Canadian Association of Physicists

Association canadienne des physiciens et physiciennes

Contribution ID: **639** Type: **Invited Speaker / Conférencier(ère) invité(e)**

(I) Building computation skills into our physics program

Monday 7 June 2021 15:45 (30 minutes)

Computational skills are integral to physics research; they enable the operation of instruments, facilitate the analysis of data, and elucidate physical phenomena through simulation. The same can be said for physics curricula; not only does this reflect the importance in research but incorporating computation into physics courses provides its own pedagogical value. Not surprisingly, many undergraduate programs include dedicated courses that teach introductory computer programming and/or computational methods. We have recently begun integrating computational activities into our second-year physics courses and have adopted a centralized approach: Exercises alternate between multiple courses and are administered independent of the course instructors. Our goal is to provide regular, cohesive exposure of computation, contextualized to their courses, without overburdening one specific course/instructor. We will discuss the structure of these exercises, how they fit into the broader picture of computation in our program, and the overall impact on our students (both perception and proficiency).

Primary author: MASSA, Michael (University of Guelph)

Presenter: MASSA, Michael (University of Guelph)

Session Classification: M3-2 Physics and Computing II (DPE) / Physique et calcul II (DEP)

Track Classification: Physics Education / Enseignement de la physique (DPE-DEP)