

**TRIUMF
&
The BC Association of Physics Teachers**



Are pleased to announce

“Kindling your passion for physics teaching”

Come and be inspired by award-winning physics researchers and educators while networking with colleagues sharing practical resources, and learning about physics applications.

A Conference and Workshops for Secondary Science Teachers

- DATE:** Provincial Pro-D Day, Friday October 19th, 2018
- LOCATION:** TRIUMF, UBC Point Grey campus
4004 Wesbrook Mall, Vancouver
Website: www.triumf.ca
- REGISTRATION:** Please register by October 12th, 2018 on the following [link](#) or go to our website at www.bcapt.ca . (On-site registration: cash or cheque only)
- REGISTRATION FEE:** Fee Includes: breakfast, lunch, coffee and a 1-year membership for members, non-members and student teachers.
- BCAPT members: \$70.00
 - Non-Members or at the door: \$75.00
 - Student Teachers - currently in PDP program: \$45.00
 - Undergraduate Physics Students: \$35.00

Cancellations requested on or before **October 15, 2018** will be refunded your payment minus \$5.00 (for processing), no refunds for requests after October 15, 2018. Please submit cancellation requests to [cheng_p\(at\)surreyschools.ca](mailto:cheng_p(at)surreyschools.ca)

Space is limited so please register early.

This Pro-D Day has been designed to enable participants to gain a deeper understanding of nuclear physics and its applications as well as of some aspects of astronomy. Through lectures and workshops run by award-winning physics researchers and educators working in these fields, we aim to contribute to the delivery of some key topics of the new BC Science curriculum.

The “New to Teaching Physics” workshop is designed for those teachers who have not taught physics before or have taught for less than 2-3 years. The purpose is to engage participants in meaningful conversations around teaching and the challenges it may pose for new teachers as well as provide opportunity to share class resources and create a support network. Bring any questions you may have and any resources you may want to share.

The “Inquiry-based Teaching in Physics” workshop is designed to provide a variety of hand-on inquiry ideas for the teaching of physics. We will discuss topics that are common to junior science (Science 8 to 10) and senior physics (Physics 11 and 12) and explore how inquiry activities in these topics can be modified depending on the grade level. The purpose is also to provide an opportunity to share resources and create a support network. You are welcome to bring any resources you may want to share.

PROGRAM

7:30 am - 8:30 am	Registration Breakfast			
8:30 am - 9:30 am	Opening Plenary Aaron Boley (UBC) - Exoplanets			
9:35 am - 10:35 am	Workshop 1A Production and decay of ^{13}N with TR-13 cyclotron (max. 7 participants)	Workshop 1B New to teaching physics workshop (Run by BCAPT) (max. 20 participants)	Workshop 1C Inquiry-based teaching in physics (Run by BCAPT) (max. 20 participants)	Workshop 1D Nuclear gamma ray spectroscopy - look at characteristic gamma ray spectra of different sources (max. 7 participants)
10:35 am - 11:00 am	Coffee Break			
11:05 am - 12:05 pm	Lecture 1A Anthony Chan (BCIT) The physics of Medical Devices (with demos and equipment)	Lecture 1B Iris Dillmann (TRIUMF) Where do elements come from?	Lecture 1C Barry Pointon (BCIT) Diagnostic nuclear medicine	
12:10 pm - 1:10 pm	Lunch Break			
1:15 pm - 2:15 pm	Workshop 2A Production and decay of ^{13}N with TR-13 cyclotron (max. 7 participants)	Workshop 2B New to teaching physics workshop (Run by BCAPT) (max. 20 participants)	Workshop 2C Inquiry-based teaching in physics (Run by BCAPT) (max. 20 participants)	Workshop 2D Nuclear gamma ray spectroscopy - look at characteristic gamma ray spectra of different sources (max. 7 participants)
2:20 pm - 2:30 pm	Closing remarks			
2:30 pm - 3:00 pm	Tour of TRIUMF machine shop (optional)			

Parking: \$6.50 per day in TRIUMF parking lot. Attendees are encouraged to take transit (#41 bus stops at TRIUMF) or carpool.

ABOUT THE PRESENTERS

DR. AARON BOLEY

Dr. Aaron Boley earned his PhD from Indiana University. Before joining UBC as a Canada Research Chair in Planetary Astronomy, he was a postdoctoral researcher at The University of Zurich and a NASA Carl Sagan Postdoctoral Fellow at the University of Florida.

Dr. Boley investigates the birth of planets, and seeks to put the Solar System in context with the many worlds now known to exist. His research program addresses processes such as the rise of planet-forming discs, the formation of solids found in meteorites, and the long-term evolution of planetary systems and their debris (asteroids and comets). To do this, Dr. Boley utilizes supercomputer simulations, as well as observations from some of the world's most powerful astronomy facilities.

Observational surveys have revealed that planetary systems are about as ubiquitous as the stars themselves. Throughout the Galaxy, there are other Jupiters, other Neptunes, and other planets with Earth-like sizes. For centuries we have relied on only the Solar System for understanding our origins. Now, new data from meteorites, comets, and newly discovered planetary systems simultaneously challenge classical pictures of planet formation and provide the information needed to explore new ideas.

DR. IRIS DILLMANN

Dr. Iris Dillmann earned her PhD in astrophysics from University of Basel/ Switzerland. After postdoc stays in Karlsruhe and the TU Munich she got a prestigious 5-year grant from the German Helmholtz association for a Young Investigators Group ("LISA- Lifetime Spectroscopy for Astrophysics") which she led at the GSI Helmholtz Center for Heavy Ion Research in Darmstadt/ Germany until June 2015. Since September 2013 she is working at TRIUMF and is in charge of the beta-delayed neutron program. For this program she got awarded a NSERC Discovery Grant and a Discovery Accelerator Supplement in 2014.

Since 2015 she is Adjunct Professor at the Department of Physics and Astronomy at the University of Victoria and the Scientific Coordinator of the NSERC CREATE program IsoSiM (Isotopes for Science and Medicine, isosim.ubc.ca).

Her field of expertise is experimental nuclear astrophysics (heavy element nucleosynthesis) and nuclear physics (decay properties of exotic nuclei). During her time at GSI in Darmstadt her research group developed the particle detector CsISIPHOS for the future storage ring CR and radiation-hard diamond detectors for the Super-FRS at FAIR. Her main field of research is the investigation of half-lives and beta-delayed neutron emission probabilities of very neutron-rich isotopes with the Spanish-German neutron detector BELEN and the Canadian neutron detector DESCANT.

DR. ANTHONY CHAN

Dr. Anthony Chan earned his PhD in Biomedical Engineering from the University of British Columbia. He has been a faculty member of the British Columbia Institute of Technology since 1992 and is currently the Program Head of the Biomedical Engineering Technology Program in the School of Health Sciences. He is also a teaching faculty and Adjunct Professor of the Biomedical Engineering Graduate Program of the University of British Columbia. Prior to joining BCIT, Anthony was the Director of Biomedical Engineering at the Royal Inland Hospital in Kamloops, B.C, Canada and the Consultant and Manager of the Biomedical Engineering Departments at the Burnaby and Lion's Gate Hospitals in Vancouver. Anthony is a Professional Engineer (Canada), Chartered Engineer (UK), Certified Clinical Engineer (Canada), fellow of CMBES, senior member of the IEEE, and member of the IET, and HKIE.

Dr. Chan was nominated and received the "Outstanding Canadian Biomedical Engineer Award" in 2007 from the Canadian Medical and Biological Engineering Society (CMBES) for outstanding contributions to the field of biomedical engineering. In 2015, he was recognized and awarded fellow of CMBES for his exceptional record of accomplishments and service to biomedical engineering, and bringing significant value to the Society and the profession. Anthony was also the recipient of the 2009 BCIT Alumni Association's "Excellence in Teaching and Research Award" for making a tangible difference in helping BCIT to produce exceptional graduates and has enhanced BCIT's world class reputation.

DR. BARRY POINTON

Dr. Barry Pointon earned his PhD in Physics from the University of British Columbia. He has been a faculty member of the British Columbia Institute of Technology since 1990 where he is in charge of applied instruction in physics and instrumentation for the Nuclear Medicine Technology program. This includes basic physics, atomic and nuclear physics, radiation and detector physics, and nuclear imaging physics and instrumentation. As well, image processing, analysis and tomographic reconstruction are covered for planar nuclear medicine, SPECT, PET and CT. This includes both basic theory and specific applications such as evaluation of different design parameters, imaging and reconstruction methods and protocols, performance measurements and quality control.