

THE CAP DESIGNATION OF PROFESSIONAL PHYSICIST – WHO AND WHY

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Richard Feynman once rebutted to an artist who said scientists cannot see the beauty of a flower because, with their knowledge, they dissect the flower into its basic constituents - the atoms and molecules - and the beauty is destroyed^[1]. Feynman contends that even an atom in isolation is “beautiful” with its intricate display of perfect symmetry. His thesis was *knowledge always adds, never subtracts*.

Bertram Brockhouse is on record saying we do not do something just because we have the knowledge for doing it. Bert gave a highly relevant example for Canada—the knowledge we have for how to extract energy from atoms, is not sufficient, on its own, for developing nuclear energy. We are reminded to give careful consideration of how the knowledge we have as physicists is used^[2].

These statements by Nobel Laureate physicists are thought provoking for physicists since many are engaged, directly or indirectly, in the search for knowledge. The knowledge acquired can be used constructively or destructively. Often legal or regulatory frameworks concerning the use of the new knowledge are not in place, and will not be for many years after the pioneering work. This stands in contrast with the situation for some other professions where a clear set of rules and limitations exist to guide the practitioner.

SUMMARY

History has proven time and again that Physicists’ work can have far reaching impacts in society as a whole. Throughout their career physicists must be mindful of this possibility, and act responsibly and ethically. Professional certification requires that they do so.

A scientist is not able to predict the reach of his or her work. Yet, it could have the potential of affecting the entire world and therefore the precision and correctness of assessing the future impact of the “product” is far more imperative than for some other professions.

Many professions in Canada are regulated or regulate themselves for a variety of reasons. Typically, professional regulation is in place to protect the “client”, either from personal or financial risks associated with the activities of that profession. For natural scientists in Canada, the “client” is, at its root, all Canadians. More broadly, one could say that the client is in fact the whole world.

Some professions, like engineers, lawyers, trades such as electricians/plumbers, or healthcare providers, are governed by federal or provincial law. As natural scientists are not a regulated profession, the Canadian Association of Physicists (CAP) chose to approach this issue in a different way. Though not the first, the CAP opted to introduce and trademark “Professional Physicist” or “P.Phys”. By means of a certification process with specific criteria and guidelines^[3], the CAP can limit the use of the P.Phys. title to only those who are licensed by the CAP.

In lieu of a strict regulatory framework, the CAP has developed the Code of Ethics^[4]. Adherence to this code is the minimum standard expected of all members to ensure they act responsibly for the benefit of society, clients and employers, the Physics profession, and to themselves. In addition an expanded code of ethics^[5] has been developed for the holders of the P.Phys. A P.Phys. is a CAP member who has made the pledge to be bound by this expanded code, and in the view of the CAP, he/she has demonstrated a level of proficiency and/or professional conduct required to uphold the pledge.

REFERENCES

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3. CAP Professional Certification program, <http://www.cap.ca/en/careers/pphys-certification>.
4. CAP Code of Ethics, <http://www.cap.ca/en/membership/cap-code-ethics>.
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