

Undergraduate Research

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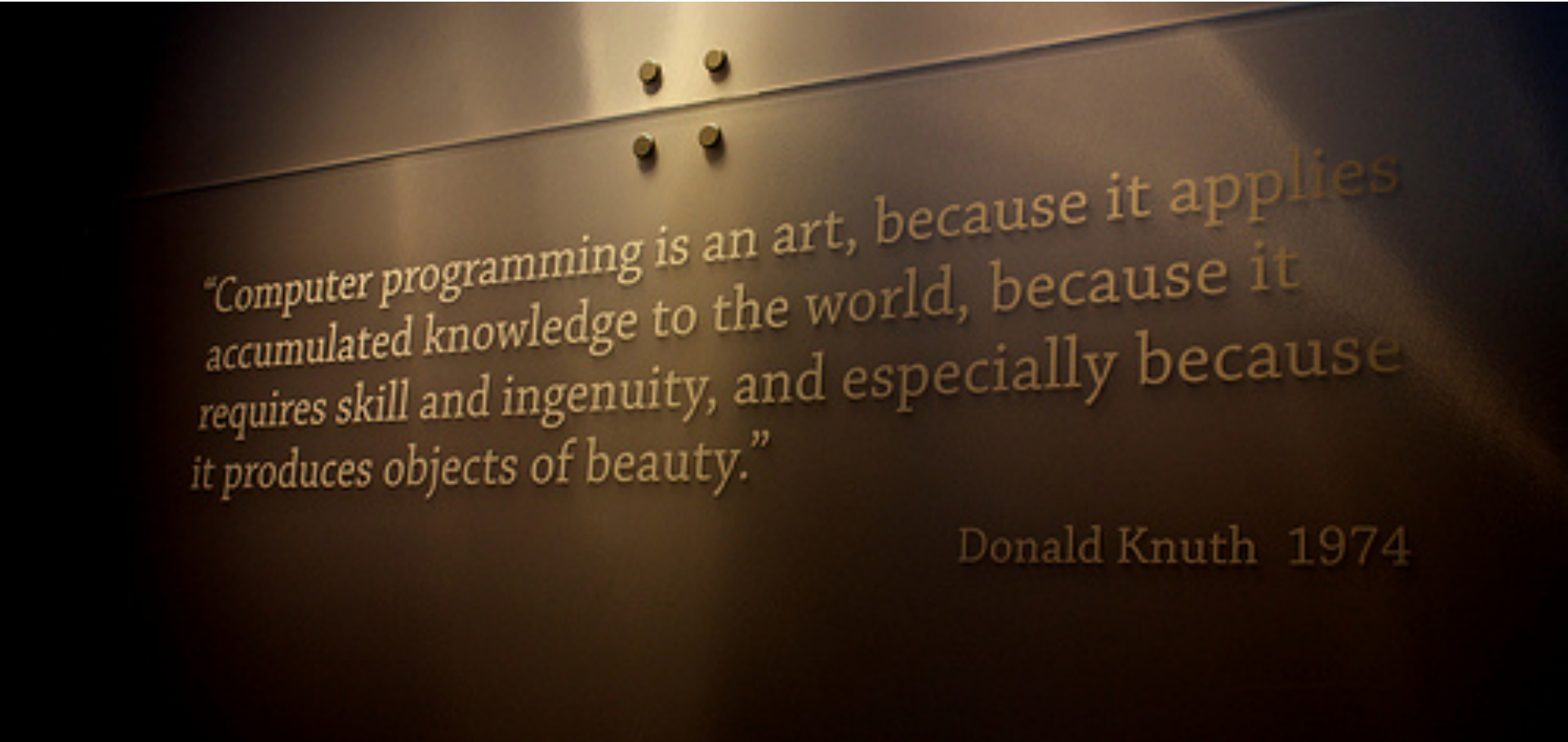
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“Computer programming is an art, because it applies accumulated knowledge to the world, because it requires skill and ingenuity, and especially because it produces objects of beauty.”

Donald Knuth 1974

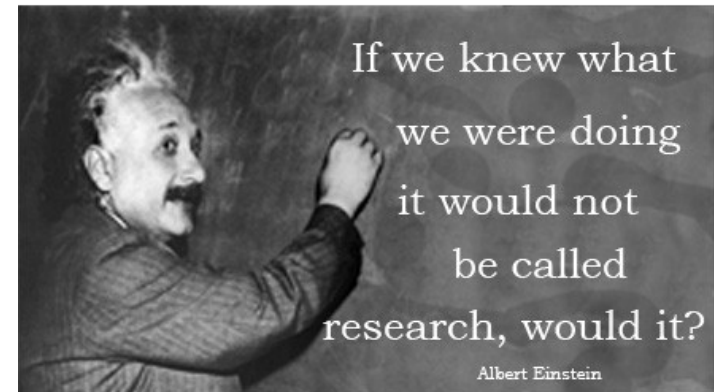


“Research serves to make building stones out of stumbling blocks.”

Arthur D. Little



Neil Armstrong:
“Research is creating new knowledge”



If we knew what we were doing it would not be called research, would it?

Albert Einstein

Undergraduate Research Opportunities

- Undergraduate Research Assistantship (URA)
 - Part-time research experience done on an academic term
- Undergraduate Student Research Award (USRA)
 - Full-time research experience done on a work term funded through NSERC
- Undergraduate Research Internship (URI)
 - Full-time research experience done on a work term funded through UW

What is a URA?

- An opportunity for undergraduate students to participate in engineering research during an academic term
- Six hours of work, per week and last ten weeks on a research project under the supervision of a faculty member
- Receive financial compensation of \$800 for the term which is broken into two payments of \$400:
 - \$600 is provided by your supervisor
 - \$200 is provided by the Dean of Engineering

URA: Eligibility Criteria

- URAs are awarded to Engineering students with an “A” (80%+) average in their previous term
- URAs are supported by individual professors for Engineering students in 2A, 2B, 3A, 3B, 4A and 4B
- URAs can only be done during a student’s academic terms
- Students must arrange these assistantship projects with the Professors

URA: Application Forms

- Locate a faculty member to supervise your URA
- Fill out the URA application form and submit it to the Dean of Engineering Office (CPH 4301)
https://uwaterloo.ca/engineering/sites/ca.engineering/files/uploads/files/ura_application_4.pdf
 - Students need to fill out Part A of the application and the supervisor needs to fill out Part B
- To have your payments deposited directly into your bank account, fill out the "Automatic Deposit Form" and hand it in with your application
<https://uwaterloo.ca/human-resources/sites/ca.human-resources/files/uploads/files/deposit.pdf>

URA: Application Deadline

- URA applications are submitted starting on the first day of classes for the term
- They can be submitted up until the deadline two weeks later

<https://uwaterloo.ca/engineering/ura/faqs#Important-date>

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What is a USRA?

- An opportunity for an undergrad student to conduct engineering research in a university environment full time for a term
 - The goal is to stimulate your interest in engineering research and to encourage you to pursue a graduate studies degree
- Sponsored by the Natural Sciences and Engineering Research Council (NSERC) of Canada
 - http://www.nserc-crsng.gc.ca/students-etudiants/ug-pc/usra-brpc_eng.asp
 - Over 50 awards are available in Engineering at Waterloo for a minimum of \$5,625
 - The Dean of Engineering is offering an additional \$4,500 for up to 15 exceptional USRA recipients

USRA: Eligibility Criteria

- Registered engineering undergraduate student at a Canadian university and completed at least two academic terms
- Average over last two years (4 terms) of 72% or above
- Canadian or Permanent Resident
- Significant interest in pursuing graduate studies

USRA: Application Forms

- Locate a faculty member to supervise your URA
- To create/access an application, select "On-line System Login" on the NSERC website.
 - http://www.nserc-crsng.gc.ca/OnlineServices-ServicesEnLigne/Index_eng.asp
 - http://www.nserc-crsng.gc.ca/OnlineServices-ServicesEnLigne/Forms-Formulaires_eng.asp
- Students need to fill out the Part I of Form 202 and the supervisor needs to fill out Part II of Form 202.

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URA/USRA: Finding a Supervisor

- At the beginning of each term, a list of potential supervisors and their projects is made available to students:

<https://uwaterloo.ca/engineering/current-undergraduate-students/ura-and-usra-supervisor-lists#URA-List>

<https://uwaterloo.ca/engineering/current-undergraduate-students/ura-and-usra-supervisor-lists#USRA>

- Other Professors may also be willing to support a URA/USRA on request even though they are not listed
- A Professor does not need to be in an Engineering Department to support a URA/USRA
- Find a Research Expert:

https://ofis.uwaterloo.ca/eng_research/expert_page.php

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