

Potential Roles of IPP in Supporting Theory

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IPP-Related Theory in Canada

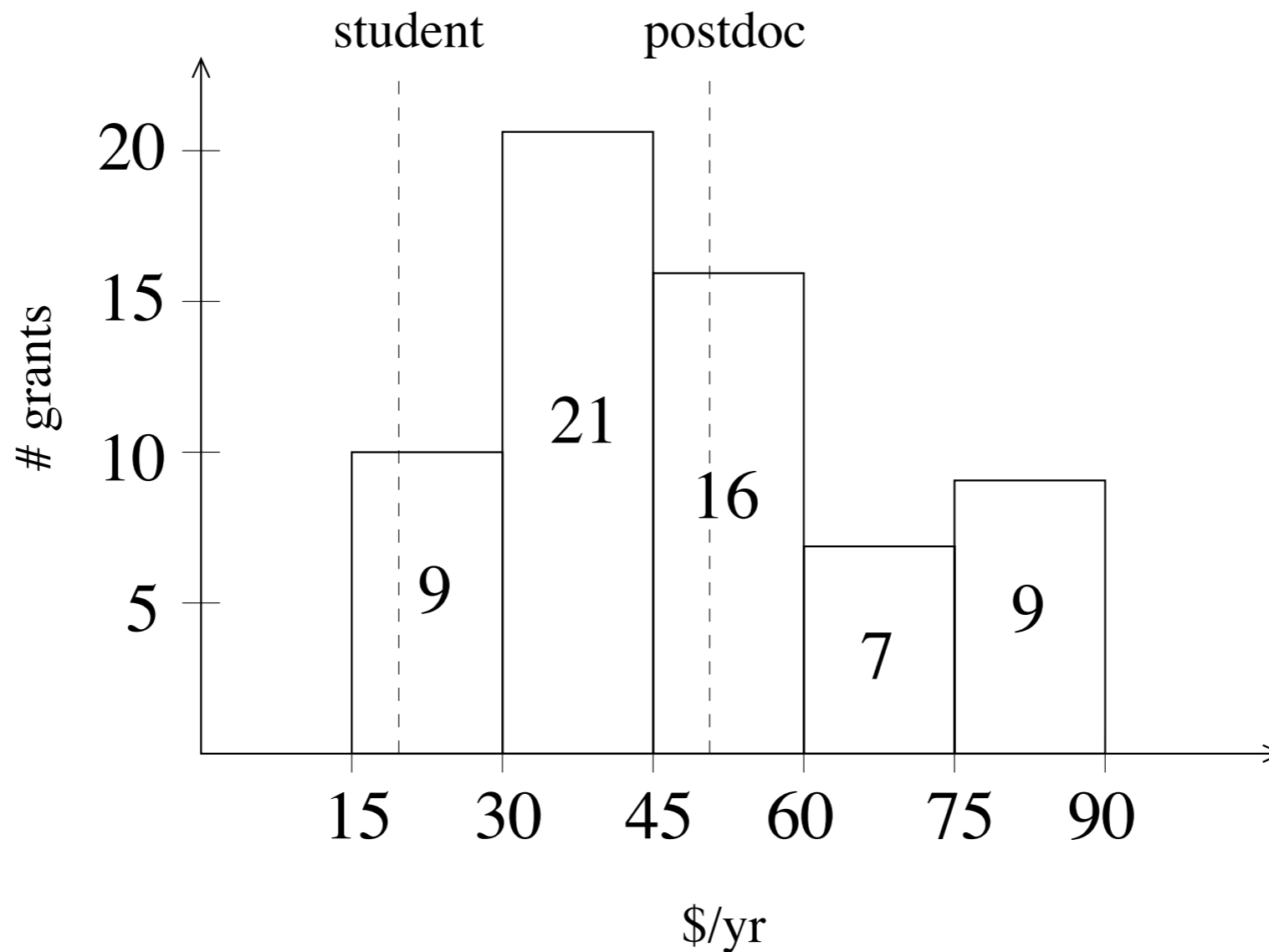
- Itay Yavin's talk...
- A few bigger groups, many smaller (1-2 permanent).
Bigger groups are also often very diverse.
- Broad range of topics: LHC, neutrinos, flavour physics, dark matter, cosmology, gravitation, QCD, more formal,...
- Some (informal) connections to IPP experimental projects.

Theory Spending

- Shopping List:
 - student (M.Sc. or Ph.D.): ~\$20k/yr for 2-6 yrs.
 - postdoc: ~\$50k/yr for 2-3 yrs.
 - travel: ~\$1k per trip in North America
~\$2k+ per trip further afield
 - computing: usually not too much (<\$1k/yr)
- Note: nearly all theory funding goes to HQP!

Theory Funding

- Individual NSERC discovery grants: \$15k-\$90k/yr.



(2009-2013, IPP Members in Theory, Subatomic Physics)

Funding Challenges

- Supporting one or more students is usually feasible.
- Hiring a postdoc is challenging:
 - Significant cost per year relative to grant size.
 - 2-3 year duration can make it hard to “save up”.
 - Sharing a postdoc is not always possible.
 - Intense hiring cycle: nearly all offers/acceptances between January to mid-February, 100+ institutions.
⇒ NSERC postdoctoral fellowships not useful
- Covering a student and a postdoc is not possible for most. Students and postdocs can benefit a lot from each other!

Theory-Experiment Collaboration

- CAP/IPP meetings.
- ATLAS Canada meetings often have a theory speaker.
- TRIUMF ATLAS/Theory joint meetings.
- Southern Ontario particle physics meetings (PI+...).
- Workshops at various departments.
- ATLAS short-term collaboration memberships.
- More/regular would be useful for many.
- Also, theory-theory communication could be better.

Idea #1: IPP Awards for Students or Postdocs

- Theory funding vs. cost has significant “edge effects”.
- Students:
 - IPP scholarship (CREATE Grant)
 - award to reduce student teaching or visit other groups
- Postdocs:
 - IPP postdoc award (\$20k/yr would reduce edge effects)
 - IPP-coordinated joint postdocs at 2+ institutions?
 - give to groups instead of to individual candidates?

Idea #2: Theory and Experiment Interaction

- IPP sponsorship of theory or theory-experiment meetings.
- Awards for researcher visits to other IPP groups.
(e.g. CREATE grant to cover student visits)
- IPP lectures by theorists?

Extra Slides

Salary vs. Postdoc Attractiveness

