

TRESA GEORGE

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EDUCATION

- **M.Sc. Cardiovascular and Respiratory Sciences** University of Calgary, Canada **2011 – 2016**
- **M.Sc. Molecular Medicine** University of Sheffield, UK **2007 – 2008**
- **B.Sc. Biochemistry (Special) Vocational Biotechnology** Gujarat University, India **2004 – 2007**

RESEARCH LABORATORY EXPERIENCE

Research Technician **2017 – 2018**

Microbiology, Immunology and Infectious Diseases

University of Calgary, Canada

- Purification of proteins from mammalian CHO cells using FPLC chromatography techniques
- Cigarette smoke exposure of mice through Teague Cigarette Smoke Exposure System
- Peptide-MHC nanoparticle treatment of C57Bl/6 mice with IV tail injections
- Analyzed inflammation in lungs airways through histological staining and microscopy

Master of Science **2011 – 2016**

Cardiovascular and Respiratory Sciences

University of Calgary, Canada

Thesis: **Investigation into the Bronchoprotective and Anti-inflammatory Properties of RGS2**

- Investigated the effect of acute exposure of house dust mite allergen and LPS bacterial pathogen on wild-type and knockout C57BL/6 mice models
- Conducted intra-nasal, intra-tracheal challenges, IP and IM injections on mice
- Examined lung function through flexiVent and analyzed inflammation in airways
- Performed RNA extraction, cDNA preparation, real-time PCR, western blotting and ELISA on cultured cells, cellular extracts and mouse lung tissue
- Utilized human bronchial epithelial cells and airway smooth muscle cells to study drug efficacy
- Organized and updated the animal protocol for review by University Animal Care Committee

Laboratory Technician **2009 – 2010**

Institute for Cancer Studies

University of Sheffield, UK

- Conducted agarose gel, acrylamide gel and SDS-PAGE electrophoresis
- Extracted DNA from human melanoma samples
- Analyses breast cancer and colorectal cancer SNPs using TaqMan RT-PCR
- Maintenance of laboratory area and equipment, keeping count of laboratory stock and samples
- Provided support to lab members during experiments and with data analysis

Master of Science + Research Technician **2007 – 2009**

Institute for Cancer Studies

University of Sheffield, UK

Thesis: **Determination of the substrate specificity of human pif-1 helicase**

- Generated Pif mutant and other helicase proteins through cloning and production of recombinant DNA and plasmids in *E. coli*
- Extracted and purified proteins through HPLC chromatography techniques
- Performed ³²P radio-labeling of oligonucleotides used in gel-shift binding, helicase and ATPase assays
- Maintenance of laboratory area and equipment, ordering of samples and reagents

PUBLICATIONS

- **George T**, Chakraborty M, Giembycz MA, Newton R. (2018) A bronchoprotective role for *Rgs2* in a murine model of lipopolysaccharide-induced airways inflammation. *Allergy, Asthma and Clinical Immunology* doi:10.1186/s13223-018-0266-5
- **George T**, Bell M, Chakraborty M, Siderovski DP, Giembycz MA, Newton R. (2017) Protective roles for RGS2 in a mouse model of house dust mite-induced airway inflammation. *PLOS One* doi: 10.1371/journal.pone.0170269
- BinMahfouz H, Yan D, Borthakur B, **George T**, Giembycz MA, Newton R. (2015) Superiority of combined PDE3/PDE4 inhibition over PDE4 inhibition alone on glucocorticoid- and long-acting β 2-adrenoceptor agonist-induced gene expression in human airway epithelial cells. *Molecular Pharmacology* 87(1):64-76
- Holden NS, **George T**, Rider CF, Chandrasekhar A, Shah S, Kaur M, Johnson M, Siderovski DP, Leigh R, Giembycz MA, Newton R. (2014) Induction of regulator of G-protein signaling 2 expression by long-acting β 2-adrenoceptor agonists and glucocorticoids in human airway epithelial cells. *Journal of Pharmacology and Experimental Therapeutics* 348(1), 12-24
- **George T**, Wen Q, Griffiths R, Ganesh A, Meuth M, Sanders C. (2009) Human Pif1 helicase unwinds synthetic DNA structures resembling stalled DNA replication forks. *Nucleic Acids Research* 37, 6491-502

FELLOWSHIPS AND AWARDS

- **Alberta Lung Association Award (2012)** – For outstanding research in field of lung health and biology.

PROFESSIONAL DEVELOPMENT COURSES

- **Principles of Biomedical Imaging** **2020**
University of Queensland, Australia
- **Design and Interpretation of Clinical Trials** **2014**
John Hopkins University, USA
- **Bioinformatics Certificate** **2006 – 2007**
St. Xavier's College, Gujarat University, India

LEADERSHIP / VOLUNTEER EXPERIENCE

Crisis Response Team **2014**
Calgary Comic and Entertainment Expo, Calgary, Canada

- Assisted in logistics and organization of the crowds into proper queues.
- Co-ordinated with other teams during check-in procedures at entrances and exits.
- Arbitrated and resolved any crisis occurring during the events.

Production and Marketing (Vocational Biotechnology Project) **2006 – 2007**
Xplant, St. Xavier's College, Ahmedabad, India

- Managed the Marketing department of the university-based private company 'Xplant'.
- Produced and supervised the sale of biotechnology products to schools, colleges and companies.
- Organized presentations and sales drives at schools; conducted meetings with personnel of other organizations; Reviewed and reorganized the production and sale plans based on customer reviews.