Uros Kuzmanov
Ted Rogers Centre for Heart Research
University of Toronto, Department of Physiology
661 University Ave, Room 1437
Toronto, ON, Canada, M5G 1M1
Tel: 416-315-6195
E-mail: uros.kuzmanov@utoronto.ca

CURRENT POSITION(S)

2019-present **Research Associate**
Ted Rogers Centre for Heart Research, Toronto, ON, CA
University of Toronto, Department of Physiology, Toronto, ON, CA

2022-present **Lecturer/Course Co-Ordinator**
University of Toronto, Department of Physiology, Toronto, ON, CA
PSL1040 - Systems Biology in Physiology

EDUCATION

2008-2012 **Doctor of Philosophy**
Department of Laboratory Medicine and Pathobiology, University of Toronto
Supervisor: Dr. Eleftherios P. Diamandis
Topic: *Characterization of KLK6 glycosylation patterns in ovarian cancer; development of quantitative methods for detection of ovarian cancer specific KLK6 glycoforms; glycoproteomic characterization of ovarian cancer proximal fluids*

2003-2005 **Master of Science**
Department of Biochemistry, McGill University
Supervisor: Dr. Robert E. MacKenzie
Topic: *Characterization of the metabolic function of cytoplasmic methylenetetrahydrofolate Dehydrogenase-Cyclohydrolase-Synthetase activities*

1998-2002 **Honors Bachelor of Medical Science in Biochemistry (HBMSc)**
Department of Biochemistry**,** University of Western Ontario

PEER REVIEWED PUBLICATIONS (including submitted and in revision)

1. Elbatarny M, **Kuzmanov U**, Eliathamby D, Chu V, Nedadur R, Reitz C, Hamed O, Simmons C, Chung J, Wang B, Ouzounian M, Gramolini AO. ***Distinct Proteomic Profiles in Human Thoracic Aortic Aneurysm by Segment May Drive Prognostic Differences: Conventional & Machine Learning Analysis.*** *Under review in Circulation.*

2. Wu Q, Rafatian N, Wagner KT , Blamer J, Smith J, Okhovatian S, Aggarwal P, Wang EY, Banerjee A, Zhao Y, Lu RX, Esquivel LP, Li CY, **Kuzmanov U** , Mandla S, Landau S, Lai BF, Gramolini AO ,Veres T, Vunjak-Novakovic G, Zhang B, Mossman K, Broeckel U, Radisic M. ***Heart-on-a-chip platform to model cardiac SARS-CoV-2 pathogenesis and therapeutic screening.*** *In revision at PNAS.*

3. Reitz CJ, **Kuzmanov U**, Gramolini AO. ***Data Integration of Multi-omic Approaches in Cardiovascular Disease.*** *Accepted in Proteomics.*

4. Reitz CJ, Tavassoli M, Kim DH, Hadipour-Lakmehsari S, Shah S, Teng ACT, Emili A, Oudit GY[#], **Kuzmanov U**[#], Gramolini AO[#]. ***Integrative proteomics and phosphoproteomics of failing human left ventricle identifies etiology-specific phosphorylation of CTNNA3***. PNAS. May 9, 2023.

   [#]**co-corresponding author**

5. Yerra CG, Batchu SN, Kaur H, Kabir G, Liu Y, Advani SL, Tran DT, Sadeghian S, Sedrak P, Billia F, **Kuzmanov U**, Gramolini AO, Qasrawi DO, Petrotchenko E, Borchers CH, Connelly KA, Advani A. ***Pressure overload induces ISG15 to facilitate adverse ventricular remodeling and promote heart failure.*** J Clin Invest. May 1, 2023.

6. Callaghan NI, Durland LJ, Chen W, **Kuzmanov U**, Miranda MZ, Mirzaei Z, Ireland RG, Wang EY, Wagner K, Kim MM, Audet J, Santerre JP, Gramolini AO, Billia F, Radisic M, Mital S, Ellis J, Backx PH, Simmons CA. **Advanced physiological maturation of iPSC-derived human cardiomyocytes using an algorithm-directed optimization of defined media components.** bioRxiv. Oct 12, 2022.

7. Dufour CR, B'chir W, Perry MC, Xia H, **Kuzmanov U**, Gainullina A, Dejgaard K, Scholtes C, Ouellet C, Zuo D, Sanguin-Gendreau V, Guluzian C, Smith HW, Muller WJ, Audet-Walsh E, Sergushichev AA, Emili A, Giguère V. ***Integrated multi-omics analysis of adverse cardiac remodeling and metabolic inflexibility upon ErbB2 and ERRa deficiency.*** Communications Biology. Sep 12, 2022.

8. **Kuzmanov U**, Gawri R, Zelinka A, Russel KA, Gramolini AO, Kandel R. ***Phosphoproteomic analysis of chondrocytes after short-term exposure to inorganic polyphosphate.*** bioRxiv. July 31, 2021.

9. Wang EY, **Kuzmanov U**, Smith J, Dou W, Rafatian N, Lai BFN, Lu RXZ, Wu Q, Yazbeck J, Zhang XO, Sun Y, Gramolini AO, Radisic M. ***An Organ-on-a-Chip Model for Pre-Clinical Drug Evaluation in Progressive Non-Genetic Cardiomyopathy*****.** J Mol Cell Cardiol. 2021 Jun 30;160:97-110.

10. Shah H, Hacker A, Langburt D, McFadden M, Zhang H, **Kuzmanov U**, Zhou YQ, Dewar M, Hussain B, Hinz B, Gramolini AO, and Heximer SP. ***Myocardial infarction induces cardiac fibroblast transformation within injured and non-injured regions of the mouse heart.*** J Proteome Res. 2021 May 7;20(5):2867-2881.

11. Lee SH, Hadipour-Lakmehsari S, Kim DH, **Kuzmanov U**, Shah S, Kislinger T, Sharma P, Oudit GY, Gramolini AO. ***Bioinformatic analysis of membrane and membrane-associated proteins in murine cardiomyocytes and human myocardium*.** Scientific Data. 2020 Dec 1;7(1):425.

12. Lee SH, Kim DH, **Kuzmanov U**, Gramolini AO. ***Membrane proteomic profiling of the heart: Past, present and future.*** American Journal of Physiology – Heart and Circulatory Physiology. 2021 Jan 1;320(1):H417-H423.

13. **Kuzmanov U,** Wang EY, Vanderlaan R, Kim DH, Lee SH, Hadipour-Lakmehsari S, Guo H, Zhao Y, McFadden M, Sharma P, Billia F, Radisic M, Gramolini A, Emili A. ***Mapping signaling perturbations in myocardial fibrosis via the integrative phosphoproteomic profiling of tissue from diverse sources.*** Nature Biomed Eng. 2020 Sep;4(9):889-900.

14. Hakem Zadeh F, Teng ACT, **Kuzmanov U**, Chambers PJ, Tupling AR, Gramolini AO. ***AKAP6 and phospholamban colocalize and interact in HEK-293T cells and primary murine cardiomyocytes.*** Physiol Rep. 2019 Jul;7(14): e14144.

15. Hu LZ, Goebels F, Tan JH, Wolf E, **Kuzmanov U**, Wan C, Phanse S, Xu C, Schertzberg M, Fraser AG, Bader GD, Emili A. ***EPIC: software toolkit for elution profile-based inference of protein complexes.*** Nature Methods. 2019 Aug;16(8):737-742.

16. Hadipour-Lakmehsari S, Driouchi A, Lee SH, **Kuzmanov U**, Callaghan NA, Heximer SP, Simmons CA, Yip CM, Gramolini AO. ***Nanoscale reorganization of sarcoplasmic reticulum calcium in pressure-overload cardiac hypertrophy visualized by dSTORM.*** Scientific Reports. 2019 May 27;9(1):7867.

17. Zhou J, Ma H, Wu Y, Lv X, Wang J, Liu S, Li D, Wang H, Yan Y, Luo N, Li Q, Xu H, Zhang Q, Yu L, Guo H, **Kuzmanov U**, Di L, Wu Q, Duan J. ***Lipidomic profiling of subchronic As_4S_4 exposure identifies inflammatory mediators as sensitive biomarkers in rats.*** Metallomics. 2019 Mar 20;11(3):576-585.

18. Ma H, Zhou J, Guo H, Shang E, Zhu Z**, Kuzmanov U**, Lv X, Di L, Yu B, Wu Q, Duan J. ***A strategy for the metabolomics-based screening of active constituents and quality consistency control for natural medicinal substance toad venom.*** Anal Chim Acta. 2018 Nov 15;1031:108-118.

19. **Kuzmanov U**, Guo H, Buchsbaum D, Cosme J, Isserlin R, Abbasi C, Sharma P, Gramolini AO, Emili A. *Global phosphoproteomic profiling reveals perturbed signaling in a mouse model of dilated cardiomyopathy*. PNAS. 2016 Nov 1;113(44):12592-12597.

20. Patel P, **Kuzmanov U**, Mital S. ***Avoiding false discovery in biomarker research*.** BMC Biochem. *2016 Jul 30;17(1):17.*

21. Guo H, Garcia-Vedrenne AE, Isserlin R, Lugowski A, Morada A, Sun A, Miao Y, **Kuzmanov U**, Wan C, Ma H, Foltz K, Emili A. ***Phosphoproteomic Network Analysis in the Sea Urchin Strongylocentrotus purpuratus Reveals New Candidates in Egg Activation.*** Proteomics. *2015 Dec;15(23-24):4080-95*.

22. Guo H, Isserlin R, Lugowski A, **Kuzmanov U**, Emili A. ***Large-scale label-free phosphoproteomics: from technology to data interpretation***. Bioanalysis*. 2014 Sep 6(18):2403-20.*

23. **Kuzmanov U**, Emili A. ***Using phosphoproteomics to monitor disregulated signaling networks in cardiac disease preceding heart failure: where are we now?*** Bioanalysis. *2013 Dec 5(23):2863-6*.

24. Begcevic I, Kosanam H, Martínez-Morillo E, Dimitromanolakis A, Diamandis P, **Kuzmanov U**, Hazrati LN, Diamandis EP. ***Semiquantitative proteomic analysis of human hippocampal tissues from Alzheimer's disease and age-matched control brains*****. Clin Proteomics*****.*** ***2013 May 1;10(1):5.***

25. **Kuzmanov U, Emili A.** ***Protein-protein interaction networks: probing disease mechanisms using model systems*****.** Genome Medicine. *2013 Apr 30;5(4):37.*

26. **Kuzmanov U**, Kosanam H, Diamandis EP. ***The Sweet and Sour of Serological Tumour Biomarker Quantification.*** BMC Medicine*. 2013 Feb 7;11:31.*

27. **Kuzmanov U**, Musrap N, Kosanam H, Batruch I, Smith CR, Soosaipillai A, Diamandis EP. ***Glycoproteomic identification of sialylated proteins in ovarian cancer proximal fluids and cell lines.*** Clin Chem Lab Med. 2012 Dec 8:1-10.

28. Bayani J, **Kuzmanov U**, Saraon P, Fung WA, Soosaipillai A, Squire JA, Diamandis EP. ***Copy-Number and Expression Alterations of miRNAs in the Ovarian Cancer Cell Line OVCAR-3, and Its Impact on Kallikrein 6 Protein Expression.*** Clin Chem. *2013 Jan;59(1):296-305.*

29. **Kuzmanov U**, Smith CR, Soosaipillai A, Batruch I, Diamandis A, Diamandis EP. ***Separation of KLK6 glycoprotein subpopulations in biological fluids by anion-exchange chromatography coupled to ELISA.*** Proteomics. 2012 Mar;12(6):799-809.

30. **Kuzmanov U**, Jiang N, Smith CR, Soosaipillai A, Diamandis EP. ***Differential N-Glycosylation of kallikrein 6 derived from ovarian cancer cells or the central nervous system.*** Mol Cell Proteomics. 2009 Apr;8(4):791-8.

31. Christensen KE, Patel H**, Kuzmanov U,** Mejia NR, Mackenzie RE**.** ***Disruption of the mthfd1 gene reveals a monofunctional 10-formyltetrahydrofolate synthetase in Mammalian mitochondria****.* J Biol Chem. (2005) 280(9):7597-602.

ORAL PRESENTATIONS

1. **2020**. ***Global phosphoproteomic profiling of signaling pathway aberrations in clinical samples, animal and organ-on-a-chip models.*** Keystone Symposium "Charting a New Course for Heart Failure: From Discovery to Data", Keystone, CO, USA.
2. **2018.** *(with Hadipour-Lakmehsari, S)* ***Global phosphoproteomic profiling reveals perturbed cardiac signaling in dilated cardiomyopathy patients***. HUPO 2018, 17th World Annual Congress of the Human Proteome Organization, Orlando, FL, USA.
3. **2017.** ***Next Generation Cardiac Phosphoproteomics: from sample preparation to data interpretation in a mouse model of dilated cardiomyopathy***. 9th International Symposium On Enabling Technologies (ETP 2017). Ottawa, ON, Canada.
4. **2016**. ***Arendi Core Consulting and R&D overview***. 9th Shandong Overseas Talent Exchange and Cooperation Fair / Jinan Overseas High-Caliber Talent Fair and Project Conference. Dezhou/Jinan, Shandong Province, China.
5. **2016.** ***Profiling of signaling cascade changes in heart pathology through phosphoproteomics***. TRCHR Research Symposium, Toronto, ON, Canada.
6. **2011.** ***Separation of KLK6 glycoprotein subpopulations in biological fluids by an ELISA-coupled anion exchange method.*** 4th International Symposium on Kallikreins and Kallikrein-related Peptidases, Rhodes, Greece
7. **2009.** ***Differential N-glycosylation of Kallikrein 6 in Ovarian Cancer.*** Molecular Pathology Rounds, Samuel Lunenfeld Research Institute, Toronto, Canada
8. **2009.** ***Differential N-glycosylation of kallikrein 6 in ovarian cancer ascites and cerebrospinal fluid.*** 100th Annual American Association of Cancer Researchers (AACR) Meeting, Denver, United States
9. **2009.** ***Differential N-glycosylation of kallikrein 6 in ovarian cancer ascites and cerebrospinal fluid.*** 3rd International Symposium on Kallikreins and Kallikrein-related Peptidases, Munich, Germany

POSTER PRESENTATIONS AND ABSTRACTS

1. **Kuzmanov U**, Reitz CJ, Wang EY, Tavassoli M, Kim DH, Hadipour-Lakmehsari S, Shah S, Teng ACT, Billia F, Emili A, Radisic M, Oudit GY, Gramolini AO. ***Global phosphoproteomic profiling of signaling pathway aberrations in human and mouse cardiomyopathies with differing etiologies***. HUPO 2022, World Annual Congress of the Human Proteome Organization, Cancun, Mexico.
2. Reitz CJ, Tavassoli M, Kim DH, Hadipour-Lakmehsari S, Shah S, Teng ACT, Emili A, Oudit GY, **Kuzmanov U**, Gramolini AO. **(2022)** ***Integrative proteomic and phosphoproteomic analysis identifies etiology-specific phosphorylation patterns in the failing human heart.*** XLI Annual Meeting of the International Society for Heart Research (ISHR)-North American Section. Winnipeg, Manitoba, Canada.
3. Di Paola M, **Kuzmanov U**, Reitz CJ, Teng ACT, Gramolini AO. **(2022)** ***Sarco(endo)plasmic reticulum membrane protein REEP5 regulates subcellular structure and function in the*** **heart.** XLI Annual Meeting of the International Society for Heart Research (ISHR)-North American Section. Winnipeg, Manitoba, Canada.
4. **Kuzmanov U**, Reitz CJ, Tavassoli M, Kim DH, Hadipour-Lakmehsari S, Shah S, Emili A, Oudit GY, Gramolini AO. **(2022)** ***Integrative proteomic and phosphoproteomic analysis of ischemic and dilated cardiomyopathy cardiac tissue from human explants.*** XXIV World Congress International Society for Heart Research (ISHR). Berlin, Germany.
5. Di Paola M, **Kuzmanov U**, Reitz CJ, Teng ACT, Gramolini AO. **(2022)** ***Sarco(endo)plasmic reticulum membrane protein REEP5 regulates subcellular structure and function in the heart.*** Frontiers in Physiology 2022, 42nd Annual Research Symposium, Department of Physiology, University of Toronto.
6. Reitz CJ, Tavassoli M, Kim DH, Hadipour-Lakmehsari S, Shah S, Lee SH, Teng ACT, Emili A, Oudit GY, **Kuzmanov U**, Gramolini AO. **(2021)** ***Identification of Novel Phosphoprotein Signaling Pathways in Human Dilated Cardiomyopathy by Integrative Proteomic and Phosphoproteomic Analysis.*** Basic Cardiovascular Sciences Scientific Sessions 2021 (virtual).
7. Di Paola M, **Kuzmanov U**, Teng ACT, Lee SH, Reitz CJ, Gramolini AO. **(2021)** ***Analysis of Receptor Expression-Enhancing Protein 5 (REEP5) on cardiac structural development and function using model systems.*** Frontiers in Physiology 2021, 41st Annual Research Symposium, Department of Physiology, University of Toronto.
8. **Kuzmanov U**, Wang E, Vanderlaan R, Guo H, Isserlin R, Hadipour-Lakmehsari S, Sharma P, Billia F, Radisic M, Gramolini AO, Emili A. **(2019)**. ***Integrative Phosphoproteomic Profiling of Clinical Samples, Animal and Organ-On-A-Chip Models: Mapping Fibrotic Signaling Cascades***. Keystone Symposium - Proteomics and its Application to Translational and Precision Medicine, Stockholm, Sweden.
9. **Kuzmanov U**, Vanderlaan, Guo H, Hadipour-Lakmehsari S, Sharma P, Billia P, Emili A, Gramolini AO. **(2018)**. ***Global Human and Mouse Phosphoproteomic Profiling of Signaling Pathway Aberrations in Hypertrophic Cardiomyopathy*****.** HUPO 2018, 17th World Annual Congress of the Human Proteome Organization, Orlando, FL, USA.

10. Kim DH, **Kuzmanov U**, Hadipour-Lakmehsari S, Emili A, Oudit G, Gramolini AO. **(2018)** ***Phosphopeptide Enrichment and Analysis of Human Ischemic Cardiomyopathic Tissues Reveal Infarct Versus Non-Infarct Unique signaling Pathways.*** HUPO 2018, 17th World Annual Congress of the Human Proteome Organization, Orlando, FL, USA.

11. Wang EY, **Kuzmanov U**, Zhao Y, Rafatian N, Gramolini AO, Emili A, Backx P, Radisic M. **(2018)**. ***A Combined Strategy of Human Induced Pluripotent Stem Cells, Organ-on-a-chip Engineering and Precision Proteomics Analysis for Cardiac Disease Study.*** *5th TERMIS World Congress 2018, Kyoto, Japan.*

12. **Kuzmanov U**, Vanderlaan R, Hadipur-Lakmehsari S, Guo H, Buchsbaum D, Cosme J, Abbasi C, Isserlin R, Sharma P, Billia F, Emili A, Gramolini AO. **(2017).** ***Phosphoproteomic profiling of heart tissue: from mouse model to patient samples.*** 16th Human Proteome Organisation World Congress, Dublin, Ireland

13. **Kuzmanov U**, Guo H, Buchsbaum D, Cosme J, Abbasi C, Isserlin R, Sharma P, Gramolini AO, Emili A. **(2017)**. ***Phosphoproteomics-based elucidation of disturbed signaling pathways in a mouse model of dilated cardiomyopathy.*** Heart Failure Update 2017, Toronto, Canada

14. **Kuzmanov U**, Guo H, Buchsbaum D, Cosme J, Abbasi C, Isserlin R, Sharma P, Gramolini AO, Emili A. **(2017)**. ***Cardiac phosphoproteomics: profiling of a mouse model of dilated cardiomyopathy.*** Canadian National Proteomics Network Annual Meeting, Toronto, Canada

15. **Kuzmanov U**, Musrap N, Kosanam H, Smith CR, Batruch I, Diamandis EP. **(2012)**. ***Glycoproteomic identification and characterization of potential glycoprotein biomarkers in ovarian cancer proximal fluids.*** American Society for Mass Spectrometry (ASMS) Annual Conference, Vancouver, Canada

16. **Kuzmanov U**, Musrap N, Kosanam H, Smith CR, Diamandis EP. **(2011)**. ***Proteomic identification of sialic acid containing glycoproteins in ovarian cancer proximal fluids and cell line supernatants.*** Canadian Cancer Research Conference, Toronto, Canada

17. Bayani J, **Kuzmanov U**, Smith CR, Batruch I, Squire JA, Diamandis EP. **(2011)**. ***Mechanisms of KLK6 Expression and Biomarker Discovery in Ovarian Carcinomas: An Integrated Genomic, microRNA (miRNA) and Proteomic Profiling Approach*****.** Canadian Cancer Research Conference, Toronto, Canada

18. **Kuzmanov U**, Smith CR, Soosaipillai A, Batruch I, Diamandis A, Diamandis EP. **(2011)**. ***ELISA coupled anion exchange method for separation of KLK6 glycoprotein subpopulations in biological fluids*****.** 102nd Annual American Association for Cancer Researchers Meeting, Orlando, United States

19. Bayani J, **Kuzmanov U**, Smith CR, Batruch I, Presvelos J, Graham C, Squire JA, Diamandis EP. **(2011)**. ***Integrated genomic, microRNA (miRNA) and proteomic profiling by stable isotope labeling with amino acids in cell culture (SILAC) of ovarian carcinoma for biomarker discovery.*** 102nd Annual American Association for Cancer Researchers Meeting, Orlando, United States

20. **Kuzmanov U**, Smith CR, Soosaipillai A, Diamandis EP. **(2010***). **N-glycosylation patterns of kallikrein 6 in ovarian cancer**.* 5th Canadian Conference on Ovarian Cancer Research, Toronto, Canada

21. Bayani J, **Kuzmanov U**, Batruch I, Cho CK, Smith CR, Marrano P, Graham C, Butzow R, Katsaros D, Lin L, Zheng Y, Squire JA, Diamandis EP. **(2010)**. ***Integrated Genomic MicroRNA (miRNA) and Proteomic Profiling of Ovarian Carcinoma for Biomarker Discovery.*** 5th Canadian Conference on Ovarian Cancer Research, Toronto, Canada

22. Bayani J, **Kuzmanov U**, Batruch I, Cho CK, Smith CR, Marrano P, Graham C, Butzow R, Katsaros D, Lin L, Zheng Y, Squire JA, Diamandis EP. **(2010)**. ***Integrated Genomic, MicroRNA (miRNA) and Proteomic Profiling of Ovarian Carcinoma for Biomarker Discovery***. 101th Annual American Association for Cancer Research Meeting, Washington, United States

23. **Kuzmanov U**, Jiang N, Smith CR, Soosaipillai A, Diamandis EP. **(2008)**. ***Kallikrein 6 N-glycosylation in ovarian cancer ascites and cerebrospinal fluids.*** ASBMB meeting, Post-Translational Modifications: Detection and Physiological Evaluation, Lake Tahoe, United States

24. **Kuzmanov U**, Jiang N, Soosaipillai A, Diamandis EP. **(2007)**. ***Differential glycosylation of ovarian cancer derived kallikrein 6.*** 2nd International Symposium on Kallikreins and Kallikrein-related peptidases, Santorini Island, Greece

25. **Kuzmanov U**, Jiang N, Soosaipillai A, Diamandis EP. **(2007)**. ***Differential glycosylation of ovarian cancer derived kallikrein 6 and its potential use as a biomarker*****.** 5th General Meeting of the International Proteolysis Society. Patras, Greece

AWARDS AND FUNDING

2020-2021 Principal co-applicant
Collaborative Research Program for Drug Discovery ($200 000)
Elucidation of Disrupted Signaling Pathways in HFpEF by Global Phosphoproteomic Analysis of Patients Tissue Explants
Source: Akros Pharmaceutical
Awarded but rejected by co-applicants

2015-2017 TRCHR Education Fund Fellowship ($80 000)

2011-2012 Laboratory Medicine and Pathobiology travel award ($500 per annum)

2011 Dr. Rajalakshmi S. Dittakavi and Dr. Prema M. Rao Graduate Award in Laboratory Medicine and Pathobiology ($1000)

2008-2011 University of Toronto Open Fellowship ($5000 per annum)

2008-2009 Dutkevich Foundation Travel Award ($500 per annum)

2000 The Richard and Julia Butler Scholarship, UWO ($500)

1998-2001 Faculty of Science Dean's Honor List, UWO

1998 The Western Scholar Award, UWO ($500)

MENTORING/SUPERVISION

Supervision of technical staff, undergraduate and graduate students including mentorship in aspects regarding design and implementation of research projects, data analysis, and preparation of figures, oral presentations and scientific manuscripts.

2022-present Daniel Davidpour, MSc student

2021-present Christopher Oldfield, *PhD student*

2021-present Malak Elbatarny, *MD-PhD student*

2019-2020 Parshant Loungani, *undergraduate student*

2018-present Michelle DiPaola, *PhD student*

2017-2020 Frank Shin-Haw Lee, *PhD student*

2017-2019 Julia Da Hye Kim, *MSc student*

2017-2018 Sina Hadipour-Lakmehsari, *MSc student*

2015-2016 Diana Buchsbaum, *MSc student*

2012-2013 Tirth Patel, *4th year student*

2011-2012 William Fung, *4th year student*

2010 John Presvelos, *undergraduate summer student*

2009 Alissa Sperou, *undergraduate summer student*

2007-2009 **N**ianxin Jiang, *undergraduate summer and 4th year stude*nt

TEACHING EXPRIENCE

2022-present University of Toronto, Department of Physiology, **Course coordinator/Lecturer**
PSL1040H Systems Biology in Physiology.

2021 University of Toronto, Department of Anatomy**, Lecturer**
Lectured on mass spectrometry-based proteomics in biomedical research for ANA498.

2019-present University of Toronto**,** Faculty of Medicine, **Lecturer**
Lectured on network biology analysis in cardiovascular research for JCV3065.

2018-present University of Toronto**,** Department of Laboratory Medicine and Pathobiology, **Lecturer**
Held lectures on proteomics applications to study of post-translational modifications for LMP1535 and LMP1207.

2005-2007 McMaster University, Department of Biochemistry, ***Teaching Assistant***
Instructed a basic biochemistry lab course (3L03) to third year students for two semesters.

2005 McGill University, Department of Biology, ***Teaching Assistant***
Prepared and conducted laboratory exercises for a laboratory course in Cell and Molecular biology (BIOL 112).

2004 McGill University, Department of Biology, ***Teaching Assistant***
Conducted tutorial sessions for an introductory Molecular Biology course (BIOL 200).

EMPLOYMENT HISTORY

2021-2022 **Proteomics Consultant**
Dalriada Therapeutics Inc., Mississauga, ON, CA
Consulting in the design, execution, and analysis of proteomics experiments.

2020-present **Founder**
LaraAna – Kuzmanov Consulting Inc., Mississauga, ON, CA
Providing proteomics and bioinformatics consulting services for several drug development companies (Dalriada Therapeutics, Dunad Therapeutics, Janpix Bio)

2016-2019 **Co-founder/Chief Scientific Officer**
Arendi Core Inc., Toronto, ON, CA
Formerly an H2i and MaRs Ventures bio-incubator resident company
Accepted into and completed the 2018-2019 "Entrepreneurship for Cardiovascular Health Opportunities" training program and funding competition
2018 SVIEF-STAR pitch competition finalist

2015-2018 **Post-Doctoral Research Fellow**
Ted Rogers Centre for Heart Research, Toronto, ON, CA
Supervisor: Dr. Anthony O. Gramolini
Topic: *Phosphoproteomic and PTM study of cardiac pathologies in mouse models of disease and clinical samples.*

2012-2018 **Post-Doctoral Research Fellow**
Donnelly Centre for Cellular and Biomolecular Research, Toronto, ON, CA
Supervisor: Dr. Andrew Emili
Topic: *Mass spectrometry-based and computational investigation of the roles post-translational modifications play in molecular signaling mechanisms.*

2007-2008 University of Toronto/Mt. Sinai Hospital, ***Research Assistant***
2005-2007 McMaster University, ***Research and Teaching Assistant***
2005 McGill University, ***Teaching Assistant***
2004 McGill University, ***Teaching Assistant***
1997–2007 Kuzmanov & Associates Inc., ***System Administrator***
1996 Oasis Technology Ltd., ***Assistant system administrator***

OTHER ACTIVITIES AND SKILLS

Language skills: Fluent (oral and written) in English and Serbo-Croatian, basic proficiency in Italian.

Professional Memberships: American Association for Cancer research, American Society of Mass Spectrometry, Human Proteome Organization, Canadian National Proteomics Network.

Journal Reviewer*:* International Journal of Cancer***,*** Clinical Biochemistry, Journal of Translational Medicine.