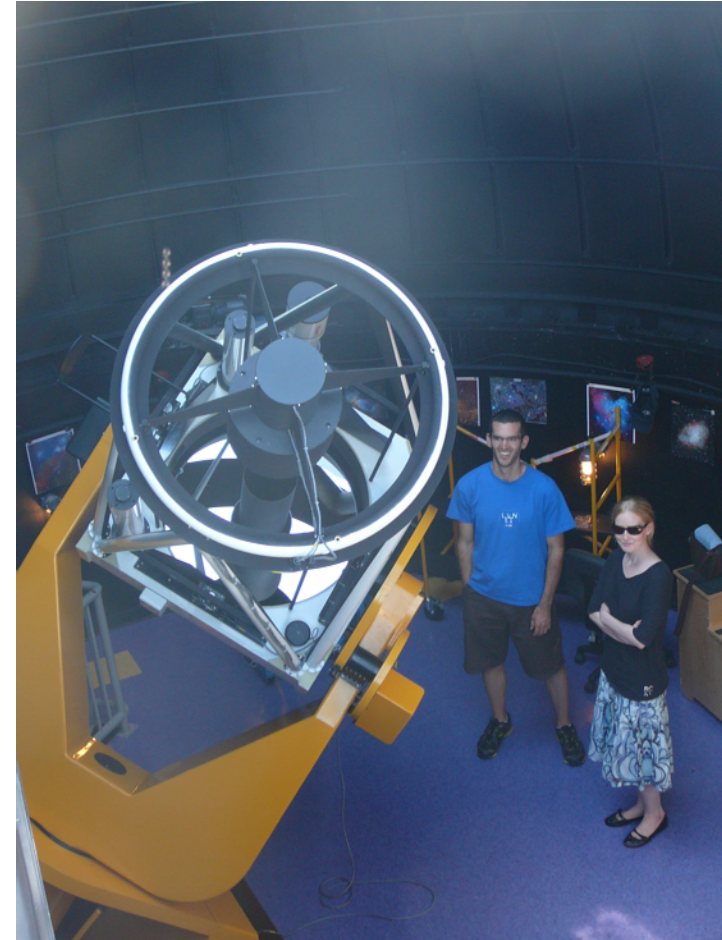


- ★ Excellent school outreach programs were offered through the NRC-Center of the Universe (at the DAO 1.8m Plaskett telescope).
- ★ Center of Universe closed due to budget cuts, 2013.
- ★ **Paid staff** disbanded, museum and program office closed.

The (reborn) Center of the Universe



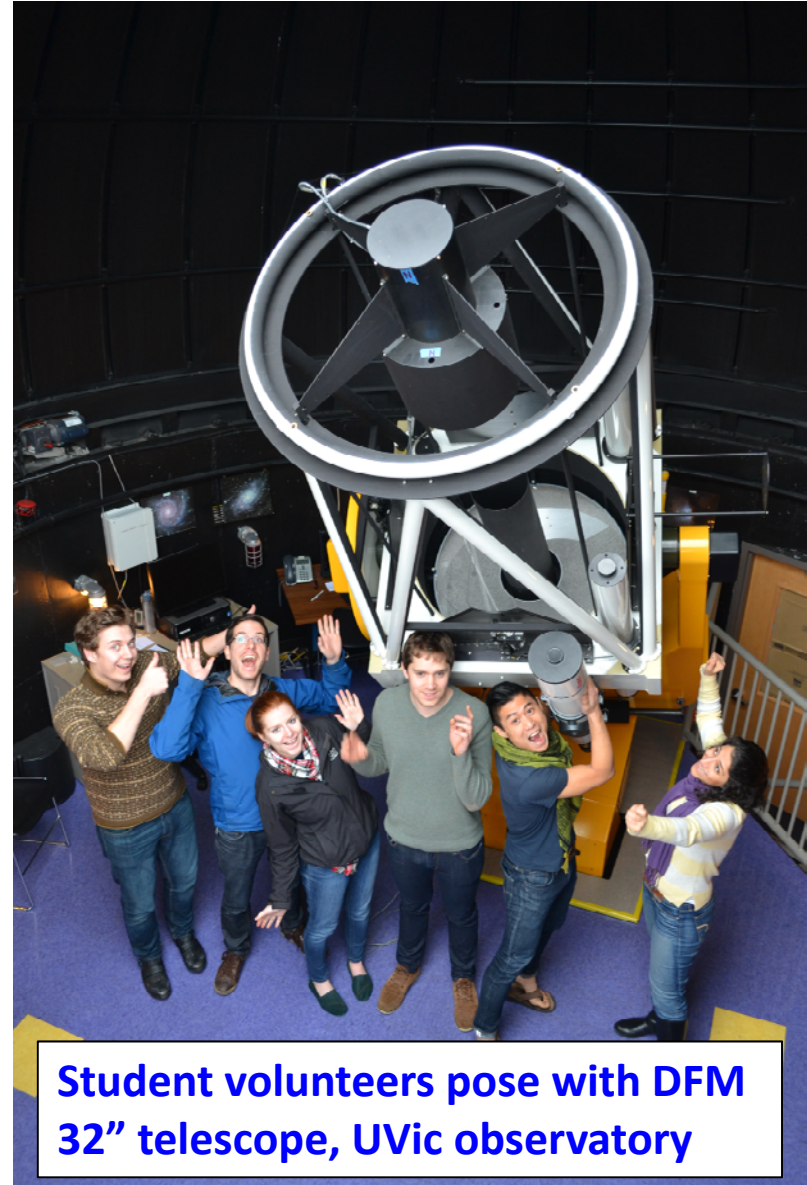
★ UVic Observatory 0.8m telescope + student volunteers (graduate + undergraduate)



- ★ Growing number of school and public outreach programs now offered through the new UVic Observatory .
- ★ Entirely volunteer run, mainly led by students.

Wednesday Night Public Open House

- ★ Our most popular public outreach program.
- ★ Every Wednesday night for 2 hours, rain or shine!
- ★ Open to the general public.
- ★ Led by three undergraduate students.
- ★ The students are paid through a UVic work-study program.
- ★ Many students freely volunteer their time!
- ★ 50 – 80 visitors on clear summer nights.
- ★ 5-10 visitors even on a rainy and cold winter night.



Student volunteers pose with DFM 32" telescope, UVic observatory

Observatory Tours for School Groups

- ★ 2-3 tours/week for school groups during the school term.
- ★ School students from all grade levels, elementary to high school.
- ★ Volunteer graduate and undergraduates lead these tours.
- ★ Mainly daytime tours – solar telescope, sunspots, bright stars/planets with the DFM 32”
- ★ Q & A sessions are very engaging and well informed!!



Kali and Maan at Q&A during an elementary school tour.

Special Interest Groups and Astro Events



Nic @ Mercury Transit



Jordan @ Astro Day 2017



Nasrin @ Astro Day 2017

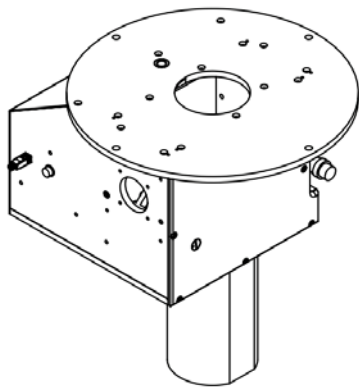
- ★ Observatory tour popular with science camps, summer camps, Girl Guides, Scouts, and others.
- ★ All tours led by graduate and undergraduate volunteers.
- ★ Active participation in astronomy events, Astro Day 2017, UVic Idea Fest, Mercury Transit, etc.



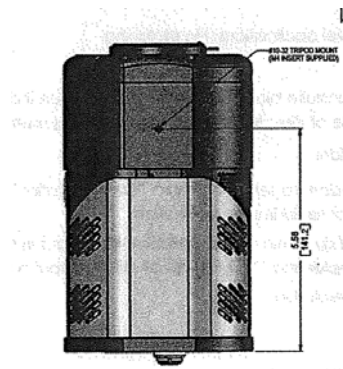
Aaron @ IdeaFest 2017

Planned upgrades to the DFM telescope

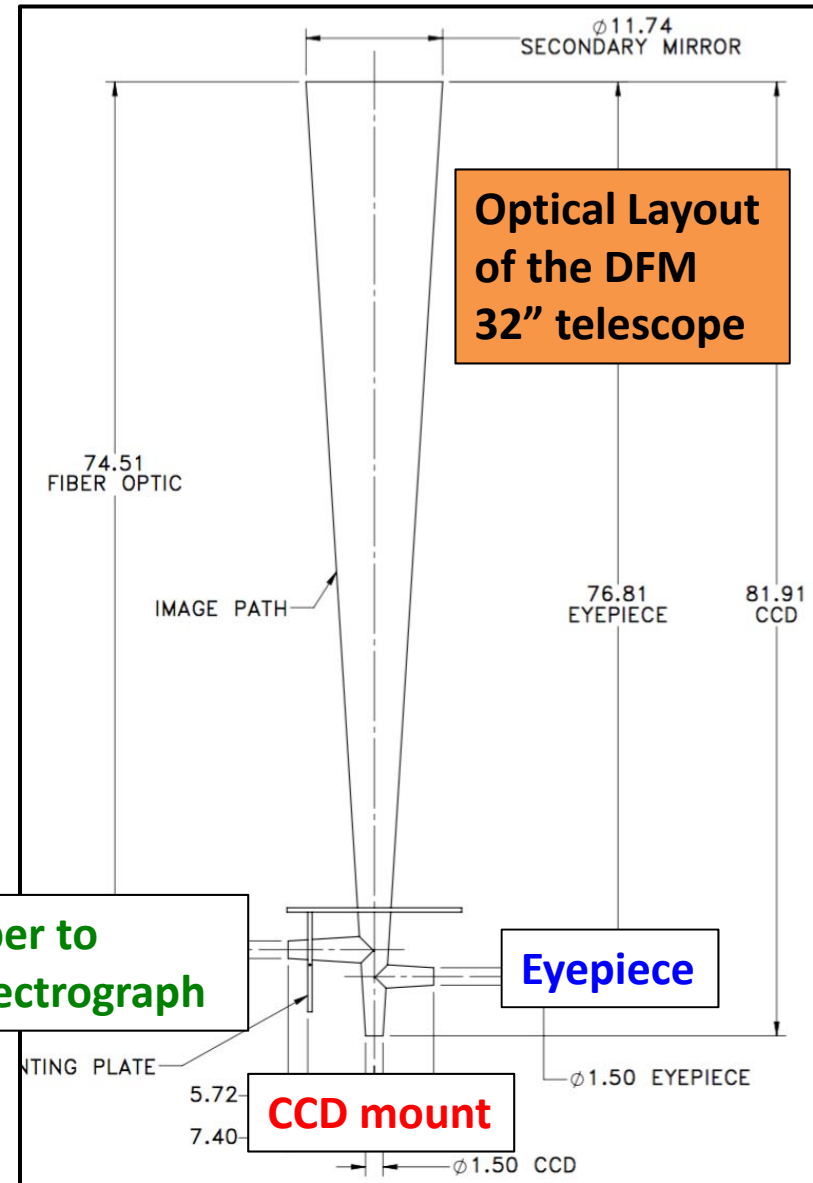
- ★ Interface filter wheel assembly and Coude spectrograph.
- ★ Detailed design drawings prepared and reviewed.
- ★ Parts being fabricated.
- ★ Fiber pickoff being designed.
- ★ Spectrograph ready for interfacing.



Filter wheel assembly



Princeton Instruments CCD



Future work – sky is the limit!!

- ☐ Meet the increasing demand for hands-on astronomy from school groups.
- ☐ Build an online TCS for remote control of the DFM 32” telescope (*Looking for collaborators!*)
- ☐ Build software for remote imaging and spectroscopic capabilities (*Looking for collaborators!*)
- ☐ Identify graduate and senior undergraduate mentors for school groups.
- ☐ Develop realistic observational projects and obtain data.
- ☐ Provide help with end-to-end data reduction and analysis.
- ☐ Reach out to schools in remote locations, especially in economically disadvantaged areas for astronomy activities!
Global outreach, not restricted to Canada!!
(*Looking for collaborators!*)