CIHR IRSC
Canadian Institutes of Health Research | Instituts de recherche en santé du Canada

Canadian Common CV commun canadien

Protected when completed

Date Submitted: 2025-01-28 18:27:07
Confirmation Number: 1901684
Template: CIHR Biosketch

Dr. Anand Krishnan

Correspondence language: English
Sex: Male
Date of Birth: 5/30
Canadian Residency Status: Permanent Resident
Country of Citizenship: India

Contact Information

The primary information is denoted by (*)

Address

Primary Affiliation (*)

5800 701 Queen St
Saskatoon Saskatchewan S7K 0M7
Canada

Telephone

Work (*)	+1-306-6558711

Email

Personal	krisanandin@yahoo.com
Work (*)	anand.krishnan@usask.ca

CIHR IRSC
Canadian Institutes of Health Research | Instituts de recherche en santé du Canada

Canadian Common CV | commun canadien

Protected when completed

Dr. Anand Krishnan

Degrees

2006/10 - 2012/2	Doctorate, PhD, University of Kerala Degree Status: Completed
2002/6 - 2004/5	Master's Thesis, Master of Pharmacy (Pharmacology), Manipal University Degree Status: Completed
1996/9 - 2001/8	Bachelor's, Bachelor of Pharmacy, Mahatma Gandhi University Degree Status: Completed

Recognitions

2024/3	Peer reviewer for Canadian Cancer Society Canadian Cancer Society
2023/10	Full member of CIHR College of Reviewers Canadian Institutes of Health Research
2023/6	Received two times and one time merit awards from the Dept. of Anatomy, Physiology, and Pharmacology and the College of Medicine, respectively, in recognition to the high quality research conducted. Department of Anatomy, Physiology and Pharmacology, University of Saskatchewan
2012/8 - 2015/7	AIHS Postdoctoral Fellowship (University of Calgary and University of Alberta) Alberta Innovates Health Solutions
2012/1 - 2012/7	HBI Postdoctoral fellowship Hotchkiss Brain Institute, University of Calgary

Employment

2019/9	Assistant Professor Anatomy, Physiology, and Pharmacology, College of Medicine, University of Saskatchewan
2014/8 - 2019/7	Postdoctoral fellow Department of Medicine, Faculty of Medicine and Dentistry, University of Alberta
2011/10 - 2014/7	Postdoctoral fellow Department of Clinical Neurosciences, Faculty of Medicine and Dentistry, The University of Calgary
2011/4 - 2011/7	Project Associate Department of Biotechnology, School of Biosciences, Indian Institute of Technology, Madras

2006/4 - 2006/10	Junior research fellow Cancer Biology, Biotechnology Commission, Rajiv Gandhi Centre for Biotechnology
2005/7 - 2006/4	Research Scientist (R&D Pharmacology) Alembic Pharmaceuticals Ltd
2004/5 - 2005/6	Research Executive (R&D Pharmacology) Orchid Chemicals and Pharmaceuticals Ltd (Pharmaceutical Industry)

Affiliations

The primary affiliation is denoted by (*)

(*) 2019/9	Assistant Professor, Anatomy, Physiology, and Pharmacology, University of Saskatchewan

Research Funding History

Awarded [n=5]

2022/10 - 2027/9
Co-applicant

Novel non-invasive therapy to drive robust and sustained peripheral nerve regeneration [NO FUND ALLOCATION TO MY LAB]

Funding Sources:
Canadian Institutes of Health Research (CIHR)
Project Grant
Total Funding - 0
Funding Competitive?: Yes

Principal Applicant : Dr. Valerie Verge

2024/9 - 2026/8
Principal Applicant

Institutional funding support for a competitive CIHR Project Grant application.

Funding Sources:
College of Medicine, U of S
CoMBRIDGE (Bridge grant to support CIHR application)
Total Funding - 50,000
Funding Competitive?: Yes

2020/4 - 2026/3
Principal Applicant

Differential ontogeny contributes to the macrophage diversity in the peripheral nervous system.

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Discovery Grant and Discovery Launch Supplement
Total Funding - 162,500
Funding Competitive?: Yes

2022/7 - 2025/6
Principal Applicant

Tumor nerve innervations as a prognostic marker for metastatic recurrence of breast cancer

Funding Sources:
Breast Cancer Society of Canada
Operating Grant
Total Funding - 75,000
Funding Competitive?: Yes

2024/1 - 2025/3
Principal Applicant

Novel autograft approaches combined with the use of autologous Schwann cells for screening potential nerve repair therapies

Funding Sources:
College of Medicine, U of S

CoMRAD
Total Funding - 30,000
Funding Competitive?: Yes

Completed [n=9]

2019/9 - 2024/9
Principal Applicant

Start-up research fund-SUPPLEMENT

Funding Sources:
College of Medicine & Office of the Vice-Provost, Faculty Relations, University of Saskatchewan
Faculty Recruitment & Retention Program Fund
Total Funding - 60,000
Funding Competitive?: No

2022/9 - 2024/8
Principal Applicant

Potential therapies for cisplatin-induced peripheral neuropathy in breast cancer

Funding Sources:
Cancer Research Society and CIHR-ICR
Operating Grant
Total Funding - 119,945
Funding Competitive?: Yes

2021/8 - 2024/7
Principal Applicant

Exploring the nerve-tumor interface to identify novel therapeutic targets for cancer

Funding Sources:
Saskatchewan Health Research Foundation (The) (SHRF)
Establishment Grant
Total Funding - 119,999
Funding Competitive?: Yes

2023/6 - 2024/5
Principal Investigator

Molecular characterization of cancer cells contributing to perineural invasion for tackling prostate cancer recurrence

Funding Sources:
The Prostate Cancer Fight Foundation
Operating Grant
Total Funding - 50,000
Funding Competitive?: Yes

2019/9 - 2023/8
Principal Applicant

Start-up Research Fund

Funding Sources:
College of Medicine, University of Saskatchewan
Research start-up fund
Total Funding - 370,000
Funding Competitive?: No

2021/8 - 2023/7
Principal Applicant

Exploiting Synthetic Dosage Lethality Network for Suppressing Neuroendocrine Prostate Cancer

Funding Sources:
College of Medicine
CoMBRIDGE (Bridge grant to support CIHR application)
Total Funding - 50,000
Funding Competitive?: Yes

2022/6 - 2023/5
Principal Applicant

Tackling neuroendocrine prostate cancer (NEPC) using a combination of adrenergic beta 2 and androgen receptor inhibitors

Funding Sources:
The Prostate Cancer Fight Foundation

Operating Grant (Ride for Dad)
Total Funding - 15,000
Funding Competitive?: Yes

2022/1 - 2022/12
Collaborator

Non-invasive therapy to drive robust and sustained peripheral nerve regeneration using a novel nerve compression/decompression model [*NO FUND ALLOCATION TO MY LAB]

Funding Sources:
College of Medicine
College of Medicine Research Award
Total Funding - 30,000
Funding Competitive?: Yes

Principal Applicant : Dr. Valerie Verge

2020/1 - 2021/12
Principal Applicant

Molecular mapping of breast cancer-nerve interface using proteomic studies.

Funding Sources:
College of Medicine
CoMRAD Grant
Total Funding - 29,573
Funding Competitive?: Yes

Declined [n=2]

2016/10 - 2021/9
Principal Applicant

Funding Scheme for Early Career Researchers

Funding Sources:
Department of Biotechnology (DBT), India
Ramalingaswami Fellowship
Total Funding - 43,000
Funding Competitive?: Yes

2016/7 - 2021/6
Principal Applicant

Funding Scheme for Early Career Researchers

Funding Sources:
Department of Science and Technology (DST), India
Ramanujan Fellowship
Total Funding - 43,000
Funding Competitive?: Yes

Publications

Journal Articles

1. Sivakumar B, Hammond C, Martinez V, Joseph N, Kumar A, Krishnan A*. (2025). Schwann cells modified to secrete MANF is a potential cellular therapy for peripheral nerve regeneration *(in peer review; MS# NEUROT-D-25-00026)*. Neurotherapeutics. NA: NA.
2. Joseph N, Shrestha S, Sassmannshausen I, Mizkus S, Chumala P, Sivakumar B, Baiju V, Ahmed S, Rees H, Katselis GS, Krishnan A*. (2025). An experimental method for perineural invasion simulating natural invasion of cancer cells into nerves *(in peer review; MS# CR-METHODS-D-24-00462)*. Cell Reports Methods. NA: NA.

3. Walke P., Price J.D.W., Vizeacoumar F.S., Joseph N., Maranda V., Chowdhury B., Patel J., Zhang Y., Dong H., New L., Ganapathysamy A., Gong L.H., Elhasasna H., Bhanumathy K.K., Wu Y., Wang Y.*, Freywald A.*, Krishnan A.*, Vizeacoumar F.J.* (* Corresponding authors). (2025). A novel role for Neurog2 in MYCN driven neuroendocrine plasticity of prostate cancer (in peer review;*MS# ONC-2024-02726R)*. Oncogene. NA: NA.

4. Jared Price, Frederick Vizeacoumar, Omar Abuhussein, Vincent Maranda, Yue Zhang, Hironori Adachi, Liliia Kyrylenko, Aline Rangel-Pozzo, He Dong, Li Hui Gong, Prachi Walke, Ashtalakshmi Ganapathysamy, Connor Denomy, Tanya Freywald, Renuka Dahiya, Hussain Elhasasna, Anjali Saxena, Jeff Vizeacoumar, Hardik Patel, Karthic Rajamanickam, Kathryn Nguyen, Diego de Oliveira, Mary Lazell-Wright, Alain Morejon Morales, Aanchal Aggarwal, Jia Lin Xu, Nezeka Alli, Erika Prando Munhoz, Peng Gao, Jayme Salsman, Dinesh Dahiya, Cristina Gonzalez-Lopez, Patricia Thibault, Michael Levin, Graham Dellaire, Nicholas Jette, Gary Groot, Anand Krishnan, Shahid Ahmed, Christopher Eskiw, Khaled Barakat, Yuliang Wu, Ronald DePinho, Sabine Mai, Yi-Tao Yu, Judy Wong, Andrew Freywald, Franco Vizeacoumar. (2025). Epigenetic Control of TERRA by FTSJ3 is Critical for Telomerase-Driven Cancers (MS# NATCANCER-A17165). Nature Cancer. NA: NA.
Submitted
Refereed?: Yes

5. Poitras TM, Komirishetty P, Areti A, Larouche M, Krishnan A, Chandrasekhar A, Munchrath E, Zochodne DW. (2023). Manipulation of the Myc interactome to enhance nerve regeneration in a murine model. Annals of Neurology. 96(2): 216-230.
Published
Refereed?: Yes

6. Sivakumar B, Krishnan A*. (2023). Mesencephalic astrocyte-derived neurotrophic factor (MANF): An emerging therapeutic target for neurodegenerative disorders. Cells. 12(7): 1032.
Published
Refereed?: Yes

7. Bautista M, Krishnan A*. (2022). Self-renewal of peripheral nerve resident macrophage: Does it represent a unique activation status?. Neural regeneration research. 17(5): 999-1000.
Published
Refereed?: Yes

8. Elhasasna H, Khan R, Bhanumathy KK, Vizeacoumar FS, Walke P, Bautista M, Dahiya DK, Miranda V, Patel H, Balagopal A, Alli N, Krishnan A, Freywald A, Vizeacoumar FJ. (2022). A Drug Repurposing Screen Identifies Fludarabine Phosphate as a Potential Therapeutic Agent for N-MYC Overexpressing Neuroendocrine Prostate Cancers.Cells. 11: 2246.
Published
Refereed?: Yes

9. Krishnan A, Areti A, Komirishetty P, Chandrasekhar A, Cheng C, Zochodne DW. (2022). Survival of compromised adult sensory neurons involves macrovesicular formation. Cell Death Discovery. Nov 24;8(1): 462.
Published
Refereed?: Yes

10. Bautista M, Katselis GS, Chowdhuri B, Chumala P, Mahendra R, Desai P, Hall J, Kalyaanamoorthy S, Krishnan A*. (2022). Comparative proteomics analysis of growth-primed adult dorsal root ganglia reveals key molecular mediators for peripheral nerve regeneration. eNeuro .Jan 5;10(1): ENEURO.0168-22.2022.
Published
Refereed?: Yes

11. Krishnan A, Dwivedi S, Chandrasekhar A, Areti A, Zochodne DW. (2021). In vitro priming response in dorsal root ganglia partially mimics injury-driven pre-conditioning response, and reprogram neurons for enhanced outgrowth. Molecular and Cellular Neuroscience. 110: 103573.
Published
Refereed?: Yes

12. Dwivedi S, Bautista M, Shrestha S, Elhasasna H, Chaphekar T, Vizeacoumar F, Krishnan A*. (2021). Sympathetic signaling facilitates progression of neuroendocrine prostate cancer. Cell Death Discovery. 7(1): 364.
Published
Refereed?: Yes

13. Momeni Z, Bautista M, Neapetung J, Urban R, Yamamoto Y, Krishnan A, Campanucci VA. (2021). RAGE signaling is required for AMPA receptor dysfunction in the hippocampus of hyperglycemic mice. Physiology & Behavior. 229: 113255.
Published
Refereed?: Yes

14. Chandrasekhar A, Komirishetty P, Areti A, Krishnan A, Zochodne DW. (2021). Dual specificity phosphatases (DUSPs) support axon plasticity and viability. Molecular Neurobiology. 58(1): 391-407.
Published
Refereed?: Yes

15. Dwivedi S, Krishnan A*. (2020). Neural invasion: a scenic trail for the nervous tumor and hidden therapeutic opportunity. American Journal of Cancer Research. 10(8): 2258-2270.
Published
Refereed?: Yes

16. Bautista M, Krishnan A*. (2020). The autonomic regulation of tumor growth and the missing links. Frontiers in Oncology. 10: 744.
Published
Refereed?: Yes

17. Duraikannu A, Krishnan A, Chandrasekhar A, Zochodne DW. (2019). Beyond trophic factors: Exploiting the intrinsic properties of adult neurons.Frontiers in Cellular Neuroscience. 13: 128.
Published
Refereed?: Yes

18. Krishnan A, Purdy K, Chandrasekhar A, Martinez J, Cheng C, Zochodne DW. (2018). A BRCA1 dependent DNA damage response in the regenerating adult peripheral nerve milieu. Molecular Neurobiology. 55(5): 4051-4067.
Published
Refereed?: Yes

19. Asahchop EL, Branton WG, Krishnan A, Chen PA, Yang D, Kong L, Zochodne DW, Brew BJ, Gill MJ, Power C. (2018). HIV-associated sensory polyneuropathy and neuronal injury are associated with miRNA-455-3p induction.JCI Insight. 3(23): 122450.
Published
Refereed?: Yes

20. Krishnan A, Bhavanam S, Zochodne DW. (2018). An intimate role for adult dorsal root ganglia resident cycling cells in the generation of local macrophages and satellite glial cells. Journal of Neuropathology and Experimental Neurology. 77(10): 929-941.
Published
Refereed?: Yes

Book Chapters

1. Krishnan A*, Verge VMK*, Zochodne DW* (* Corresponding authors). (2024). Hallmarks of peripheral nerve injury and regeneration. Collin Chalk. Handbook of clinical neurology. (201): 1-17.
   Published, Elsevier, Netherlands
2. Krishnan A*. (2022). Tumor-nerve interface: An emerging therapeutic intervention point for solid cancers. Dr. Nima Rezaei. Interdisciplinary Cancer Research. : pp 1–20.
   Published, Springer, United Kingdom
3. Krishnan A*. (2022). Neuroimmune axis in the tumor microenvironment. Dr. Nima Rezaei. Handbook of Cancer and Immunology. : pp 1–22.
   Published, Springer, United Kingdom

Conference Publications

1. Joseph N, Shrestha S, New L, Krishnan A*. Role of neurotransmitters in perineural invasion and survival of cancer cells. Annual Meeting of the Peripheral Nerve Society, Montreal, Canada,
   Conference Date: 2024/6
   Abstract
2. Sivakumar B, Hammond C, Krishnan A*. The role of mesencephalic astrocyte-derived neurotrophic factor (MANF) in Schwann Cells. Annual Meeting of the Peripheral Nerve Society, Montreal, Canada,
   Conference Date: 2024/6
   Abstract
3. New L, Krishnan A.Profiling muscarinic signaling in lung cancer brain metastasis. 9th Annual Saskatchewan Cancer Research Conference,
   Conference Date: 2024/6
   Poster
4. Krishnan A*, Chowdhury B, El-Baroudy H, Sivakumar B. Macrophage migration inhibitory factor (MIF): A potential therapeutic target for chemotherapy-induced peripheral neuropathy. Annual meeting of the Peripheral Nerve Society, Coppenhagen, Denmark,
   Conference Date: 2023/6
   Poster
   Refereed?: Yes, Invited?: No
5. Sivakumar B, Chowdhury B, Krishnan A*. Potential role for mesencephalic-astrocyte derived neurotrophic factor (MANF) in peripheral nerve regeneration and neuropathy. Annual meeting of the Peripheral Nerve Society, Coppenhagen, Denmark,
   Conference Date: 2023/6
   Poster
   Refereed?: Yes, Invited?: No
6. H. El-Baroudy, A. Krishnan*, B. Chowdhury. An in vitro model of neurodegeneration for screening neuroprotective agents. Annual meeting of the Society for Neuroscience, San Diego, USA,
   Conference Date: 2022/11
   Poster
   Refereed?: Yes, Invited?: No
7. P.J. Desai, J. Hall, I. Sassmannshausen, A, Krishnan*. Prognostic implication of nerve distribution in breast cancer. Annual meeting of the Society for Neuroscience, San Diego, USA,
   Conference Date: 2022/11
   Poster
   Refereed?: Yes, Invited?: No

8. S. Shrestha , B. Chowdhury, A. Krishnan*. Imbalance in hormone-neurotransmitter signaling modulates neuroendocrine differentiation of cancer cells. Annual meeting of the Society for Neuroscience, San Diego, USA,
Conference Date: 2022/11
Poster
Refereed?: Yes, Invited?: No

9. Bamania N, Chowdhury B, Krishnan A*. Dexamethasone and aprepitant protect from cisplatin induced peripheral neuropathy in breast cancer. Annual meeting of the Peripheral Nerve Society (PNS), Miami, USA,
Conference Date: 2022/5
Poster
Refereed?: Yes, Invited?: No

10. Dwivedi S, Hariharan R, Krishnan A*. RNA sequencing reveals structural molecular alterations in neurons as critical determinants of chemotherapy-induced neuropathic pain. Canadian Cancer Research Conference (virtual),
Conference Date: 2021/11
Abstract

11. Dwivedi, S., Bautista, M., Shrestha, S., Hall, J. & Krishnan, A*.Neuroinflammation facilitates chemotherapy induced neuropathic pain. 14th Canadian Neuroscience Meeting (virtual),
Conference Date: 2021/8
Poster
Refereed?: Yes, Invited?: No

12. Krishnan A*, Dwivedi S,Bautista M, Iftikhar T. Adrenergic signaling induces neuroendocrine differentiation of prostate adenocarcinoma cells. AACR Annual Meeting 2021 (virtual),
Conference Date: 2021/4
Poster
Refereed?: Yes, Invited?: No

13. Dwivedi S, Bautista M, Krishnan A*. Development and characterization of in vitro perineural invasion model to study peripheral nerve-cancer cell interaction. SFN Global Connectome 2021 (virtual),
Conference Date: 2021/1
Poster
Refereed?: Yes, Invited?: No

14. Bautista M, Chumala P, Dwivedi S, Katselis G, Krishnan A*. Whole tissue proteomics of *in vitro* and *in vivo* primed dorsal root ganglia. SFN Global Connectome 2021 (virtual),
Conference Date: 2021/1
Poster
Refereed?: Yes, Invited?: No

15. Bautista M, Chumala P, Katselis G and Krishnan A*. Molecular Signature of Axotomized Sensory Ganglia and Contribution of Self-Renewing Macrophages. Annual Meeting of Peripheral Nerve Society (virtual),
Conference Date: 2020/6
Poster
Refereed?: Yes, Invited?: No

16. Zochodne DW, Krishnan A, Duraikannu A, Chandrasekhar A. Intrinsic growth and plasticity pathways within sensory neurons: An expanding list. Peripheral nerve society Annual Meeting, Italy,
Conference Date: 2019/6
Poster
Refereed?: Yes, Invited?: No

Intellectual Property

Patents

1. Methods and materials for identifying therapeutic response in chronic myeloid leukemia (CML).India. 2013/03/15.
   Patent Status: Granted/Issued
   Year Issued: 2023
2. Methods and materials for identifying therapeutic response in chronic myeloid leukemia (CML). United States of America. US 10,466,244 B2. 2017/04/06.
   Patent Status: Granted/Issued
   Year Issued: 2019

Presentations

1. (2023). Targeting neurosignaling for tackling neuroendocrine prostate cancer (NEPC) and prostate cancer recurrence. Prostate Cancer Fight Foundation and Ride for Dad grant award ceremony, Canada
   Main Audience: General Public
   Invited?: Yes, Keynote?: No
2. (2023). Systematic screening of the molecular repertoire of growth primed ganglia for peripheral nerve repair.Research Leadership meeting, University of Saskatchewan, Canada
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No
3. (2022). Co-ordinated actions of tumor extrinsic and intrinsic neurosignaling contribute to neuroendocrine prostate cancer.Early career researchers meet organized by CIHR Institute of Genetics and Institute of Cancer Research, November 2022., Canada
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No
4. (2022). Targeting neurosignaling for treatment resistant prostate cancer. International conference on advanced biology 2022 (Online), India
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No
5. (2021). Nerve dependence of cancer and therapeutic opportunity. Research seminar at Birla Institute of Technology and Science (BITS), India
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No

Student/Postdoctoral Supervision

Master's Thesis [n=3]

2025/1 Principal Supervisor	Ximena Mejia Delgadillo, Anahuac Queretaro University, Mexico Thesis/Project Title: Exploring the role of muscarinic receptors in lung cancer brain metastasis Present Position: MSc student, University of Saskatchewan
2023/5 - 2024/8 Principal Supervisor	Hya El- Baroudy, University of Saskatchewan Thesis/Project Title: The role of macrophage migration inhibitory factor (MIF) in chemotherapy-induced peripheral neuropathy Present Position: Physiotherapy student, University of Saskatchewan

2021/9 - 2024/6 Principal Supervisor	Priyanshi Desai, University of Saskatchewan Thesis/Project Title: Tumor nerve density as a prognostic indicator for breast cancer recurrence Present Position: Research technician, McGill University

Doctorate [n=2]

2023/5 Principal Supervisor	Nickson Joseph, University of Saskatchewan Thesis/Project Title: Tumor nerve density and muscarinic signaling as a prognostic indicator for breast cancer brain metastasis Present Position: PhD student, University of Saskatchewan
2022/9 Principal Supervisor	Bhadrapriya, University of Saskatchewan Thesis/Project Title: The role of MANF and self renewing macrophages in peripheral nervous system homeostasis and regeneration Present Position: PhD Student, University of Saskatchewan

Post-doctorate [n=2]

2021/11 - 2023/12 Principal Supervisor	Dr. Prachi Walke, University of Saskatchewan Thesis/Project Title: Identification of therapeutic targets in MYC overexpressing cancers (jointly supervised with Dr. Vizeacoumar) Present Position: Postdoctoral fellow, University of Calgary
2020/3 - 2021/7 Principal Supervisor	Dr. Shubham Dwivedi, University of Saskatchewan Thesis/Project Title: The nerve dependence of cancers Present Position: Assistant Professor, UPES University, India

Technician [n=3]

2023/7 - 2024/7 Principal Supervisor	Lara New, University of Saskatchewan Thesis/Project Title: Nerve dependence in lung cancer Present Position: Medical student, University of Saskatchewan
2021/6 - 2023/7 Principal Supervisor	Bari Chowdhury, University of Saskatchewan Thesis/Project Title: Investigation of nerve-tumor interface and peripheral nerve regeneration Present Position: Sessional instructor, University of Saskatchewan
2019/11 - 2021/7 Principal Supervisor	Maricris Bautista, University of Saskatchewan Thesis/Project Title: Investigation of nerve-tumor interface and peripheral nerve regeneration Present Position: Medical student, University of Saskatchewan.