# PHYSICS AND ASTRONOMY (FOURTH YEAR)

**TRISTAN BROWN**
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## SUMMARY OF QUALIFICATIONS

A hard working fourth year physics and astronomy student with a passion for experimental and observational investigations. Enjoys critical analysis and application of theoretical knowledge to real world scenarios. Demonstrates excellence in astrophysics and laboratory work.

## OBJECTIVE

A research position at an institution that will aid in the development of scientific knowledge in the fields of star formation, and chemical evolution of stars and galaxies

## SKILLS AND ABILITIES

**Computing**
- Proficient in Java, Perl, IDL and Matlab programming languages
- Programming experience includes: Monte Carlo simulations, data analysis, hypothesis testing, data fitting, scripting, GUI design
- Familiar with Linux
- Can implement data analysis programs such as IRAF, STARLINK, SEXTRACTOR, GAIA and SAO

**Research**
- Experience includes: Data reduction of astronomical images and spectra,
- Testing properties of radioactive sources,
- Using various software and probes to test mechanical and electromagnetic theory,
- Building circuits to read signals
- Competent in reading academic literature to aid in the analysis of acquired data

**Communication**
- Can write clear and concise laboratory reports with all necessary information
- Understands given instructions and reproduces them for others
- Contributor to labs or projects that involve teamwork
- Fluent in Spanish
- Ability to adapt to cross-cultural situations through five years of expatriate living

## EDUCATION

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|---|---|
| September 2007 – April 2012 | University of Victoria<br>Honours BSc Physics and Astronomy, 4th year |
| September 2005 – May 2007 | Salisbury Composite High School<br>International Baccalaureate<br>Courses, SL Math, Physics and Chemistry,HL Biology, English and History |

## AWARDS

**2010 - NSERC USRA**
- Awarded Undergraduate Student Research Award at the University of Lethbridge
- Assist with FTS-r related software

**2009 Co-op Paper Prize**

- Wrote the best co-operative education paper entitled "Spectroscopic Studies of Outflows in Massive Star Forming Regions"

**2008 – Dean's List**
- Faculty of Science, University of Victoria

**2008 – The President's Scholarship**
- Academic achievement at University of Victoria in 2008 and 2009

## ACTIVITIES AND INTERESTS

**Curling**
- Novice curler
- Member of the Victoria Curling Club Men's League for 2008□11
- Member of the University of Victoria Curling Club for 2007□11
- Winner of the D event in Victoria Curling Club's Thunderbird Men's Bonspiel in 2010
- Represented the University of Victoria twice at the CIS/CCA Canadian University Curling Championships in 2008 and 2009

**Photography**
- Amateur photographer
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## VOLUNTEER EXPERIENCE

Sep 2008 – Present **Secretary–Treasurer, Vice President**, *University of Victoria Curling Club, Victoria, BC*
- Coach newcomers of basic game play and rules
- Provide information via email of regulations and club–related matter
- Aid in providing ideas to create a more enjoyable club
- Execute membership rules and regulations
- Assist in the selection process and organization of a curling team to represent the University of Victoria
- Advocated Vikes Recreation to establish a curling team to represent the University of Victoria at the CIS/CCA Curling Championships

Sep 2010 – Present **Vice President of Finance**, *Physics and Astronomy Student Society*, Victoria, BC
- Monitor spending by executive
- Organize and oversee student events

Dec 2007 – Present **Volunteer for special events**, *Strathcona County*, Sherwood Park, Alberta
- Supervise family activities at New Year's Eve and Canada Day festivities

**WORK EXPERIENCE**

May - Aug 2010 **Research Assistant,** University of Lethbridge, Lethbridge, AB

Responsibilities:
- Designed a graphical user interface for observation planning software on the FTS-2
- Discussed and suggested improvements of the current Observer's Tool software with the Joint Astronomy Centre

Accomplishments:
- Strengthened programming skills
- Developed a deeper appreciation for astronomical instrumentation and its challenges
- Attained knowledge of current research in submillimetre spectroscopy and instrumentation

Apr - Aug 2009 **Research Assistant**, Joint Astronomy Centre, Hilo, HI, USA

Responsibilities:
- Reduced Echelle spectra and datacubes of massive young stellar objects
- Created and implemented Perl scripts to determine temperatures of bipolar outflows

Accomplishments:
- Observed for several nights with the United Kingdom Infrared Telescope
- Obtained a higher understanding of star formation through readings and reduction of data