

SUBBAYA SUBRAMANIAN, M.S., Ph.D.

**Associate Professor
Division of Basic and Translational Research
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PROFESSIONAL ADDRESS

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EDUCATION

Doctor of Philosophy (PhD) in Molecular and Cellular Biology, 2003 Centre for Cellular and Molecular Biology, Jawaharlal Nehru University, India

Postgraduate Diploma in Patents Law, 2003 National Academy of Legal Studies & Research, India

Master of Science in Biotechnology (MS), 1998 Tamil Nadu Agricultural University, India

Bachelor of Science in Agricultural Sciences (BS), 1995 Tamil Nadu Agricultural University, India

POSTDOCTORAL FELLOWSHIP

5/2003-11/2007 Cancer biology and microRNA gene regulation,
Department of Pathology Stanford University, Palo Alto, USA

ACADEMIC APPOINTMENTS and POSITIONS

7/2015- present **Associate Professor** (tenured), Department of Surgery, University of Minnesota, Minneapolis, USA

7/2010- 7/2015 **Assistant Professor**, Department of Surgery, University of Minnesota, Minneapolis, USA

11/2007- 7/2010 **Assistant Professor**, Department of Laboratory Medicine and Pathology, University of Minnesota, Minneapolis, USA

5/2003-11/2007 **Postdoctoral associate**, Department of Pathology, Stanford University, Stanford, USA

3/2003- 5/2003 **Research Associate**, Centre for Cellular and Molecular Biology, India

8/1999- 3/2003 **Senior Research Fellow**, Centre for Cellular and Molecular Biology, India

JOURNAL EDITORIAL SERVICE

Associate Editor, *Frontiers in Genetics* (RNA)

Associate Editor, *Frontiers in Molecular Biosciences* (Molecular Diagnostics)

Editorial Board Member, *American Journal of Cancer Research*

Editorial Board Member, *Austin Journal of Surgery*

Editorial Board Member, *Frontiers Cancer Genetics*

Editorial Board Member, *Journal of Metabolomics and Systems Biology*

Editorial Board Member, *Indian Journal of Human Genetics*

Editorial Board Member, *The Open Access Journal of Science and Technology*

Editorial Board Member, *World Journal of Clinical Case Conference*

Editorial Board Member, *Research Ideas and Outcomes*

AWARDS and HONORS

- 2/2015 Visiting Professor, University of Erlangen-Nuremberg, Germany
4/2015 Poster award, Minnesota Supercomputing Institute, University of Minnesota, Minneapolis, USA
6/2014 Best poster award, Research Day, University of Minnesota, Minneapolis, USA
7/2013 American Cancer Society Research Scholar Award, USA
1/2013 University of Minnesota Frontiers in Biomedical Research Scholar Award
6/2012 Best poster award, Research Day, University of Minnesota, Minneapolis, USA
7/2011 Norwegian Centennial Chair Faculty Award for visiting professorship to University of Oslo, Norway
7/2010 Masonic Scholar, Masonic Cancer Center, University of Minnesota
8/2010 Carlson Faculty Award, University of Minnesota/Karolinska Institute Faculty collaboration program
1/2009 Faculty Research Development Grant Award, Academic Health Center, University of Minnesota, Minneapolis, USA
8/2009 Translational Research Grant Award, Academic Health Center, University of Minnesota, Minneapolis, USA
11/2007 Best poster award, Connective Tissue Oncology Society Annual Meeting, Seattle, USA
6/2003 Nomination for Young Scientist award from Indian National Science Association, New Delhi, India
8/2002 International travel award from Intelligent Systems for Molecular Biology (ISMB), USA
2/2002 Best poster award from Association for Promotion for DNA Technologies, Hyderabad, India
3/2001 Senior research fellowship from University Grants Commission, New Delhi, India
8/1999 Graduate Fellowship from Indian Institute of Technology, Madras, India
7/1999 Fellowship award from Indian Council of Agricultural research, New Delhi, India
3/1999 Junior Research fellowship from Council of Industrial and Scientific Research, New Delhi, India
8/1996 Merit scholarship from Department of Biotechnology, New Delhi, India
1995 Best undergraduate student award from College of Agriculture, Pondicherry, India

PATENTS

1. Osteosarcoma diagnostic and prognostic methods. Patent pending, 61/724,509 PCT/US2013/069237. Inventors. **Subramanian S**, Sarver A and Modiano J
2. MicroRNAs in the treatment and prognostic significance of colon cancer. US Patent pending 61/879,967. Inventors. **Subramanian S**, Sarver A and Steer C
3. Novel methods for amplification and library preparation using pico-quantities of total RNA. Patent pending, PCT/US2014/068087. Inventors. **Subramanian S** and Hajeri P

INVITED LECTURES

- 10/2016 Invited speaker, MicroRNAs Secreted via Extracellular Vesicles Regulate Immune Response in Colon Cancer by Targeting the T cell Costimulatory Pathway, American Society for Exosome and Microvesicles (ASEMV) Annual meeting, Asilomar, USA
- 10/ 2016 Invited speaker, Colon cancer microRNAs, Bioinformatics and computational biology graduate program, University of Minnesota, Minneapolis, USA
- 9/ 2016 Invited speaker, Mechanisms of tumor progression and Immune Response in Colon Cancer, Division of Gastroenterology, University of Illinois, Chicago, Chicago, USA
- 8/2016 Invited seminar, Mechanisms of Malignant Transformation and Immune Response in Colon Cancer, Center for Cellular and Molecular Biology, Hyderabad, India
- 8/2016 Invited speaker, Mechanisms of Tumor Progression and Immune Privilege in Colon Cancer, Center for DNA Finger Printing and Diagnostics, Hyderabad, India
- 8/2016 Invited Lecture, MicroRNAs and Colon Cancer, Mahatma Gandhi College of Medical Sciences and Research Institute, Pondicherry, India
- 8/2016 Invited Lecture, Oncology: Biology meets treatment, College of Agricultural Sciences, Karikal, India
- 5/2016 Speaker, Regulation of immune response in colon cancer, Gastrointestinal cancers Translational Working Group, University of Minnesota, Minneapolis, USA
- 1/2016 Speaker, Evaluation of Minnelide and chromatin modifying drugs in the treatment of osteosarcoma, Children's Cancer Research program, University of Minnesota, Minneapolis, USA
- 1/2016 Invited speaker, Mechanisms of malignant transformation and immune privilege in colon cancer, Genetic and epigenetics club meeting, School of Public health, University of Minnesota, Minneapolis, USA
- 11/2015 Invited speaker, Colon cancer microRNA gene networks. Department of Medicine research conference, University of Minnesota, Minneapolis, USA
- 6/2015 Featured speaker, Goodale Memorial Symposium in Pancreatic Cancer, University of Minnesota, Minneapolis, USA
- 4/2015 Scientific committee member and speaker, A US-Brazil international research workshop. Non-coding RNAs: A new frontiers in biomedical research. Ohio State University, Columbus, USA
- 2/2015 Invited speaker, MicroRNAs in the cross roads of cancer, German Prostate Cancer Consortium (DPKK), Kloster Banz, Bad Staffelstein, Germany
- 2/2015 Invited speaker, MicroRNAs in the pathogenesis of osteosarcoma, Department of Pathology, University of Erlangen-Nuremberg, Erlangen, Germany
- 9/2014 Invited speaker, MicroRNAs in the progress of colon cancer, Department of Pathology, Medical College of Wisconsin, Milwaukee, USA
- 9/2014 Invited speaker, Osteosarcoma pathobiology and novel therapies, Early Phase Solid Tumor Meeting. Masonic Cancer Center, University of Minnesota, Minneapolis, USA
- 8/2014 Keynote speaker, 2nd Annual BICB Industry Symposium, Precision Agriculture and Medicine: From Data to Knowledge, Minneapolis, USA
- 7/2014 Invited speaker, MicroRNAs in Cancer, Vaishnav College, University of Madras, Chennai, India
- 6/2014 Invited speaker, Role of microRNAs in bone and colon cancer, Department of Biochemistry, Indian Institute of Science, Bangalore, India

- 6/2014 Guest lecture, Mechanisms of colon cancer progression and novel therapies, Institute of Medical Sciences, Banarus Hindu University, Varanasi, India
- 6/2014 Invited seminar, MicroRNA mediated gene regulation in osteosarcoma and colon cancer, Advanced Centre for Treatment, Research & Education in Cancer, Tata Memorial Center, Mumbai, India
- 5/2014 Invited speaker, MicroRNAs in the malignant transformation of colon adenoma to adenocarcinoma, Research day conference, Department of Surgery, University of Minnesota, Minneapolis, USA
- 5/2014 Speaker and session chair, Mechanisms of Osteosarcoma progression, University of Minnesota Sarcoma Research Program meeting, Minneapolis, USA
- 4/2014 Invited speaker, MicroRNA networks in colon cancer. Department of Medicine Research conference, Minneapolis, USA
- 3/2014 Invited speaker, MicroRNA biogenesis, function and regulation in colon cancer, NHS Grampian and University of Aberdeen, Aberdeen, UK
- 2/2014 Invited speaker, MicroRNAs in malignant transformation of colon adenomas, Target meeting, Houston, USA
- 11/2013 Invited speaker, Fine tuning bone and colon cancer: Two tales of microRNAs. The Rosalind and Morris Goodman Cancer Research Centre, McGill University, Montreal, Canada
- 11/2013 Invited speaker, American College of Veterinary Pathology Annual meeting, Montreal, Canada
- 10/2013 Invited speaker, Pharmacology Symposium, University of Minnesota, Minneapolis, USA
- 9/2013 Invited lecture, BICB graduate program, University of Minnesota Rochester, USA
- 9/2013 Invited lecture, Oral Biology Program, School of Dentistry, University of Minnesota, Minneapolis, USA
- 7/2013 Invited lecture, Roswell Park Cancer Institute, Buffalo, USA
- 5/2013 Invited seminar, Molecular Medicine, Karolinska Institute, Stockholm, Sweden
- 5/2013 Invited seminar, The Centre for Cancer Biomedicine, Radium Hospital Oslo, Norway
- 4/2013 Invited seminar, MicroRNAs and Cancer, College of Veterinary Medicine, Veterinary Medicine graduate program, St Paul, USA
- 1/2013 Invited speaker, MicroRNA function and prognostic significance in osteosarcoma, Target meeting, Bellaire, Texas, USA
- 11/2012 Invited lecture, MicroRNAs and Unknown Unknowns, Center for Orphan Drug Research, Minneapolis, USA
- 10/2012 Invited speaker, Regulatory RNAs in health and disease, College of Biological Sciences sponsored Health and Biological Research Club, Minneapolis, USA
- 9/2012 Invited speaker, MicroRNA gene regulatory networks in rhabdomyosarcoma, Molecular Biology and Innovative Therapies in Sarcomas of Childhood and Adolescence, European Science Foundation, Pultusk, Poland
- 8/2012 Invited speaker, MicroRNA function and prognostic significance in osteosarcoma, Children's Oncology Group meeting Atlanta, USA
- 7/2012 Invited speaker, MicroRNAs: A Multifaceted Regulator in Cancer, 3rd Annual Symposium, Systems Biology of Genetic Regulation, Microbial and Plant Genomics Institute, St Paul, USA
- 6/2012 Invited speaker, Role of microRNAs in malignant transformation of colon adenomas, PSG college of Medical Sciences and Research Institute, Coimbatore,

India

- 6/2012 Invited lecture, MicroRNA mediated gene deregulations in pediatric sarcomas and colon cancer, Indian Institute of Science, Bangalore, India
- 6/2012 Invited seminar, MicroRNAs in osteosarcoma and colon cancer: Two tales of walking straight into circles, Center for Cellular and Molecular Biology, Hyderabad, India
- 6/2012 Invited speaker, MicroRNAs in Colon Cancer, Pondicherry Institute of Medical Sciences, Puducherry, India
- 5/2012 Invited lecture, MicroRNAs in osteosarcoma and colon cancer, Indian Institute of Technology, Chennai, India
- 4/2012 Invited speaker, MicroRNAs and Cancer, Translational Working Group, University of Minnesota, Minneapolis, USA
- 4/2012 Invited speaker and Session Chair, Genomics of Osteosarcoma, RNA Biology Target Meeting 2012, New York, USA.
- 2/2012 Invited lecture, MicroRNAs in sarcoma development and progression. British Columbia, Cancer Agency, University of British Columbia, Vancouver, Canada
- 12/2011 Invited speaker, MicroRNA response elements in colon cancer gene regulation, Department of Pathology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, USA
- 12/2011 Invited speaker, MicroRNAs in osteosarcoma, University of Oslo, Oslo, Norway
- 12/2011 Invited speaker, MicroRNA mediated gene regulatory networks in human sarcomas, University of Oslo, Oslo, Norway
- 6/2011 Invited speaker, MicroRNA and Osteosarcoma, Cancer Center, Louisiana State University Health Sciences Center, New Orleans LA, USA
- 4/2011 Invited speaker, microRNA networks in human diseases, Target Meeting 2011, New York, USA
- 2/2011 Invited speaker, Department of Pathology, Stanford University, Palo Alto, CA, USA
- 2/2011 Invited speaker, Molecular Med Tri-conference, San Francisco, CA, USA
- 1/2011 Invited Grand Round Speaker, Department of Surgery, University of Minnesota, Minneapolis, USA
- 11/2010 Invited lecture at the Insituit Curie, Paris, France
- 11/2010 Invited lecture at Leiden University Medical Center, Leiden, The Netherlands
- 11/2010 Invited lecture at the Center for Molecular Medicine, Karolinska Institutet, Stockholm, Sweden
- 11/2010 Invited lecture at the annual meeting of Indian Society of Gastroenterology, Hyderabad, India
- 6/2010 Invited lecture at the Center for DNA Fingerprinting and Diagnostics, India
- 6/2010 Invited lecture at Center for Cellular and Molecular Biology, Hyderabad, India
- 5/2010 Invited talk at Neurofibromatosis Symposium Mayo Clinic /UMN, Minneapolis
- 4/2010 Invited lecture at Lillehei Heart Institute, Minneapolis, USA
- 3/2010 Invited working group member of the Childhood bone tumors international consortium, Washington DC, USA
- 2/2010 Grand Rounds, Department of Laboratory Medicine and Pathology, University of Minnesota, Minneapolis, USA
- 10/2009 Invited lecture Giuseppe Garibaldi Memorial Research Conference, University of Minnesota, Minneapolis, USA
- 10/2009 Invited lecture at Dept. of Medicine, University of Minnesota, Minneapolis, USA

- 9/2009 Invited lecture at College of Veterinary Medicine, University of Minnesota, Minneapolis, USA
- 6/2009 Invited speaker at Experimental Biology annual meeting, New Orleans, USA
- 4/2009 Invited speaker at Indo-US workshop on Orphan diseases, University of Minnesota, Minneapolis, USA
- 12/2008 Invited lecture at Masonic Cancer Center, University of Minnesota, Minneapolis, USA
- 10/2008 Invited lecture at the Department of Genetics, University of Missouri, Columbia, USA
- 7/2007 Invited lecture at the International symposium “Chromosomes to Genome” Center for Cellular and Molecular Biology, Hyderabad, India
- 2/2006 Grand Rounds speaker at the Department of Laboratory Medicine and Pathology, University of Minnesota, Minneapolis, USA
- 1/2003 Invited lecture; From sequence to function: a bioinformatics approach, Madras University Chennai, India
- 10/2002 Special invitee to the Brain storming session: Building parallel processor and super computer in India for large-scale genome sequence analysis. National Aeronautics Laboratory, Bangalore, India
- 2/2002 Invited lecture, International Conference on Functional Genomics, ADNAT Hyderabad, India
- 2002 Invited lecture ‘Genome analysis and Bioinformatics’ International training program on DNA sequencing and Genotyping. Hyderabad, India

ADMINISTRATIVE/ COMMITTEES

1. Advisory board member, Bioinformatics and Biostatistics program, Masonic Cancer Center, (NCI designated comprehensive cancer center) University of Minnesota, Minneapolis, USA
2. Executive committee member, University of Minnesota Sarcoma Program, University of Minnesota, Minneapolis, USA
3. Board of examiners of the PhD thesis evaluation committee, University of Madras, India
4. Coordinator, Research Resident Enrichment Program and Research seminar series, Department of Surgery, University of Minnesota, Minneapolis, USA
5. Advisory Board Member, BIT's 1st World Congress on Small RNAs, Shenzhen, China
6. Steering committee member, Genetic Mechanism of Cancer Program, Masonic Cancer Center (NCI designated cancer comprehensive center), University of Minnesota
7. Senior member of Veterinary Medicine Graduate Program, College of Veterinary Medicine, University of Minnesota, St Paul, USA
8. Member of Clinical Research Task Force Committee, Department of Surgery, University of Minnesota
9. Senior member of Microbiology, Immunology and Cancer Biology (MICaB) Graduate Program, University of Minnesota, Minneapolis, USA
10. Faculty, Pharmacology Graduate Program, University of Minnesota, Minneapolis, USA
11. Graduate student PhD thesis evaluation committee member, University of Oslo, Norway
12. Faculty search committee, Genome Variation Cluster, College of Biological Sciences and Medical School, University of Minnesota
13. Graduate Faculty member, Bioinformatics and Computational Biology Graduate Program, University of Minnesota, Minneapolis, USA

14. Scientific program committee member and organizing group member, Committee on Institutional Cooperation. A US-Brazil international research workshop. Non-coding RNAs: A new frontiers in biomedical research. Columbus, USA
15. Search committee member, Faculty cluster hiring, College of Biological Sciences and Biomedical Engineering, University of Minnesota, Minneapolis, USA
16. Steering committee member, GI tumors Translational Working Group, Masonic Cancer Center (NCI designated cancer comprehensive center), University of Minnesota, USA
17. Faculty mentor, Academic Health Center Proposal Preparation Program (P3) mentoring group, University of Minnesota, Minneapolis, USA
18. Chair, Subcommittee Resident Research Enrichment Program, Department of Surgery, University of Minnesota
19. Member, Research Advisory Council, Department of Surgery, University of Minnesota

COURSE DIRECTOR

Small RNA Biology MICa-8014: Designed and developed the complete ‘*Small RNA Biology*’ course and introduced to the University of Minnesota Medical School Graduate program. This graduate level course is cross listed in multiple graduate programs such as Microbiology, Immunology and Cancer Biology, Neurosciences and Genetic, Development and Cell Biology graduate program.

PROGRAM DIRECTOR

Resident research enrichment program (RREP): Designed the course curriculum for Department of Surgery research residents as part of their two years research training. As the program director, I am responsible for delivering lectures, conducting seminars and identifying speakers and moderators to cover the topics in the course. This course includes, lectures, brainstorming session, resident research presentations, journal clubs and invited speaker seminars.

Formal Didactic Lectures

1. MicroRNA genes regulatory networks in cancer, Advanced Human Genetics graduate course, University of Minnesota, Minneapolis.
2. MicroRNAs in the neurofibromatosis, Neuroscience graduate course, University of Minnesota, Minneapolis.
3. MicroRNA gene regulatory networks in malignant peripheral nerve sheath tumors, Neuroscience graduate course, University of Minnesota, Minneapolis.
4. Role of miRNAs in human diseases, Hematology, Oncology and transformation, Medical Residents course, Neuroscience graduate course, University of Minnesota, Minneapolis.
5. Personalized medicine and the next generation sequencing, Dept. of Surgery, Research Resident Enrichment Program, University of Minnesota, Minneapolis.
6. ‘MicroRNAs in Cancer’ Module- MICa 8004, Tumor Biology, graduate course

GRANT REVIEW COMMITTEES

1. Academic Health Center, Faculty research development grant review committee
2. Academic Health Center, Health informatics grant review committee
3. Alessandro Liberati Program for Young Investigators, grant review committee, Bologna, Italy
4. Chordoma Foundation, research grants review committee
5. Department of Defense, *Neurofibromatosis Program*, Congressionally Directed Medical Research Program review committee member
6. Department of Defense, *Peer Reviewed Cancer Research Program- Cancer Genetics*, Congressionally Directed Medical Research Program review committee member
7. Liddy Shriver sarcoma foundation grant review committee member
8. Wellcome Trust-DBT program grants review committee member
9. Zenith project grant applications round-2 review committee, *Horizon Program*, Netherlands Genomics Initiative, Hague, The Netherlands.
10. Innovational Research Incentives Scheme, Veni Program, The Netherlands
11. Member, grants review panel. National Institutes of Health, National Research Mentoring Network (NRMN). University of Minnesota
12. Consultant and expert reviewer, Sultan Qaboos University, Muscat, Oman
13. Wallin neuroscience research grants review committee member.

RESEARCH GRANTS

- | | |
|---|-------------------|
| 1. Minnesota Medical Foundation
MicroRNA Regulatory Networks in Rhabdomyosarcoma
(PI: Subramanian S) | 5/1/08 - 4/30/10 |
| 2. Wyckoff Sarcoma Foundation Grant
MicroRNA based biomarkers for synovial sarcoma
(PI: Subramanian S) | 3/2/09 - 3/31/10 |
| 3. University of Minnesota, Academic Health Center
Faculty Research Development Award 2008
(PI: Subramanian S) | 1/1/09 - 12/31/11 |
| 4. Minnesota Medical Foundation (equipment grant)
MicroRNA Regulatory Networks in Sarcoma
(PI: Subramanian S) | 3/1/09 - 2/28/11 |
| 5. Wyckoff Sarcoma Foundation Grant
MicroRNA Expression Profiles of Synovial Sarcoma
(PI: Subramanian S) | 2/1/08 - 1/31/09 |
| 6. Masonic Cancer Center, Translational Research Award
Molecular characterization of osteosarcoma by microRNA profiling
(PI: Subramanian S) | 7/1/08 - 6/30/09 |
| 7. American Cancer Society
Role of microRNAs in Malignant Transformation of Peripheral Nerve Sheath Tumor
(PI: Subramanian S) | 8/1/09 - 7/30/10 |

8. Academic Health Center, University of Minnesota
Translational Research Grant Award 2009
(PI: **Subramanian S**) 10/1/09 - 10/31/11
9. Department of Defense (DoD)
MicroRNA Gene Regulatory Networks in Peripheral Nerve Sheath Tumors
(PI: **Subramanian S**) 8/15/10 - 8/14/13
10. Van Sloun Foundation
Chromatin modifying drugs in the treatment of human and dog osteosarcoma
(PI: **Subramanian S**) 5/1/10 - 4/30/11
11. National Institutes of Health (NIH)
microRNA uncoupling of protein and transcript expression in liver regeneration
(PI: Clifford Steer; Co-I: **Subramanian S**) 1/9/09 - 30/8/11
12. KWRIS foundation
microRNA-based serum markers for well- and de-differentiated liposarcomas
(PIs: Christian Ogilvie and **Subramanian S**) 5/1/10 - 4/30/10
13. National Institutes of Health; Pancreatic Cancer SPORE
(SPORE PI: Selwyn Vickers) Role: Pilot project PI 3/1/2011 - 12/31/2011
14. Brainstorming award, Masonic Cancer Center
Determination of Complete Genetic Code of Human Osteosarcoma Genome
(PI: **Subramanian S**) 3/1/2011 - 12/31/2011
15. Randy Shaver Cancer Research Fund
MicroRNA in progression of Pancreatic Cancer
(PI: **Subramanian S**) 1/1/2012-12/31/2012
16. Minnesota Partnership for Biotechnology and Medical Genomics
Genomics of pancreatic cancer precursor lesions- diagnostic applications
(PIs: **Subramanian S** and Couch F) 1/1/2012-12-31/2013
17. Rein in Sarcoma Foundation
Tunneling nanotubes as novel targets in osteosarcoma
(PIs: Lou E and **Subramanian S**) 3/1/2012-2-28/2013
18. Minnesota Medical Foundation
Effect of KRAS mutations on intercellular communication in colon cancer via tunneling nanotubes
(PI: Lou E; Co-I: **Subramanian S**) 4/1/2012- 3/31/2013
19. AKC Canine Health Foundation
Restoring RB Function by Epigenetic Control in Canine Osteosarcoma
(PI: Modiano J; Co-PI: **Subramanian S**) 8/1/2012- 7/31/2015
20. Healthy Food Healthy Life 8/22/2012- 8/31/2014

Reduction in colonic cancer stem cell formation by cruciferous vegetables in mice
(PI: Daniel Gallaher; Co-I **Subramanian S**)

21. American Cancer Society, IRG 12/1/2012- 11/30/2013
Tunneling nanotubes as a mechanism for intercellular transfer of microRNAs and cellular contents in colon cancer
(PI: Lou E; Co-I: **Subramanian S**)

22. Karen Wykoff Sarcoma Foundation 3/1/2013- 2-28/2014
Preclinical evaluation of Minnelide in osteosarcoma
(PI: **Subramanian S**)

23. Institute for Engineering in Medicine 5/1/2013- 4-30/2014
Nanotechnology development and applications for clinical neuroscience applications
(PI: Low; Co-I: **Subramanian S**)

24. National Pancreas Foundation 6/1/2013- 5-30/2014
Role of tunneling nanotubes in promoting chemotherapy resistance of pancreatic cancer
(PI: Lou E; Co-PI: **Subramanian S**)

25. Comparative Medicine Signature Program 6/1/2013- 5-30/2014
Niche conditioning for metastasis in canine osteosarcoma
(PI: Modiano; Co-I: **Subramanian S**)

26. Children Cancer Research Fund 6/1/2013- 5-30/2015
Minnelide treatment in osteosarcoma: preclinical studies
(PI: **Subramanian S**)

27. American Cancer Society 7/1/2013- 6/30/2017
MicroRNA gene regulatory networks in the pathogenesis of osteosarcoma
(PI: **Subramanian S**)

28. Sobiech Sarcoma Fund 10/1/2013- 9/30/2015
Germline and somatic determinants of outcomes in osteosarcoma
(Project 2 PI: **Subramanian S**; PIs Largaespada D, Modiano J and Spector L)

29. National Institutes of Health, R21 04/1/2014- 03/30/2016
Sleeping Beauty-mediated microRNA therapeutics for metastatic colorectal cancer
(PI: McIvor; CoI: **Subramanian S**)

30. Karen Wykoff Sarcoma Foundation 4/1/2014- 3-31/2015
MicroRNAs in the progression of osteosarcoma
(PI: **Subramanian S**)

31. Morris Animal Foundation 6/1/2014- 5-30/2016
Niche conditioning for metastasis in osteosarcoma
(PI: Modiano; Co-I: **Subramanian S**)

32. Karen Wykoff Sarcoma Foundation 4/1/2016- 3-31/2017

Mechanisms of immune suppression in osteosarcoma
(PI: **Subramanian S**)

33. National Institutes of Health, R21 04/1/2016- 03/30/2018
MicroRNA regulation of CD38 in airway smooth muscle causes an asthmatic phenotype
(PI: Kannan M; CoI: **Subramanian S**)

33. National Institutes of Health, R21 04/1/2016- 05/30/2018
Modulation of Osteosarcoma Biology by Inflammation and Immunity Defined through a
Comparative Approach (PI: Modiano J; CoI: **Subramanian S**)

Pending

National Institutes of Health, R01 10/1/2016- 09/30/2020
Mechanisms that regulate malignant transformation in colon adenomas
(PI: **Subramanian S**)

National Institutes of Health, R01 10/1/2016- 09/30/2020
Molecular mechanisms that foster immune privilege in colon cancer
(PI: **Subramanian S**)

National Institutes of Health, R01 1/30/2017- 09/30/2022
Osteosarcoma: Pathobiology and novel therapies
(PI: **Subramanian S**)

BOOK CHAPTERS

1. **Subramanian S**, West R, Rijn M, Genomic of Human Sarcomas, *Chromosome to Genome*, I.K International publishers, 2009 p.125-139.
2. Kartha RV and **Subramanian S**. MicroRNA control of apoptotic programs in cancer, *Trends in Stem Cell Proliferation and Cancer Research*, Springer publications. 2013 p. 503-530
3. Varshney J and **Subramanian S**. MicroRNA gene regulation in osteosarcoma, *Osteosarcoma: Symptoms, Diagnosis and Treatment Options*. Nova Science Publications, 2014 p. 165-200
4. Lou E and **Subramanian S**. *Tunneling Nanotubes: Intercellular conduits for direct cell-to-cell communication in cancer*. Springer publications 2015
5. Sarver AE, Li L, Kartha RV and **Subramanian S**. *MicroRNAs in Cancer: From molecular biology to clinical practice*. Springer publications 2015

PEER REVIEWED PUBLICATIONS

Google h-index (Subbaya Subramanian)

Citations 4791 h-index 36 i10-index 57

91. Lou E, O'Hare P, **Subramanian S**, Steer CJ. Lost in Translation: Applying 2D intercellular communication via tunneling nanotubes in cell culture to the 3D environment of cancer biology. *FEBS J* 2016 (*in press*)
90. Thayanithy V, Patrick O'Hare P, Steer CJ, **Subramanian S**, Lou E. A Transwell assay that excludes exosomes for assessment of tunneling nanotube-mediated intercellular communication. *Scientific Reports* 2016 (*Submitted*)
89. Thyagarajan B, Shanley R, Prakash P, Barcelo H, Verneris MR, **Subramanian S**, Arora M. Association between lower T lymphocyte mitochondrial DNA copy number and hematopoietic cell transplantation outcomes. *Mitochondrion* 2016 (*Submitted*)
88. Deshpande AD, Guedes AGP, Lund FE, **Subramanian S**, Walseth TF, Kannan MS. CD38 in the pathogenesis of allergic airway disease: potential therapeutic targets. *Pharmacology and Therapeutics* 2016 (*in revision*)
87. Varshney J, Slipek NJ, Sarver AE, Cornax I, Sullivan G, Osborne J, Chang L, Hudson WA, Pomeroy EJ, Eckfeldt CE, Largaespada DA, **Subramanian S**. MicroRNA miR-17-92 cluster regulates malignant behavior in osteosarcoma. *Oncogene* 2016 (*Submitted*)
86. Zhao X, **Subramanian S**. Intrinsic Resistance of Solid Tumors to Immune Checkpoint Blockade Therapy. *Cancer Research* 2016. (*in revision*).
85. Scott MC, Temiz NA, Sarver AE, LaRue, RS Rathe SK, Varshney J, Wolf NK, Moriarity BS, Spector LG, Modiano JF, Largaespada DA, **Subramanian S**, Sarver AL. Comparative osteosarcoma transcriptomics reveals association between immune cell heterogeneity, outcome and metastatic progression. *PLoS Medicine* 2016 (*in revision*)
84. Scott MC, Tomiyasu H, Garbe JR, Cornax I, Amaya C, O'Sullivan GM, **Subramanian S**, Bryan B, Modiano JF. Heterotypic models of osteosarcoma recapitulate tumor Heterogeneity and biological behavior. *Dis Mod Mech* 2016 (*in press*)
83. Dixit A, Sarver A, Yuan Z, George J, Barlass U, Cheema C, Sareen A, Banerjee S, Dudeja V, Dawra R, **Subramanian S**, Saluja A. Comprehensive analysis of microRNA signature of mouse pancreatic acini identifies over-expression of miR-21-3p in acute pancreatitis, *Am J Physiol - Gastrointestinal and Liver Physiology* 2016 (*in press*)
82. Sarver A and **Subramanian S**. Imprinting defects in osteosarcoma: DNA- and chromatin-modifying drugs hold promise to osteosarcoma therapy. *Epigenomics* 2016 7:885-888
81. Nair A, Niu N, Tang X, Kocher J, **Subramanian S*** Kalari K. Circular RNAs and their associations with Breast Cancer subtype. *Oncotarget* 2016 (*in press*) *Co-corresponding author
80. Shu J, Li L, Sarver A, Varshney J, Spector L, Largaespada D, Steer C and **Subramanian S**. Imprinting defects at human 14q32 locus alters gene expression and is associated with the pathobiology of osteosarcoma. *Oncotarget* 2016 doi: 10.18632/oncotarget.6965.

79. Desir S, Dickson E, Vogel R, Thayanithy V, Wong P, Teoh D, Geller M, Steer C, **Subramanian S**, Lou E Tunneling nanotube conduits mediate direct cell-to-cell communication in ovarian cancer: implications for emergence of chemoresistance. *Oncotarget* 2016 doi: 10.18632/oncotarget.9504.
78. Dileepan M, Sarver A, Panettieri R, **Subramanian S**, Kannan M. MicroRNA mediated chemokine responses in human airway smooth muscle cells. *PLoS One* 2016 11(3):e0150842
77. Yan Y, Hanse EA, Stedman K, Benson JM, Lowman XH, **Subramanian S**, Kelekar A. ATRA upregulates tumor suppressor phosphatase PHLPP2 via C/EBP- β mediated repression of the miR17~92 cluster in AML. *Cell Death and Diff* 2016 7:1232-1242.
76. Varshney J, Scott MC, Largaespada DA, **Subramanian S**. Understanding Osteosarcoma Pathobiology: From Bench to Kennel to Bedside. *Veterinary Sciences* 2015 3: 3, 1-15
75. Sarver AE, Li L, Kartha RV, **Subramanian S**. MicroRNAs in the malignant transformation process. *Adv Exp Med Biol.* 2015; 889:1-21
74. Scott MC, Sarver AL, Tomiyasu H, Etten JV, Varshney J, **Subramanian S**, Modiano JF. Aberrant Retinoblastoma (RB)-E2F Transcriptional Regulation Defines Molecular Phenotypes of Osteosarcoma. *J Bio Chem* 2015 290:28072-28083
73. Murphy SJ, Hart SN, Halling GC, Johnson SH, Drucker T, Lima JF, Rohakhtar FR, Harris F, Kosari F, **Subramanian S**, Petersen GM, Kipp BR, McWilliams RR, Couch FJ and Vasmatzis G. Integrated genomic analysis of pancreatic ductal adenocarcinomas and impact on the *SMAD4* and *FHIT* genes. *Cancer Research* 2016 76:749-761
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Platform Presentations and Posters in Conferences and Meeting

109. Li L, Zhao, X, Sarver A, **Subramanian S** (2016) MicroRNAs Secreted via Extracellular Vesicles Regulate Immune Response in Colon Cancer by Targeting the T cell Costimulatory Pathway, American Society for Exosome and Microvesicles (ASEMV) Annual meeting, Asilomar, USA (platform presentation)

108. Zhao X, Li L, Mechala, Sarver A, Starr T, **Subramanian S** (2016) Novel orthotopic models of colon cancer. Department of Surgery Research Day, University of Minnesota, Minneapolis, USA (platform presentation)

107. Li L, Zhao X, Sarver A, **Subramanian S** (2016) Colon Cancer derived exosomes precondition host immune response. Department of Surgery Research Day, University of Minnesota, Minneapolis, USA (platform presentation)

106. Scott M, Bryan B, Tomiyasu H, Amaya C, **Subramanian S** and Modiano J (2016) Characterization of RNA in osteosarcoma-derived exosomes. Keystone Symposium (Exosomes/Microvesicles: Novel Mechanisms of Cell-Cell Communication. Keystone, USA

105. Varshney J, Slipek J, Osborne J, Sarver A, Cornax I, Sullivan G, **Subramanian S**, Largaespada D (2016) The miR-17-92 microRNA cluster plays a crucial role in osteosarcoma progression. American Association for Cancer Research Annual meeting, San Diego USA (Poster). New Orleans, USA

104. Sarver, A, Sarver A, **Subramanian S** (2016). Immune scoring in cancers using TCGA datasets. Minnesota Super computing Institute Research conference, Minneapolis, USA

103. Xianda X, Li L, Maile M, Anne Sarver A, Starr T and **Subramanian S** (2016) Establishment and characterization of a novel orthotopic colorectal cancer model. 2nd Midwest Tumor Microenvironment conference, Minneapolis, USA

102. Nair, A, **Subramanian S**, Krishna K (2016) Differential frequency of microRNA binding sites in triple negative breast cancers. 8th annual symposium for the BICB program. University of Minnesota Rochester, USA (Best poster award)

101. Sarver A, Sarver A, **Subramanian S** (2015) Identification of immunosuppressive networks in colon cancer. AACR, Noncoding RNAs and cancer meeting. Boston, USA

102. Dixit AK, George J, Barlass U, Yuan Z, Sareen A, Dudeja V, Dawra R, **Subramanian S**, Saluja AK (2015) Role of miR-21-3p in Promoting Inflammation During Acute Pancreatitis. American Pancreatic association annual meeting, San Diego, USA

100. Li L, Sarver A, **Subramanian S** (2015). Colon cancer cell secreted microRNAs regulation of CD28 in T cell. *Frontiers in Basic Immunology*, National Institutes of Health, Bethesda, USA
99. Thayanithy V, **Subramanian S**, Steer CJ, Lou E (2015) Intercellular transfer of oncogenic microRNA via tunneling nanotubes increase malignant potential in stromal cells. Robert Hebbel Medicine Research Day, University of Minnesota, Minneapolis, USA
98. Scott MC, Tomiyasu H, LaRue RS, Garbe JR, Sarver AL, Rathe SK, Temiz AN, Sarver AE, Spector LG, **Subramanian S**, Largaespada DA, Modiano JF (2015). Subtypes of osteosarcoma with different biological behavior drive distinct interactions with the stromal environment in xenograft hosts. *Connective Tissue Oncology Society meeting*, Salt Lake City, USA
97. Ajay Dixit A, Dawra R, Barlass U, Sareen A, Yuan Z, Sarver A, **Subramanian S**, Saluja A (2015) MicroRNAs profiles of mouse acinar cells and its implications in acute pancreatitis. *Digestive Disease Week*, Washington DC. USA
96. Tomiyasu H, Scott MC, Sarver AL, Cornax I, Li L, G, **Subramanian S**, Modiano JF (2015). A comparative model to study biological behavior of osteosarcoma in vivo. *Connective Tissue Oncology Society meeting*, Salt Lake City, USA
95. Nair A, Niu N, Kocher JP, Wang L, **Subramanian S**, Kalari K (2015) Novel circular RNA identified in breast tumors and validated in cancer cell lines. *Center for Individualized Medicine, Mayo Clinic, Rochester USA conference*.
94. Naqvi R, Suarez-Pinzon W, Singh A, Burlak C, Li L, **Subramanian S**, Graham M, Hering B (2015) Plasma microRNA-375 – A single test to quantitate injury to porcine islet grafts and to diagnose accelerated porcine islet graft loss in nonhuman primates? *The International Pancreas and Islet Transplant Association, Melbourne Australia (oral presentation)*.
93. Li L, Sarver A, Hajeri P and **Subramanian S** (2015) Exosome delivered miRNAs fosters immune privilege in colon cancer. *Department of Surgery Research Day, University of Minnesota, Minneapolis, USA*
92. Sarver AE, Sarver AL, Thayanithy V, **Subramanian S**. (2015) Systematic RNA sequencing identify novel biomarkers and therapeutic targets in human sarcomas. *Department of Surgery Research Day, University of Minnesota, Minneapolis, USA*
91. Varshney J, Slipek N, Osborne J, Largaespada DA, **Subramanian S** (2015) Role of miR-135b is crucial in osteosarcoma maintenance and progression. *Department of Surgery Research Day, University of Minnesota, Minneapolis, USA*
90. Snider D, **Subramanian S**, Steer C, Lou E (2015) Tunneling nanotube formation is significantly upregulated in invasive cancer cells. *American Association for Cancer Research Annual meeting, San Diego USA (Poster). Philadelphia, USA*

89. Sarver AE, Sarver AL, Thayanithy V, **Subramanian S.** (2015) Identification of novel candidate biomarkers and therapeutic targets in human sarcomas by systematic RNA sequencing. Minnesota Super computing Science Institute Research Symposium. Minneapolis, USA
88. Tomiyasu H, Scott MC, Li L, Lewellen M, Ito D, Van Etten J, **Subramanian S;** Modiano JF (2014) The effects of chromatin modifying drugs on canine osteosarcoma cell lines. Masonic Cancer Center, Research Symposium, Minneapolis, USA
87. Varshney J, Thayanithy V, Moriarity B, Largaespada D, Modiano J, Saluja A and **Subramanian S** (2014) cMYC transactivated miR-17-92 cluster plays a crucial role in osteosarcoma progression. Mechanisms and Models of Cancer, Cold Spring Harbor Laboratory meetings, Cold Spring Harbor, USA (poster)
86. Sarver A, Sarver L, Thayanithy V, **Subramanian S** (2014) Systematic RNA-SEQ based identification of Sarcoma Biomarkers and their miRNA regulatory circuits. 2nd Annual BICB Industry Symposium, Precision Agriculture and Medicine: From Data to Knowledge, Minneapolis, USA (poster)
85. Lihua Li, Sarver A, Khatri R, Hajeri P, Thibodeau S, Steer C and **Subramanian S** (2014) Sequential Expression of miR-182 and miR-503 cooperatively targets FBXW7 contributing to the malignant transformation of colon adenoma to adenocarcinoma. Department of Surgery Research Day, University of Minnesota, Minneapolis, USA (First prize, poster presentation)
84. Varshney J, Thayanithy V and **Subramanian S** (2014) miR-17-92 cluster plays a crucial role in osteosarcoma progression. Department of Surgery Research Day, University of Minnesota, Minneapolis, USA
83. Praveensingh Hajeri and **Subramanian S** (2014) A Novel Human Specific lncRNA SZP1 Regulates components of polycomb repressor complex in pancreatic cancer. Department of Surgery Research Day, University of Minnesota, Minneapolis, USA
82. Anne Sarver, Li L, and **Subramanian S** (2014) Role of microRNAs play in the HIF1-alpha hypoxic response in colon cancer. Department of Surgery Research Day, University of Minnesota, Minneapolis, USA
81. Khatri R and **Subramanian S.** Transcription factor STAT3 drives the expression of microRNA-135b in colon cancer cells (2014). Department of Surgery, Research Day, University of Minnesota, Minneapolis, USA (Platform presentation)
80. Hajeri P, Weng-Onn Lui WO and **Subramanian S** (2014). A novel human specific lncRNA regulates PRC2 in pancreatic cancer. American Pancreatic Association. Hawaii, USA. (Poster).

79. Khatri R and **Subramanian S**. Regulation of miR-135b by STAT3 in colon cancer (2014) **Minnesota Surgical Society, Minneapolis, USA**
78. Nair A, Thompson J.K, Tang X, Kocher J, **Subramanian S**, Kalari RK (2014) Identification of circular RNAs (circRNAs) and their potential regulation in breast cancer subtypes. 22nd Annual International Conference on Intelligent Systems for Molecular Biology, Boston USA
77. Kannan M.S, Dileepan M, Jude J.A, Walseth T.A, Panettieri R.A and **Subramanian S** (2014) Regulation of pro-inflammatory genes by miR-708 in airway smooth muscle. ERS annual meeting Munich, Germany
76. Li L, Sarver A, Khatri R, Hajeri P, Kamenev I, Thibodeau S, Steer C, **Subramanian S** (2014) MicroRNAs miR-503 and -182 regulate FBXW7 contributing to the malignant transformation to colon adenocarcinoma. American Association for Cancer Research Annual meeting, San Diego USA (Poster)
75. Thayanithy V, Dickson EL, **Subramanian S**, Steer C, Lou E. (2014) Long-distance intercellular transport of microRNAs via tunneling nanotubes: role in tumor-stroma interactions and increasing malignant potential. American Association for Cancer Research Annual meeting, San Diego USA (Poster)
74. Varshney J, Thayanithy V, Sarver A, Saluja A, Largaespada D, Modiano J and **Subramanian S** (2013) cMYC transactivated miR-17-92 targets contributes to osteosarcoma progression. Point of Pride Research Day, College of Veterinary Medicine, St Paul, USA. Poster won the first prize.
73. Scott MC, Sarver AL, Phan F, Gupta R, Thayanithy V, **Subramanian S**, Modiano JF (2013) RB function as a central Component of osteosarcoma behavior: a comparative assessment in dogs and humans. American Association for Cancer Research, The Translational Impact of Model Organisms in Cancer, San Diego, USA
72. Varshney J, Thayanithy V, Sarver A, Moriarity B, Banerjee S, Scott M, Li L, Saluja A, Largaespada D, Modiano J and **Subramanian S** (2013) MiR-17-92 microRNAs targets tumor suppressor driver genes and contributes to osteosarcoma progression. Masonic Cancer Center, Research Symposium, Minneapolis, USA
71. Li L, Saluja A, **Subramanian S**. Triptolide treatment inhibits the expression of oncogenic miR-503 in colon cancer. Masonic Cancer Center, Research Symposium, Minneapolis, USA
70. Dickson EL, Thayanithy V, Vogel R, Argenta P, Geller MA, **Subramanian S**, Lou E (2013) Tunneling nanotubes: A novel conduit for chemo resistance in ovarian cancer. Society of Gynecologic Oncology, Annual meeting on Women's cancer, Tampa, USA
69. Dickson E, Li L, Leung S, Chow C, Vogel R, Huntsman H, Gilks B, **Subramanian S** (2013) FBXW7 duality in ovarian cancer: Novel insight into ovarian cancer pathogenesis. Advances in Ovarian Cancer Research: From Concept to Clinic. Miami, USA

68. Varshney J, Thayanithy V, Sarver A, Moriarity B, Banerjee S, Scott M, Li L, Saluja A, Largaespada D, Modiano J and **Subramanian S** (2013) cMYC transactivated miR-17-92 cluster plays a crucial role in osteosarcoma progression by targeting tumor suppressor driver genes. International Conference on Advances in Canine and Feline Genomics and Inherited Diseases. Cambridge, USA (Platform presentation)
 67. Scott M, Sarver A, **Subramanian S**, Modiano J (2013) Inactivation of the RB tumor suppressor protein is causally related to highly aggressive phenotype osteosarcoma. International Conference on Advances in Canine and Feline Genomics and Inherited Diseases. Cambridge, USA
 66. Dickson EL, Li L, Gilks, B, Huntsman D, **Subramanian S** (2013) FBXW7 as a predictor of outcomes in ovarian cancer. American College of Surgeons, Annual meeting. USA (Platform presentation) Washington DC. USA
 65. Li L, Sarver A, Hajeri P, Thibodeau S, Steer C, **Subramanian S**. miR-503 and -182 cooperatively regulate FBXW7 and contribute to the malignant transformation of colon adenoma (2013). Department of Surgery Research Day, University of Minnesota, Minneapolis, USA
 64. Hajeri P and **Subramanian S** (2013) A novel pseudogene SUZ12P1 regulates its functional counterpart SUZ12 and promotes cell proliferation in colon and pancreatic cancer. Department of Surgery Research Day, University of Minnesota, Minneapolis, USA
 63. Varshney J and **Subramanian S** (2013) cMYC transactivated miR-17-92 cluster plays a crucial role in osteosarcoma progression. Department of Surgery Research Day, University of Minnesota, Minneapolis, USA
 62. Lou E, Babatunde V, Sho S, Barlas A, Moreira AL, Thayanithy V, **Subramanian S**, Downey R, Manova-Todorova K, Moore M (2013) Tunneling Nanotubes: a new approach to studying intercellular communication in aggressive solid tumor malignancies. American Association for Cancer Research Annual meeting, Washington DC, USA _
 61. Dickson EL, Thayanithy T, Vogel R, Argenta P, Geller M, **Subramanian, S**, Lou E (2013) Tunneling nanotubes and intercellular communication: Differences between platinum-resistant and platinum-sensitive ovarian cancer. American Society for Clinical Oncology Annual meeting Chicago, USA.
 60. MacKenzie TN, Sangwan V, Mjumdar N, Dudeja V Subramanian S, Vickers S, Saluja AK (2012) MicroRNA-142-3p, a novel regulator of heat shock protein 70, modulates triptolide-induced pancreatic cancer cell death *Pancreatology*, 12: 6, 589, European Pancreatic Club, Prague Czech Republic
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59. Thayanithy V and **Subramanian S** (2012) Gene network in osteosarcoma, Annual Research Day, Department of Surgery, University of Minnesota, Minneapolis, USA.

58. Shu J and **Subramanian S** (2012) Loss-of-imprinting at the 14q32 locus correlates with early-onset of osteosarcoma, Annual Research Day, Department of Surgery, University of Minnesota, Minneapolis, USA
57. Li L and **Subramanian S.** (2012) MicroRNA mediated gene regulation in colon adenomas 6th Annual Research Day, Department of Surgery, University of Minnesota, Minneapolis, USA
56. Li L, Sarver A, Hajeri P, Thibodeau S, Steer S, **Subramanian S.** (2012) MicroRNA-driver gene deregulations trigger malignant transformation in colon adenomas. Masonic Cancer Center, Research Symposium, Minneapolis, USA
55. Scott MC, Sarver A, Thayanithy V, **Subramanian S**, Modiano J. (2012) Loss of RB function is a determinant of a prognostically significant gene expression signature in osteosarcoma. Masonic Cancer Center, Research Symposium, Minneapolis, USA
54. Fenger JM, Volinia S, Jalkanen S, Ozer GH, Sarver A, **Subramanian S**, Breen M, Modiano J, London C, Kisseberth W. (2012) Breed-associated differential microRNA expression in canine osteosarcoma. American Association for Cancer Research Annual meeting, Chicago, USA _
53. Li L, Alamgir S, Sarver A, **Subramanian S.** (2012) MicroRNA gene regulatory networks in rhabdomyosarcoma. Second Symposium on Translational Genomics. NCI, NIH, Maryland, USA
52. Thyanithy V, Sarver A, Kartha R, Park C, Scott M, Steer C, Modiano J, **Subramanian S.** (2012) Perturbation of 14q32 miRNAs-cMYC gene network in osteosarcoma. Keystone Symposia, Gene Silencing by Small RNAs, Vancouver, Canada
51. Harindhanavudhi T, Mauer M, Kim Y, **Subramanian S** and Caramori LM (2012) Differences in microRNA (miRNA) Expression Levels in Cultured Skin Fibroblasts (SF) of Monozygotic Twins Discordant for Type 1 Diabetes (T1D). American Diabetes Association Annual meeting, Philadelphia, USA
50. Shu J, Li L, Moriarity B, Thayanithy V, Spector L, Largaespada D, Steer C J and **Subramanian S** (2012). Loss of imprinting at the 14q32 locus contributes to osteosarcoma. American Association for Cancer Research Annual meeting, Chicago, USA
49. [Dileepan M](#), [Jude J](#), [Kannan M](#), [Reynold Panettieri R](#), **Subramanian S**, [Walseth T](#) (2011) Role of microRNA-140 in TNF-Alpha-induced CD38 expression in human airway smooth muscle (HASM) cells American Thoracic Society International Conference. Denver CO, USA
48. Thayanithy V, Sarver AL, Kartha RV, Park C, Scott M, Angstadt AY, Breen M, Steer CJ, Modiano JF and **Subramanian S** (2011) Perturbation in the 14q32 miRNAs-cMYC-miR-17~92 gene network contributes to osteosarcoma and is associated with survival outcome. Department of Surgery Research Day, University of Minnesota, Minneapolis, USA (Received best poster award, first place)

47. Thayanithy V, Li L, Sarver AL and **Subramanian S** (2011) cMYC and RUNX2 modulates the expression of oncomiric microRNAs. Department of Surgery Research Day, University of Minnesota, Minneapolis, USA
46. Li L, Sarver AL, Alamgir S and **Subramanian S** (2011) Downregulation of microRNAs miR-1/-206 stabilizes PAX3 expression in rhabdomyosarcoma. Department of Surgery Research Day, University of Minnesota, Minneapolis, USA
45. Li L, Sarver AL and **Subramanian S** (2011) miR-183 functions as an oncogene by targeting EGR1 in colon cancer. Department of Surgery Research Day, University of Minnesota, Minneapolis, USA
44. Kartha RV, **Subramanian S**, Cheung B, Schroeder H (2011) Low Concentrations of Aspirin Activate Cytoprotective Signaling Pathway Genes in Human Endothelial Cells: A Gene Expression Profiling Study. American Heart Association Basis Cardiovascular Sciences, New Orleans, LA, USA (poster)
43. Jude JA, Dileepan M, **Subramanian S**, Panettieri RA, Walseth TF, Kannan M.S Role of microRNA 140 in TNF-Alpha-induced CD38 expression in human airway smooth muscle (HASM) cells. *Am J Respir Crit Care Med* 183; 2011:A3535
42. Moriarity BS, Sarver AL, **Subramanian S**, Khanna C, Hewitt S and Largaespada DA (2011) An Unbiased Screen for Osteosarcoma Initiation, Progression, and Metastasis Genes. Conference on Genome Engineering, Singapore (Platform presentation)
41. MacKenzie, TN, Mujumdar N, Banerjee S, Sarver A, Sangwan V, **Subramanian S**, Vickers S, Saluja A (2011) Triptolide-induced expression of microRNA-142-3p mediates apoptosis of pancreatic cancer by inhibition of HSP70. Experimental Biology annual meeting, Washington DC, USA (poster)
40. Shu J, Salvatore K, Thayanithy V, Xia Z, Steer CJ and **Subramanian S** (2011) Loss-of-imprinting at 14q32 locus in osteosarcoma. Gordon Research Conference, Cancer Genetics & Epigenetics Ventura, CA, USA (poster)
39. **Subramanian S** (2011) MicroRNA gene regulatory networks in sarcomas, Molecular Tri Conference, San Francisco, USA
38. **Subramanian S** (2010) MicroRNA gene networks in the transformation of polyp to colon cancer. Annual Meeting of Indian Society of Gastroenterology, Hyderabad, India
37. **Subramanian S** (2010) MicroRNAs in childhood bone sarcoma, Leiden University, Leiden, The Netherlands.
36. **Subramanian S** (2010) MicroRNAs in the pathogenesis of human sarcomas. Institut Curie, Paris, France (Platform presentation)
35. Thyanithy V, Sarver A, Kartha R, Park CW, Scott MC, Angstadt A, Breen M, Steer CJ, Modiano J, and **Subramanian S** (2010) MicroRNA gene network contributes to

- osteosarcoma and is associated with survival outcome. Connective Tissue Oncology Society meeting, Paris, France (Platform presentation)
34. Li L, Sarver AL, Thayanithy V, Ognjanovic S and **Subramanian S** (2010) MicroRNA gene regulatory networks in rhabdomyosarcoma. Connective Tissue Oncology Society meeting, Paris, France (Platform presentation)
 33. Shu J, Kren BT, Zeng Y, Wong PY, Li L, **Subramanian S** and Steer CJ (2010) Genome-wide microRNA downregulation is a negative feedback mechanism involved in the early phases of liver regeneration. FASEB summer meeting, Snowmass village, Colorado, USA (poster)
 32. **Subramanian S**, MicroRNA regulatory networks in osteosarcoma. (2010) Childhood Bone Tumor Genomics Consortium meeting, Washington DC, USA (Platform presentation)
 31. MacKenzie TN, Mujumdar N, Thayanithy V, Sarver A, Chugh R, **Subramanian S**, Sangwan V, Vickers S and Saluja A (2010) Triptolide Induces Expression of miR-129* and miR-142-3p in Pancreatic Cancer Cells. American Pancreatic Association Annual meeting, Chicago, Illinois, USA (Platform presentation)
 30. Beckman JD, Nguyen J, Thayanithy V, **Subramanian S**, Steer CJ, and Vercellotti GM. Regulation of Heme-Oxygenase-1 protein expression via expression of microRNAs miR-377 and miR-217 (2010). American Society for Clinical Investigation, Chicago, Illinois, USA (Poster)
 29. Young AC, Thomas R, Tsai P, Kisseberth W, **Subramanian S**, Modiano FM and Breen M Heritable and breed specific genetic abnormalities in canine osteosarcoma. (2009) 5th International Canine Cancer Conference, Orlando, Florida, USA (Platform presentation)
 28. **Subramanian S**, MicroRNA expression signatures in rhabdomyosarcoma. (2009) [The Emerging Role of MicroRNAs in Skeletal Muscle Biology](#), Experimental Biology Annual meeting, New Orleans, Louisiana, USA (Platform presentation)
 27. Kartha RV, **Subramanian S**, Troxell ML, Higgins JP and Kambham N. Gene expression profiling of Diabetic nephropathy using paraffin embedded nephrectomy samples. (2008) United States and Canadian Academy of Pathology annual meeting, Vancouver, Canada (Platform presentation)
 26. Poulin NM, Clemons HJ, **Subramanian S**, van de Rijn M, Cheng H, Nielsen TO. (2007) The gene expression profile of myxoid liposarcoma highlights adipogenic and angiogenic signatures. CTOS Seattle USA (Platform presentation)
 25. Lee C, Espinosa I, Vrijaldenhoven S, **Subramanian S**, Montgomery KD, Zhu S, Marinelli RJ, Peterse JL, Poulin N, Nielsen TO, West RB, Gilks BC, van de Rijn M. (2007) Prognostic significance of macrophage infiltration in leiomyosarcomas CTOS Seattle, USA (Poster)
 24. **Subramanian S**, Lee Ch, Espinosa I, Nielsen, TO, Rubin BP, van de Rijn M. (2007) miRNA signature for sarcomas characterized by chromosomal translocations. Connective Tissue

- Oncology Society CTOS Annual Meeting, Seattle, Washington, USA (Poster; Best poster award)
23. **Subramanian S**, Lui, WO, Fire A, and van de Rijn M. MicroRNA expression signature of human soft tissue tumors GIST, LMS and SS. (2007) 98th Annual meeting of American Association of Cancer Research AACR Washington DC USA (Poster)
 22. **Subramanian S**, West RB, Nielsen TO, Rubin BP, Downs-Kelly E, Goldblum JR, Zhu S, Montgomery K, Hogendoorn PCW, Corless CL, Oliveira AM, Fletcher CDM and van de Rijn M. Genome-wide transcriptome analysis of nerve sheath tumors. (2006) 97th Annual meeting of American Association of Cancer Research AACR Washington DC, USA (Poster)
 21. Cupp JS, Rubin BP, Miller MA, **Subramanian S**, Montgomery K, Marinelli RJ, De Luca A, Nielsen TO, O'connell JX, Huntsman D, M van de Rijn M, Gilks CB, West RB. Translocation and Expression of CSF1 in Pigmented Villonodular Synovitis, Tenosynovial Giant Cell Tumors, and Reactive Synovial Lesions. (2006) United States and Canadian Academy of Pathology annual meeting, Atlanta, USA (Poster)
 20. West RB, Horlings H, Nuyten DSA, **Subramanian S**, Zhu SX, Miller M, Rubin BP, Nielsen TO, Gilks CB, Huntsman DG, Tibshirani R, van de Vijver M, van de Rijn M. CSF1 expression signature identifies a subset of breast carcinomas and influences outcome. (2005) 28th San Antonio breast cancer symposium. San Antonio, Texas, USA. (Poster)
 19. **Subramanian S**, West RB, Zhu S, Nielsen TO, Dry SM, Goldblum JR, Patel RM, Rubin BP, Brown PO, van de Rijn M (2004) Extraskelatal Myxoid Chondrosarcoma: Gene Discovery Using cDNA Microarrays. United States and Canadian Academy of Pathology annual meeting, Vancouver, Canada. (Platform presentation)
 18. West RB, Corless C, Heinrich M, Zhu S, **Subramanian S**, Nielsen TO, Goldblum JR, Patel R, Rubin BP, Brown P, van de Rijn M (2004) PDGFR α RNA Expression in Neoplasia. United States and Canadian Academy of Pathology annual meeting, Vancouver, Canada. (Platform presentation)
 17. West RB, Rubin BP, Miller M, **Subramanian S**, Kaygusuz G, Montgomery K, Nielsen TO, De Luca A, Gilks CB, Huntsman D, van de Rijn M. Survey of receptor tyrosine kinase expression in soft tissue tumors uncovers an activating CSF1 translocation in tenosynovial giant cell tumors and pigmented villonodular synovitis (2005) 10th annual Connective Tissue Oncology Society annual meeting, Boca Raton, Florida, USA (Platform presentation)
 16. West RB, Nuyten DSA, **Subramanian S**, Corless CL, Rubin BP, Montgomery K, Zhu SX, Nielsen TO, Patel R, Goldblum JR, Brown PO, van de Vijver M, van de Rijn M. (2005) Stromal Expression Signatures Predict Outcome in Breast Carcinoma. United States and Canadian Academy of pathology annual meeting, San Antonio, Texas, USA. (Platform presentation)
 15. Kalof AN, **Subramanian S**, West RB, Zhu S, Montgomery K, Nielsen TO, Goldblum JR, Patel R, Rubin BP, Van de Rijn M (2005) Novel Gene ANKS1 Expression in Gastrointestinal

- Stromal Tumors. United States and Canadian Academy of Pathology annual meeting, San Antonio, Texas, USA. (Poster)
14. West RB, Kaygusuz G, **Subramanian S**, Corless CL, Rubin BP, Montgomery K, Zhu SX, Nielsen TO, Patel R, Goldblum JR, Brown PO, Heinrich MC, Kuzu I, van de Rijn M. (2005) CSF1R Expression in Soft Tissue Tumors. United States and Canadian Academy of Pathology annual meeting, San Antonio, Texas, USA. (Poster)
 13. West RB, Corless CL, Heinrich MC, Zhu S, **Subramanian S**, Nielsen TO, Goldblum JR, Patel RM, Rubin BP, Brown PO, van de Rijn M. (2004) PDGFR α RNA Expression in Neoplasia. United States and Canadian Academy of Pathology annual meeting, Vancouver, Canada. (Platform presentation)
 12. Thangaraj K, Gupta NJ, Pavani K, Reddy AG, **Subramanian S**, Deepa SR, Ghosh B, Charravarty BN and Singh L. (2002) Y-chromosome deletion in Azoospermic men in India. The current excitements in biology. Silver jubilee symposium at Centre for Cellular and Molecular Biology, Uppal Road, Hyderabad 500 007, India (Poster)
 11. **Subramanian S**, Mishra RK and Singh L. (2002) Genome-wide analysis of Bkm sequences (GATA repeats): Predominant association with sex chromosomes and potential role in higher order chromatin organization and function. The current excitements in biology. Silver jubilee symposium at Centre for Cellular and Molecular Biology, Uppal Road, Hyderabad 500 007, India (Platform presentation)
 10. **Subramanian S**, Suresh A, Goel S, Alex JL, UmaPrasad G, Sultana M, Shah V, Kumar S and Singh L (2002) Molecular organization of sex chromosomes and a novel sex linked gene WDR13, specifically expressed in testis. The current excitements in biology. Silver jubilee symposium at Centre for Cellular and Molecular Biology, Uppal Road, Hyderabad 500 007, India (Poster)
 9. **Subramanian S**, Mishra RK and Singh L. Genome-wide analysis of Bkm sequences (2002) GATA repeats. 10th annual conference of Intelligent Systems for Molecular Biology, ISMB, Edmonton, Canada. (Poster)
 8. **Subramanian S**, Mishra RK, Madugula VM, George R, Pandit MW, Kumar CS and L Singh (2002) SSRD: A database for simple sequence repeats. Association for the Promotion of DNA Fingerprinting and other DNA Technologies. ADNAT 6th annual symposium, Hyderabad, India (Platform presentation)
 7. Thangaraj K, Gupta NJ, Reddy AG, **Subramanian S**, Rani DS, Joshi M, Chakravarthy BN and Singh L. (2002) Genetic causes of male infertility in Indian population. 2nd International symposium on Molecular Medicine, Vadodara, India (Poster)
 6. **Subramanian S** and Singh L (2001) Identification and characterization of a novel Y linked testis specific transcript from human. Indian society of Cell Biology XXV Annual conference, Indian Institute of Science, Bangalore, India (Poster)

5. **Subramanian S** and Singh L (2001) Physical mapping and molecular characterization of human Y chromosomal DNA. Indian Society of Human Genetics. XXVI Annual conference, Hyderabad, India (Platform presentation)
4. **Subramanian S**, Thangaraj K, Singh BN, Sultana M and Singh L (2000) Physical and molecular Characterization of pF1: A human Y chromosome DNA. Association for the Promotion of DNA fingerprinting and other DNA technologies ADNAT 4th convention Chennai, India (Poster)
3. **Subramanian S** and Singh L (1999) High-resolution physical mapping and molecular characterization of a Bkm positive human Y chromosomal fragment. All India Cell Biology conference, Hyderabad, India (Poster)
2. **Subramanian S** and Rangarajan M (1997) Studies on plasmid and protein profiles of *Rhizobium species* of different origins. Proceedings of the National seminar on "Molecular approaches to crop improvement, Kottayam, India, pp 181-186 (Platform presentation)
1. **Subramanian S** and Rangarajan M (1997) Genetic diversity at molecular level among *Rhizobium spp.* as revealed by Random Amplified Polymorphic DNA. Proceedings of the National seminar on Molecular approaches to crop improvement, Kottayam, India, pp 187-191 (Platform presentation)

TEACHING AND MENTORING ACTIVITIES

Postdoctoral scholars/ Research Associates

Anne Sarver, Ph.D	(NIH T-32 training fellow)
Elizabeth Dickson, MD	(NIH T-32 training fellow)
Jamie Van Ettan Ph.D	(NIH T-32 training fellow)
Lihua Li, Ph.D	(Research Associate)
Praveensingh Hajeri, Ph.D	
Rohini Khatri MD	(Surgical oncology training fellow)
Sreekanth Narayanapillai, Ph.D	
Venugopal Thayanithy, Ph.D	(Research Associate)
Jingmin Shu, Ph.D	(Research Associate)
Xioawen Xu, MD	(China merit scholarship)

Member of Graduate/PhD student's thesis committee

Abaineh D Endalew, MS scholar	(VMED, committee member)
Angelo Yuan, MS Scholar	(BICB, Primary advisor)
Asha Nair, PhD scholar	(BICB, Primary advisor)
Caitlin Conboy, M.D Ph.D scholar	(MICaB, committee member)
Dayane Alcantara	(Visiting student researcher, Sau Paulo, Brazil)
Erica Schnettler, Ph.D scholar	(Pharmacology, thesis committee member)
Joan Beckman, MD/Ph.D scholar	(Committee external advisor)
Mithily Dileepan, Ph.D scholar	(VMED, Thesis committee member)
Nidhi Desai, MS Scholar	(Pharmacology, Primary advisor)
Rasik Palak, MS scholar	(Primary advisor)
Tiffany Makenzie, Ph.D scholar	(Pharmacology, thesis committee member)

Jyotika Varshney, Ph.D scholar (VMED, Primary advisor)
Xianda Zhao Ph.D scholar (MICaB, Primary advisor)
Yan Yan, Ph.D scholar (Pharmacology, thesis committee member)

Undergraduate students and trainees

Lei Li, MS, DVM (2008, Research assistant)
James De Valle, BS (2008, Undergraduate research student)
Justin Howard, MD (2008, Research student)
Nick Root, BS (2009, Research student)
Rachael Latchana, BS (2010, Research assistant)
Hena Vadher (2010, Summer student)
Iris Kamenev, BS (2010-2013, UROP, Undergraduate research student)
Kamini Sanjev, MBBS (2011-2013, Research trainee)
Derek Scherbel, BS (2012-2013, Honors thesis, Directed research student)
Eric Eisenberg, BS (2014, Research student)
Samuel Finnerty, BS (2014-2016 UROP, Research student)
Xinwen Zhang, BS (2014 Rotation student)
Bridget Curtin, BS (2015, Research student)
John Rieth, MD (2015, Research trainee)
Jonathan Daeuber, BS (2015-2016, Research Assistant and UROP student)
Lauren Pincomb, BS (2015 Rotation student)
Joseph Mountain (2016 Summer student)
Shiyao Huang (2016 Undergraduate research student)
Zachariah Tritz (2016 Summer student)

PROFESSIONAL ACTIVITIES

Ad Hoc reviewer for the following journals

American Journal of Pathology, American Journal of Physiology AJP-Heart and Circulatory Physiology, BMC Genomics, BMC Cancer, BMC Medical Genomics, BMC Veterinary Research, BioMed Research International, British Journal of Cancer, British Journal of Medicine and Medical Research, Cancer Genetics, Cancer Epidemiology, Cancer Informatics, Cancer Research, Cancer Science, Cell Biochemistry and Function, Cellular and Molecular Life Sciences, Clinical Cancer Research, Clinical Chemistry, Clinical Medicine Insights, Current Cancer Drug Targets, Disease of Colon and Rectum, DNA and Cell Biology, Drug Discovery Today, Endocrine-Related Cancer, European Journal of Cancer, Frontiers Genetics, Frontiers Oncology, Future Oncology, Gastroenterology, Genes Chromosome and Cancer, Genome Medicine, Journal of Hepatology Human Molecular Genetics, Human Pathology, In Silico Biology, International Journal of Bioinformatics, International Journal of Molecular Sciences, International Journal of Cancer Journal of Clinical Investigation, Journal of Cellular Physiology, Journal of Molecular, Journal of Pathology, Diagnostics, Journal of the American College of Cardiology Journal of Cardiovascular Translational Research, Journal of Experimental & Clinical Cancer Research, Journal of Hematology and Oncology, Journal of Visualized experiments, Laboratory Investigation, Life Sciences, Microarrays, MicroRNA, Modern Pathology Molecular Cancer Research, Molecular Cancer Therapeutics, Molecular Therapy, Oncogene Oncotarget, Pathology: Research and Practice, Physiological Genomics, PLoS One, RNA, Scientific Reports, Scientific World Journal, Skeletal Muscle, Translational Research,

Tumor Biology

PROFESSIONAL MEMBERSHIPS

Member of American Association for Cancer Research (AACR), USA

Member American Society of Exosomes and Microvesicles, (ASEMV) USA

Member, Connective Tissue Oncology Society (CTOS), USA

Member, American Pancreatic Association (APA), USA

Member of the Human Genome Organization (HUGO), UK

Life member, Society of Biological Chemists, India