

BIOCHEMISTRY/MICROBIOLOGY (THIRD YEAR)

Ian M. Special

100 High Drive

Victoria, B.C. A1A 1A1

Phone: 250-555-5555

Messages: 250-721-8813 (Co-op Office)

Email: special@uvic.ca

CO-OP OBJECTIVES

To explore career opportunities in biochemistry and microbiology. My longer-term goal is to obtain a graduate degree in molecular biology or immunology, leading to a research career in the health or agricultural sciences.

EDUCATION

YEAR	INSTITUTION	MAJOR
2009-2011	University of Victoria	Biochemistry/Microbiology
2008-2009	University of Victoria	First year Science

G.P.A.: First Year 6.82/9.00

Second Year 6.45/9.00

PRESENT YEAR OF STUDY: 3B

UPCOMING WORK TERM: 2

CO-OP WORK EXPERIENCE

University of Victoria, Department of Biochemistry and Microbiology

January - April 2011

Research Assistant.

Prepared a murine Thy-1 construct for microinjection to create transgenic mice expressing toxic peptides implicated in British and Danish familial dementias. Screened compounds to test for possible aggregation inhibition of beta-amyloid peptides implicated in Alzheimer's disease. Employed numerous molecular biology techniques to create construct for microinjection. Generated polyclonal antibodies, purified antibodies, optimized ELISAs to screen inhibitors, measured peptide toxicity on neuroblastoma cells with MTT and LDH assays, and presented data to a pharmaceutical company in a professional manner. Worked closely with post-doctoral staff and other student researchers in a positive and dynamic atmosphere.

University of Victoria, Department of Biochemistry and Microbiology

May - August 2010

Research Assistant.

Used Yeast Three-Hybrid System to identify novel mutants of 5S RNA that interact with TFIIIA and TFIIIA mutants with unusual affinity. Employed PCR, agarose gel electrophoresis, plasmid preparations, dideoxy sequencing, restriction enzyme digests, yeast and bacterial transformation, bioinformatics programs, and filter binding assays to locate mutants and follow through with experiments. Presented research to laboratory team on a regular basis. Demonstrated aptitude to learn quickly and work independently. Thought critically about scientific ideas and worked steadily and diligently.

SPECIAL SKILLS AND LABORATORY TECHNIQUES

- Microbiology skills: aseptic and sterile techniques, optical microscopy, bacterial staining, plating methods (streak, spread, pour, replica), enumeration and identification of bacteria, use of biological safety cabinets, media and buffer preparation, water sample analysis by membrane filtration and MPN, food microbiology, diagnostic biochemical tests for enteric bacteria, use of selective media, Staph latex slide agglutination test, serotyping, antibiotic assay (MIC), plaque assay, conjugation
- Biochemistry and Cell & Molecular Biology skills: DNA extraction, plasmid DNA preparation, restriction enzyme digests, PCR, agarose gel electrophoresis, SDS-PAGE, cell fractionation by differential centrifugation, preparation of cells for cryopreservation, dissection of rat and rabbit ileal tissue, use of hemocytometer
- Chemistry skills: solution preparation, titrations, extractions, filtrations, separations, simple and fractional distillation, mp and (micro) bp determination, solubility tests, determination of index of refraction, freezing point depression, simple syntheses, thin-layer chromatography, liquid chromatography, gas chromatography, reflux, recrystallization
- Spectroscopy skills: UV, visible, IR, NMR, COSY, NOSEY, DEPT, HETCOR and mass spectroscopy
- Computer skills: programming (BASIC, PASCAL, extensive use of Word, Excel, Access and PowerPoint for Macintosh and PC platforms, typing (50 words/minute), PubMed, Minitab
- Language skills: French Immersion Grade K-10
- Certifications: WHMIS, valid class 5 BC Driver's License, Red Cross First Aid, Food Safe

PROFESSIONAL SKILLS

- Communication skills strengthened as an instructor in children's sports and arts camps; developed strong customer-service skills during previous employment in the service sector; able to write clear, concise lab reports and essays
- Teamwork skills gained in lab classes and through employment in the service sector
- Organizational and time-management skills learned through working in the family business

GENERAL WORK EXPERIENCE

University of Victoria, Department of Biochemistry and Microbiology

May - August 2009

Technician, Media Room. Assisted in busy media preparation room servicing ten research laboratories employing about 100 personnel, and the undergraduate microbiology laboratories accommodating 300 students each week. Washed and sterilized glassware; prepared and sterilized bacteriological media, buffers and solutions; poured agar plates. Operated autoclaves, dishwashers, drying ovens, top-loading balances, pH meters. Gained proficiency in working independently and scheduling multiple tasks, and working as a cooperative team member.

Queens Restaurant, Victoria, BC

May - August 2008

Waitperson. Served customers in a fast-paced environment in a friendly and efficient manner. Developed ability to work under pressure, deal with customer complaints, and to work as an effective team member with staff and management. Promoted to team leader and given added responsibility for managing cash and training new employees.

SUMMARY OF OTHER WORK EXPERIENCE

Volunteer at Victoria General Hospital, 2009 - present

Tutor in French, 2007-2009

Morning Newspaper Deliveries, 2005-2007

AWARDS AND SCHOLARSHIPS

The Terry Fox Scholarship, 2011

UVic Entrance Scholarship, 2008, Passport to Education, 2006, 2007, 2008

Top English Student Award, 2010; Honours Science Student Award, 2008

Euclid Mathematics Competition Honours (Top 10% in B.C., Top 25% in Canada), 2008

Member of winning team in Fort St John Mixed Triathlon, 2008

Honours Level Grade 9 Royal Conservatory of Music (trumpet), 2007

ACTIVITIES AND INTERESTS

Competitive swimming, running, cycling. Playing trumpet (solo and band)

Travel (European backpacking tour, summer 2007)

Hiking and wilderness camping and canoeing

Reading (science fiction, mysteries). Solving and compiling crossword puzzles

REFERENCES

Available on request