BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed for Form Page 2.
Follow the sample format for each person. **DO NOT EXCEED FOUR PAGES**.

NAME	POSITION TITLE
MOSHMI BHATTACHARYA	**Associate Professor**

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.*)

INSTITUTION AND LOCATION	DEGREE (*if applicable*)	YEAR(s)	FIELD OF STUDY
University of West Indies, St Augustine, Trinidad	B.Sc.	1992	Biochemistry
McGill University, Montreal, QC, Canada	Ph.D.	2000	Pharmacology &Therapeutics
Robarts Research Institute, London, ON Canada	Postdoctoral	2004	Cell Biology

A. Personal Statement: My research interest is focused on understanding the mechanisms that regulate the metastatic spread of breast cancer. In particular, we are interested in elucidating the molecular mechanisms by which G protein-coupled receptors by cross-talking with growth factor receptors, regulate the cell cytoskeleton to modulate the processes of cancer cell migration and invasion required for metastasis. These multidisciplinary studies are conducted using *in vitro* models, 3-D cell culture models, patient tissues and animal models of metastasis.

B.

Positions:

8/13-present	Scientist, Lawson Health Research Institute, London, ON
2/13-present	Associate Professor, Department of Oncology, Western University
7/12-present	Associate Professor, Department of Physiology and Pharmacology, Western University
5/05-7/12	Assistant Professor, Department of Physiology and Pharmacology, Western University

Honors:

2011-2016	Early Researcher Award (Ontario Provincial Government)
2011-2016	Canadian Institutes of Health research (CIHR) New Investigator Award (Salary)
2005-2010	NSERC University Faculty Award (Salary)
2002-2003	Research Fellowship, Heart and Stroke Foundation of Canada (declined)
2002-2003	CIHR Postdoctoral Fellowship
2001-2002	John P Robarts Research Fellowship
1999-2001	CIHR Postdoctoral Fellowship
1998-2001	MRC (CIHR) Doctoral Award
1998-2000	FRSQ-FCAR Sante Studentship (declined)
1997-1999	Claude J.P. Giroud Bursary, Faculty of Medicine, McGill University
1996-1997	Telethon of Stars Studentship, Research Centre, St. Justine Hospital, Montreal
April 2003	1st prize winner-ASPET Postdoctoral Scientist Award (Experimental Biology)
Oct 2003	1st prize winner-Postdoctoral Scientist Award (4th GPCR Retreat, Toronto, ON)
May 1998	Melville Prize in Pharmacology, McGill University
June 1998	1st Prize of Excellence, Research Centre, St. Justine Hospital, Montreal
June 1996	1st Prize of Excellence, Research Centre, St. Justine Hospital, Montreal
1990, 1991, 1992	Award of Excellence, University of West Indies, Trinidad

C. Selected Professional Activities:

COMMUNITY OUTREACH/ MEDIA INTERACTIONS

2013 April 16th 2013, CTV2 London News- Kisspeptins and breast cancer
2013 April Google Alert - Schulich School of Medicine & Dentistry
http://www.londoncommunitynews.com/news-story/2535969-western-seals-new-breast-cancer-research-with-a-kiss-
2013 April http://medicalxpress.com/news/2013-04-breast-cancer-linked-kisspeptins-inhibit.html
2012 Invited speaker for Geoponics: Breast cancer awareness fundraiser in participation with Canadian Tire (CTV2 London News interview, Oct 20, 2012)
2010 Presentation for graduate school recruitment: "Imaging in Cancer Cell Biology", Schulich School of Medicine and Dentistry
2009 Keynote Speaker; "Scientific Journey: Imaging in Biology", Frontiers in Science Symposium for high school students (University of Western Ontario Community Outreach)
2007 "Understanding the spread of breast cancer" Women's Curling Club, London

Student outreach: primary and high school school student supervision

Jan -June 2012: Partners in Experimental Learning in Oncology Program: High school student laboratory training. Project supervisor for Grade 12 student Danielle Crecca.
Jan-June 2011: Partners in Experimental Learning in Oncology Program: High school student laboratory training. Project supervisor for Grade 12 student Mary Maycock
Oct-Dec 2008: Eric Liu Grade 8 Mentorship Program (12 weeks), Orchard Park Public School): introduction to scientific research.

D. Peer-reviewed publications:

A. PUBLISHED (TRAINEES UNDERLINED)

1. Cvetkovic D, Dragan M, Pape C, Leith S, Mir ZM, Leong HS, Lewis JD, Pampillo M, Babwah AV, **Bhattacharya M**. KISS1R induces invasiveness of estrogen receptor-negative human mammary epithelial and breast cancer cells. *Endocrinology* (2013) 154(6):1999-2014. **(*Journal Cover feature, Featured editorial review "News and Views"* Gonzalez C. Deepening on breast cancer metastasis: The ERalpha-mediated modulation of kiss/kiss1r system. Endocrinology 2013; 154(6):1959-1961*)*
2. Cvetkovic D, Babwah AV, **Bhattacharya M**. Kisspeptin/KISS1R system in breast cancer. Journal of Cancer; Manuscript Submission # 7626v1. (Invited review, *In Press*)
3. Cvetkovic D, Goertzen C, **Bhattacharya M.** Quantification of Breast Cancer Cell Invasiveness Using a Three-dimensional (3D) Model. *Journal of Visualized Experiments* Manuscript #51341R1 (*Accepted*).
4. McLean S, **Bhattacharya M**, Di Guglielmo GM. βarrestin2 interacts with TβRII to regulate Smad-dependent and Smad-independent signal transduction. *Cellular Signaling*. (2013)25(1):319-31
5. Alemayehu M, Dragan M, Pape C, Iram Siddiqui Sacks D, Di Guglielmo J, **Bhattacharya M**. Beta- Arrestin regulates LPA-induced breast cancer cell invasiveness via Rap1/IQGAP1. *PLoS One* (2012) 8(2):e56174.
6. Babwah AV, Pampillo M, Min L, Kaiser UB, **Bhattacharya M**. Single-Cell Analyses Reveal That KISS1R-Expressing Cells Undergo Sustained Kisspeptin-Induced Signaling That Is Dependent upon An Influx of Extracellular Ca2+. *Endocrinology* (2012) 153:5875-5887.
7. Zajac M, Law J, Cvetkovic D, Pampillo M, McColl L, Pape C, Postovit L, Di Gugliemo J, Babwah AV, **Bhattacharya M**. GPR54 transactivates EGFR to promote breast cancer cell invasiveness. *PLoS One (2011)*; 6(6):e21599.
8. Szereszewski JM, Pampillo M, Offermanns S, **Bhattacharya M**, Babwah AV. GPR54 regulates ERK1/2 activity and hypothalamic gene expression in a Gαq/11 and β-arrestin-dependent manner. *PLoS One* (2010) 5: e12964.
9. Re M, Pampillo M, Savard M, McArdle CA, Millar RP, Conn M, Gobeil F Jr, **Bhattacharya M**, Babwah AV. The human gonadotropin releasing hormone type I receptor is a functional intracellular GPCR expressed on the nuclear membrane. *PLOS One* (2010) 5: e11489.

10. Li T, Alemayehu M, Aziziyeh IA, Pape MC, Pampillo M, Mills GB, Babwah AV, **Bhattacharya M**. β-Arrestins and RalGTPases regulate lysophosphatidic acid mediated breast cancer cell migration and invasion. *Molecular Cancer Research* (2009) 7: 1064-77 (*Cover feature)*
11. Pampillo M, Camuso N, Taylor JE, Szereszewski JM, Ahow M, Zajac M, Millar RP, **Bhattacharya M**, Babwah AV. Molecular regulation of GPR54 activity by GRK-2 and β-arrestins. *Molecular Endocrinology* (2009) 13:2060-2074
12. Aziziyeh IA, Alemayehu M, Li T, Pape MC, Pampillo M, Possmayer F, Babwah AV, **Bhattacharya M**. Dual regulation of LPA receptor signaling by RalGTPases and GRK2. *Cellular Signalling*. (2009) 21:1207-17
13. Cavanagh PC, Dunk C, Pampillo M, Kahiri C, Han V, Lye S, **Bhattacharya M**, Babwah AV. GnRH-Regulated Chemokine Expression in the Human Placenta. *American Journal of Physiology: Cell Physiology* (2009) 297:C17-27
14. **Bhattacharya M,** Wang J, Ribeiro FM, Dixon SF, Hegele RA and Stephen S G Ferguson. Analysis of a missense variant of the human N-formyl peptide receptor that is associated with agonist-independent β-arrestin association and indices of inflammation. *Pharmacogenomics Journal.* (2007) 7:190-199
15. **Bhattacharya M,** Babwah AV, Godin C, Anborgh PH, Dale LB, Ferguson SSG. Ral and phospholipase D2-dependent pathway for constitutive metabotropic glutamate receptor endocytosis. *The Journal of Neuroscience (2004)* 24:8752-8761
16. **Bhattacharya M,** Babwah AV, Ferguson SSG. Small GTP-binding protein-coupled receptors (Review) *Biochemical Society Transactions* (2004) 32:1040-1044
17. Gill SK, **Bhattacharya M**, Ferguson SS and Rylett RJ. Identification of a novel nuclear localization signal common to 69- and 82-kDa human choline acetyltransferase. *Journal of Biological Chemistry* (2003) 278: 20217-20224
18. Gobeil F Jr, Vazquez-Tello A, Marrache AM, **Bhattacharya M**, Checchin D, Bkaily G, Lachapelle P, Ribeiro-Da-Silva A and Chemtob S. Nuclear prostaglandin signaling system: biogenesis and actions via heptahelical receptors. *Canadian Journal of Physiology and Pharmacology* (2003) 81: 196-204
19. **Bhattacharya M**, Anborgh PH, Babwah AV, Dale LB, Dobransky T, Benovic JL, Feldman RD, Rylett RJ, Ferguson SS. β-Arrestins regulate a Ral-GDS-Ral effector pathway that mediates cytoskeletal reorganization. *Nature Cell Biology* (2002) 4:547-555
20. Gobeil F Jr, Dumont I, Marrache AM, Bernier SG, Abran D, Beauchamp MH, **Bhattacharya M**, Molotchnikoff S, Ribeiro-Da-Silva A, Varma DR, Chemtob S. Regulation of eNOS expression in brain endothelial cells by perinuclear EP3 receptors. *Circulation Research* (2002) 90: 682-689
21. Dale LB, **Bhattacharya M**, Seachrist JL, Anborgh PH and Ferguson SS. Agonist-stimulated and tonic internalization of metabotropic glutamate receptor 1a in human embryonic kidney 293 cells: agonist-stimulated endocytosis is β-arrestin1 isoform-specific. *Molecular Pharmacology* (2001) 60: 1243-1253
22. Dale LB, Babwah AV, **Bhattacharya M**, Kelvin DJ and Ferguson SS. Spatial-temporal patterning of metabotropic glutamate receptor-mediated inositol 1,4,5-trisphosphate, calcium, and protein kinase C oscillations: protein kinase C-dependent receptor phosphorylation is not required. *Journal of Biological Chemistry* (2001) 276: 35900-35908
23. Wright DH, Abran D, **Bhattacharya M**, Hou X, Bernier SG, Bouayad A, Fouron JC, Clyman RI, Peri K, Varma DR and Chemtob S. Prostanoid receptors: ontogeny and implications in vascular physiology. *American Journal of Physiology* (2001). 281: R1343-R1360
24. Bouayad A, Bernier SG, Asselin P, Hardy P**, Bhattacharya M**, Fouron JC, Guerguerian AM, Varma DR, Clyman RI and Chemtob S. Characterization of PGE2 receptors in fetal and newborn ductus arteriosus in the pig. *Seminars in Perinatology* (2001) 25(2): 70-75
25. Dale LB, **Bhattacharya M**, Anborgh PH, Murdoch B, Bhatia M, Nakanishi S and Ferguson SS. G protein-coupled receptor kinase-mediated desensitization of metabotropic glutamate receptor protects against cell death. *Journal of Biological Chemistry* (2000) 275: 38213-38220
26. Hardy P, Dumont I, **Bhattacharya M**, Hou X, Lachapelle P, Varma DR and Chemtob S. Oxidants, nitric oxide and prostanoids in the developing ocular vasculature: a basis for ischemic retinopathy. *Cardiovascular* Research (2000) 47: 489-509 (Review)
27. **Bhattacharya M**, Asselin P, Hardy P, Guerguerian AM, Shichi H, Hou X, Varma DR, Bouayad A, Fouron JC, Clyman RI, Chemtob S. Developmental changes in prostaglandin E(2) receptor subtypes in porcine ductus arteriosus. Possible contribution in altered responsiveness to prostaglandin E(2). *Circulation* (2000) 100:1751-1756

28. **Bhattacharya M,** Peri K, Ribeiro-da-Silva A, Almazan G, Shichi H, Hou X, Varma DR, Chemtob S. Localization of functional prostaglandin E2 receptors EP3 and EP4 in the nuclear envelope. *Journal of Biological Chemistry* (1999) 274: 15719-24
29. **Bhattacharya M,** Varma DR, Chemtob S. Nuclear prostaglandin receptors. *Gene Therapy and Molecular Biology* (1999) Vol 4, 323-338 (Review)
30. **Bhattacharya M,** Peri KG, Almazan G, Ribeiro-da-Silva A, Shichi H, Durocher Y, Abramovitz M, Hou X, Varma DR, Chemtob S. Nuclear localization of prostaglandin E2 receptors. *Proceedings of the National Academy of Sciences of the United States of America* (1998) 95:15792-15797
31. Guerguerian AM, Hardy P, **Bhattacharya M,** Olley P, Clyman RI, Fouron JC, Chemtob S. (1998). Expression of cyclooxygenases in ductus arteriosus of fetal and newborn pigs. *American journal of obstetrics and gynecology* (1998) *179:1618-16126*
32. Hardy P, **Bhattacharya M,** Abran D, Peri KG, Asselin P, Varma DR, Chemtob S. Increases in retinovascular prostaglandin receptor functions by cyclooxygenase-1 and -2 inhibition. *Investigative ophthalmology & visual science* (1998) 39:1888-1898.
33. Li DY, Hardy P, Abran D, Martinez-Bermudez AK, Guerguerian AM, **Bhattacharya M**, Almazan G, Menezes R, Peri KG, Varma DR, Chemtob S. Key role for cyclooxygenase-2 in PGE2 and PGF2alpha receptor regulation and cerebral blood flow of the newborn. *American Journal of Physiology* (1997) 273:R1283-90.
34. **Bhattacharya M,** Ponka P, Hardy P, Hanna N, Varma DR, Lachapelle P, Chemtob S. Prevention of postasphyxia electroretinal dysfunction with a pyridoxal hydrazone. *Free Radical Biology & Medicine* (1997) 22:11-16.