



## Working together for a stronger community

### Not just a catch phrase, but a reality of academia

On first thought, the term “collaborations in physics” conjures up thoughts of some of the enormous projects in the physics world. Projects like the Large Hadron Collider, the Hubble Space Telescope, the Pierre Auger Observatory, and the Mars Exploration Rovers require far too many resources (physical, monetary, and intellectual) for any one group to undertake on their own. These vastly ambitious projects are often probing very fundamental physics, and so carry a great deal of importance to the scientific community. It is, then, in everyone’s best interest to work together so we can discover more about the world in which we live.

But not all collaborations are so mammoth. In most fields of physics, small scale collaborations are critically important, but these everyday collaborations go widely unnoticed or undocumented. Darren Peets has written an excellent article describing this phenomenon from a first-hand perspective, and his viewpoint is by no means unusual. Think about your own experience in physics, and try to imagine what would be different if you worked mainly in isolation. There may not be an acronym for such collaborations, but working together is critically important to the daily workings of the scientific community.

The internal contributions we collectively make to our community are only one aspect of our collaborations. Our collective contributions to our culture and society, in education and public outreach, are also very important. Scientists in general, and physicists in particular, are often perceived as being somewhat removed from society, hunkered over a lab bench in a proverbial ivory tower. This is due partially to the

perception of physics as having nothing to do with the “real world,” but is not at all the reality of the physics community. Many institutions regularly hold public lectures in physics (the Perimeter Institute in Waterloo being an excellent example, with monthly public lectures), in an attempt to reach out the general public. The David Dunlap Observatory has open houses throughout the summer, encouraging the public to come and have a glimpse of the skies through the largest telescope in Canada. Universities across the country run science-oriented summer camps, aimed at exposing elementary school-aged children to the wonders of physics and science.

Taking outreach and education one step further are institutions such as the United Nation’s Educational, Scientific and Cultural Organization (UNESCO). UNESCO was set up in 1945, and, through intellectual thought, scientific research, and education, aims to “create the conditions for genuine dialogue based upon respect for shared values and the dignity of each civilization and culture.” Collaboration between groups of people around the world, scientists, governments, and ordinary citizens alike, is the cornerstone upon which UNESCO is built. Physics, as the fundamental natural science, and the basis of modern technology, is increasingly important to science education on every level. UNESCO has several programs and institutions which aim to bring together young researchers, and bring scientific knowledge to people who otherwise would not have access to such potent knowledge.

Especially prominent in such programs, both in UNESCO and other organizations, are programs

aimed at teaching science to girls, especially in cultures where science is not seen as a viable career path for women. While there are efforts outside the physics community to correct the gender gap in physics (less than 10% of the members of the American Physical Society are female), there are many group efforts in the physics community to bring more women, and their diverse range of talents, to the field. There are many theories as to why this gap is so wide, but one thing that is generally agreed upon is that the only way it will close is by the community working together to eliminate the biases perceived and experienced by women and misconceptions by those who contemplate entering the field, but decide against it.

Like so many academic endeavours, this journal is the result of many people’s effort. On behalf of the editorial board, I’d like to thank all of you who contributed in one way or another over the past year: this journal is only as good as its contributions, and I’m proud to say I was the English editor this year. I’d also like to encourage all of the readers to consider contributing in the coming year. Physics is a pure science in many ways, but writing about physics provides a very different perspective from mathematics. As always, if you’re interested, email [cupj@cupj.ca](mailto:cupj@cupj.ca) or [editor@cupj.ca](mailto:editor@cupj.ca) with your feedback, comments, and ideas.

A handwritten signature in black ink that reads "S. Taylor". The signature is written in a cursive, flowing style.

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