# Peter Winslow

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Github:// pwinslow | LinkedIn:// Peter Winslow

## EDUCATION

### UNIVERSITY OF BRITISH COLUMBIA

PhD in High Energy Particle Physics and Cosmology
2009-2013 | Vancouver, BC

M.Sc. in High Energy Particle Physics and Cosmology
2007-2009 | Vancouver, BC

### UNIVERSITY OF WINNIPEG

B.Sc. in Mathematical Physics
2002-2007 | Winnipeg, MB

## SKILLS

### PROGRAMMING

Fully Proficient:
Python • Mathematica • Matlab • LaTeX • BASH • Hadoop • Spark
Semi Proficient:
C • C++ • MySQL • HTML • CSS • Javascript • Jquery • Bootstrap
Familiar:
Hive • Pig • KNIME

### RESEARCH

UNIX/LINUX • OS X • Statistics • Machine Learning • Data Mining • Statistical Modeling • Data Visualizations • NumPy • Pandas • Scikit-learn • Matplotlib • Seaborn • git • Big Data • Neural Networks • Monte Carlo Simulations • High Energy Particle Physics (HEP)

## LANGUAGES

Fully Proficient: English
Semi Proficient: French
Basic: Hungarian

## EXPERIENCE

### AMHERST CENTER FOR FUNDAMENTAL INTERACTIONS (ACFI) | Postdoctoral Research Fellow

September 2013 – Present | University of Massachusetts, Amherst MA USA

- Led two major research programs in high energy particle physics & cosmology
- Developed and optimized machine-learning based analysis (boosted decision tree classifier) to study statistical sensitivity of future collider experiments currently in the design phase to various new physics models
- Developed software to perform Monte Carlo simulations over high dimensional multivariate data using distributed computing systems in the form of two clusters with 200 and 309 nodes, respectively
- Attained extensive experience in manipulation, filtering, and visualization of large multivariate datasets
- Applied statistical analysis to both simulated and real collider data including Chi-Squared based parameter estimation
- Made extensive use of analytical techniques in quantum field theory and cosmology
- Projects associated with these two programs successfully resulted in five peer-reviewed articles with three more currently being written

### TRIUMF | Research Assistant

September 2007 – August 2013 | TRIUMF, Vancouver BC Canada

- Performed numerical and statistical analysis and created visualizations using the Mathematica computer algebra system
- Applied statistical analysis to both simulated and real collider data including Chi-Squared based parameter estimation
- Made extensive use of analytical techniques in quantum field theory and cosmology
- Projects during this time successfully resulted in five peer-reviewed articles

### TRIUMF | Research Assistant

May 2007 – August 2007 | TRIUMF, Vancouver BC Canada

- Employed singular value decomposition analysis to reconstruct gamma ray paths in a high purity Germanium detector
- Project successfully resulted in an internal technical report for the TIGRESS group

### TRIUMF | Research Assistant

May 2006 – August 2006 | TRIUMF, Vancouver BC Canada

- Developed C++ code to implement Kolmogorov-Smirnov tests for quality improvement of data acquisition
- Project successfully resulted in an internal technical report for the TWIST group

## SELECTED AWARDS

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|---|---|---|
| 2013 | 1st in Canada | Institute of Particle Physics Theory Fellow \| Declined |
| 2011 | National | Canada NSERC PhD Fellowship |
| 2008 | National | Alexander Graham Bell Canada Graduate Scholarshp |
| 2006 | 1st/Prairie Provinces | TRIUMF Summer Research Award |
| 2002 | 1st/school division | William & Jean Meagher Scholarship |