

Govindarajan (Govind) Srimathveeravalli

govind@umass.edu

(413) 545-6491

N573 Life Sciences Lab, 240 Thatcher Way, University of Massachusetts, Amherst MA 01003.

EDUCATION

Postdoctoral Training	03/2012
<i>Focus:</i> Image guided cancer therapy Dept. of Radiology, Memorial Sloan Kettering Cancer Center, NY	
Ph.D. in Mechanical Engineering	09/2009
<i>Focus:</i> Electro-mechanical systems for image guided therapy State University of New York, Buffalo NY	
M.S. in Mechanical Engineering	06/2005
State University of New York, Buffalo NY	
B.E. in Mechanical Engineering	04/2002
University of Madras, Chennai, India	

WORK EXPERIENCE

Assistant Professor	01/2019 – Present
Dept. of Mechanical & Industrial Engineering University of Massachusetts, Amherst, MA	
Member	01/2019 – Present
Institute for Applied Life Sciences University of Massachusetts, Amherst, MA	
Adjunct Faculty	11/2020 – Present
Dept. of Mechanical & Industrial Engineering University of Massachusetts, Amherst, MA	
Co-Director	09/2017 – 12/2018
Interventional Radiology Research Lab Dept. of Radiology, Memorial Sloan Kettering Cancer Center, NY	
Assistant Member	12/2015 – 12/2018
Dept. of Radiology, Memorial Sloan Kettering Cancer Center, NY	
Assistant Member Level 1	04/2012 – 12/2015
Dept. of Radiology, Memorial Sloan Kettering Cancer Center, NY	
Assistant Attending Engineer	04/2012 – 12/2018
Dept. of Radiology, Memorial Sloan Kettering Cancer Center, NY	
Research Scholar	08/2010 – 03/2012
Dept. of Radiology, Memorial Sloan-Kettering Cancer Center, NY	
Senior Research Engineer	05/2009 – 08/2010
Simulated Surgical Systems, Buffalo NY	
Instructor	01/2009 – 05/2009
Dept. of Mechanical Engineering, State University of New York, Buffalo NY	
Visiting Graduate Student	09/2007 – 09/2009

Dept. of Urology, Roswell Park Cancer Institute, Buffalo NY	
Teaching Assistant	09/2005 – 05/2008
Dept. of Mechanical Engineering, State University of New York, Buffalo NY	
Graduate Research Assistant	05/2003 – 05/2005
Virtual Reality Lab, State University of New York, Buffalo NY	

AWARDS & HONORS

Faculty Fellow , NSF ADVANCE Program	2019
Abstract of the Year , Society of Interventional Radiology Annual Meeting	03/2018
Travel Award for Collaboration , Govt. of Slovenia	07/2017
Research Mentor of the Year , Dept. of Radiology, MSKCC	06/2017
Junior Faculty Emerging Leaders Program , MSKCC	2016
Ernst Ring Career Development Award , Society of Interventional Radiology	05/2016
Best Reviewer , Eng. in Urology Symposium, AUA	05/2014
Top 10 Abstract , Eng. in Urology Symposium, AUA	05/2014
Featured Talk , Society of Interventional Radiology Annual Meeting	03/2014
Cum Laude for Poster , CIRSE Annual Meeting	09/2013
Top 10 Abstract , Eng. in Urology Symposium, AUA	05/2013
Best Poster Award , Society of Interventional Radiology Annual Meeting	03/2013
Featured Talk , Society of Interventional Radiology Annual Meeting	03/2013
Outstanding Paper Award , Eng. in Urology Symposium, AUA	05/2012
Professional Development Award , University at Buffalo	2007
Graduate Student Research Award , University at Buffalo	2005 & 2006
Conference Travel Award , Graduate Student Association, University at Buffalo	03/2004
Graduate Education Scholarship , Sir Ratan Tata Trust, India	07/2002
7th Rank in University, First Class with Distinction , University of Madras	05/2002

GRANTS

Current:

1. Intrasurgical tissue engineering of autologous grafts using irreversible electroporation for bladder reconstruction. *Source*: NIH/NIDDK. *Award*: \$1,366,330. *Dates*: 07/2021 – 06/2025. *Role*: **PI**.
2. Intraductal Patient Derived Xenograft Breast Cancer Model. *Source*: UMass IALS. *Award*: \$16,425. *Dates*: 06/2021 – 12/2021. *Role*: **PI**.
3. Locoregional Irreversible Electroporation for Macrophage Mediated Immunotherapy of Early Stage Bladder Cancer. *Source*: DoD PRCRP Idea CA190888. *Award*: \$603,550. *Dates*: 08/2020 – 07/2022. *Role*: **PI**.
4. Image guided irreversible electroporation directed CAR T-cell delivery to solid tumors. *Source*: NIH/NCI R01CA236615. *Award*: \$173,357 (UMass share). *Dates*: 08/2018 – 08/2023. *Role*: **mPI**.

Completed:

5. Cell-selective, repetitive irreversible electroporation to augment CAR T cell therapy. *Source*: DoD PRCRP Idea CA170630. *Award*: \$44,701 (UMass share). *Dates*: 08/2018 – 07/2020. *Role*: **co-PI**.
6. Material Support for Undergraduate/Graduate Course on Medical Devices. *Source*: Angiodynamics Inc. *Award*: \$15,000 (In kind, estimated). *Dates*: NA. *Role*: **PI**.

Pre-UMass

7. Pre-clinical feasibility of trans-bronchial MW of normal lung tissue in porcine model. *Source*: Ethicon Inc. *Award*: \$137,413. *Dates*: NA. *Role*: **PI**. (Award left at MSKCC).

8. Targeting Pancreatic Cancer. *Source*: Thompson Family Foundation. *Sub-Project Award*: \$258,356 (DC only). *Dates*: 7/2017 – 6/2020. *Role*: **Sub-Project PI**. (Award left at MSKCC).
9. Genetically Inducible Porcine Model of Primary and Metastatic HCC in Comorbidity Host Environments for Interventional Radiology Guided Detection and Treatment. *Source*: DoD PRCRP (CA15090). *Dates*: 08/2016 - 07/2019. *Role*: **Co-Investigator**. (Award left at MSKCC).
10. Framework for Non-Invasive Low Voltage Electroporation for Drug and Gene Delivery to Brain Tumors. *Source*: NIH-NCI U54 (MSKCC-CCNY Partnership). *Award*: \$484,759 (DC only). *Dates*: 09/2016 - 08/2018. *Role*: **Sub-Project PI**.
11. Expanding Ablation in the Genitourinary Tract: Understanding the Role of Collagen Deposition in Post-Ablation Stricture Formation. *Source*: Society of Interventional Radiology. *Award*: \$100,000. *Dates*: 06/2016 - 05/2018. *Role*: **PI**.
12. Investigating the Use of Emprint Ablation System for Lung Ablation in a Porcine Model. *Source*: Medtronic Inc. *Award*: \$135,950. *Dates*: 09/2015 - 12/2015. *Role*: **PI**.
13. Development of Devices and New Methodologies for TS-VTP Application. *Source*: Thompson Family Foundation. *Award*: \$186,800 (DC only). *Dates*: 09/2014 - 08/2019. *Role*: **Sub-Project PI**.
14. Evaluation of CT-Guided Robotic Needle Placement System. *Source*: Perfint Healthcare Inc. *Award*: \$58,122. *Dates*: 04/2012 - 10/2013. *Role*: **PI**.
15. Irreversible Electroporation Ablation for Colorectal Metastases to the Lung. *Source*: NIH-NIBIB R21(1R21CA159559). *Award*: \$238,685. *Dates*: 12/2012 – 07/2015. *Role*: **Co-Investigator**.
16. Postdoctoral Teaching Training: An Opportunity to Teach Undergraduate Engineers the Principles of Medical Device Design for Cancer Therapy. *Source*: NIH-NCI U54 (MSKCC-CCNY Partnership). *Award*: \$25,000. *Dates*: 09/2011 - 07/2012. *Role*: **Sub-Project PI**.
17. Robotics for Enhancing Physician Performance During Endoscopic Upper GI Interventions. *Source*: Radiology Project Development Fund, Dept. of Radiology. *Award*: \$16,900. *Dates*: 03/2011 - 12/2011. *Role*: **PI**.

JOURNAL PUBLICATIONS

* Corresponding/Senior author; UMass trainees are underscored and italicized. # UMass graduate student; & UMass undergraduate student; ^ UMass postdoctoral or research trainee.

1. Fujimori M, Kimura Y[^], Ueshima E, Dupuy DE, Adusumilli PS, Solomon SB and **Srimathveeravalli G**^{*}. Lung ablation with irreversible electroporation promotes immune cell infiltration by sparing extracellular matrix proteins and vasculature: Implications for immunotherapy, *Bioelectricity*, 2021 Jun.
2. Vroomen LGPH, Thampi N, Fujimori M, Sivaraman A, Felsen D and **Srimathveeravalli G**^{*}. A New Intra-surgical Technique to Safely and Reproducibly Induce Partial Unilateral Urinary Obstruction and Renal Scarring in a Rat Model. *Int. J. Urol. and Nephrology*. January 2019.
3. Cornelis FH, Cindrić H, Kos B, Fujimori M, Petre EN, Miklavčič D, Solomon SB, **Srimathveeravalli G**^{*}. Peri-tumoral Metallic Implants Reduce the Efficacy of Irreversible Electroporation for the Ablation of Colorectal Liver Metastases. *Cardiovasc Intervent Radiol*. 2019 Aug 5.
4. Kodama H, Shamay Y, Kimura Y[^], Shah J, Solomon SB, Heller D, **Srimathveeravalli G**^{*}. Electroporation-induced changes in tumor vasculature and microenvironment can promote the delivery and increase the efficacy of sorafenib nanoparticles. *Bioelectrochemistry*. 2019 Dec;130:107328.
5. Ueshima E, Fujimori M, Kodama H, Felsen D, Chen J, Durack JC, Solomon SB, Coleman JA, **Srimathveeravalli G**^{*}. Macrophage-secreted TGF-β1 contributes to fibroblast activation and ureteral stricture after ablation injury. *Am J Physiol Renal Physiol*. 2019 Jul 1;317(7):F52-F64.

Pre-UMass

1. Kodama H, Ueshima E, Howk K, Lee SW, Erinjeri JP, Solomon SB, **Srimathveeravalli G**. Temporal evaluation of the microwave ablation zone and comparison of CT and gross sizes during the first month post-ablation in swine lung. *Diagn Interv Imaging*. 2018 Dec 20.
2. Kodama H, Ueshima E, Gao S, Monette S, Paluch LR, Howk K, Erinjeri JP, Solomon SB, **Srimathveeravalli G**. High Power Microwave Ablation of Normal Swine Lung: Impact of Duration of Energy Delivery on Adverse Event and Heat Sink Effects. *Int J Hyperthermia*. 2018 Feb 28:1-33.
3. Gu Y, **Srimathveeravalli G**, Cai L, Ueshima E, Maybody M, Yarmohammadi H, Zhu YS, Durack JC, Solomon SB, Coleman JA, Erinjeri JP. Pirfenidone inhibits cryoablation induced local macrophage infiltration along with its associated TGFb1 expression and serum cytokine level in a mouse model. *Cryobiology*. 2018 Apr 2.
4. Kodama H, Vroomen LGPH, Ueshima E, Reilly J, Brandt W, Paluch LR, Monette S, Jones D, Solomon SB, **Srimathveeravalli G**. Catheter Based Endobronchial Electroporation is Feasible for the Focal Treatment of Peri-Bronchial Tumors. *J Thorac Cardiovasc Surg*. 2017 Dec 2017.
5. **Srimathveeravalli G**, Abdel-Atti D, Perez-Medina C, Takaki H, Solomon SB, Mulder WJ and Reiner T. Imaging Reversible Electroporation Mediated Liposomal Doxorubicin Delivery in Tumors with Radiolabeled Nanoparticles. *Mol Imaging*. 2018 Jan-Dec; 2017.
6. Cornelis FH, Kim K, Durack JC, Jebiwott S, Scherz A, **Srimathveeravalli G** and Coleman JA. Contrast Enhanced Ultrasound Imaging can Predict Vascular Targeted Photodynamic Therapy Induced Tumor Necrosis in Small Animals. *Photodiagnosis and Photodyn Ther*. 2017 September.
7. Ueshima E, Schattner M, Mendelsohn R, Gerdes H, Monette S, Takaki H, Durack JC, Solomon SB and **Srimathveeravalli G**. Transmural Ablation of the Normal Porcine Common Bile Duct with Catheter-Directed Irreversible Electroporation is Feasible and Does Not Impact Duct Patency. *J Gastrointestinal Endoscopy*. May 2017
8. Cornelis FH, Durack JC, Kimm SY, Wimmer T, Coleman JA, Solomon SB and **Srimathveeravalli G**. A Comparative Study of Ablation Boundary Sharpness After Percutaneous Radiofrequency, Cryo-, Microwave, and Irreversible Electroporation Ablation in Normal Swine Liver and Kidneys. *Cardiovasc Intervent Radiol*. 2017 May;
9. Takaki H, Imai N, Thomas CT, Yamakado K, Hooman Y, Ziv E, **Srimathveeravalli G**, Sofocleous CT, Solomon SB, Erinjeri JP. Changes in peripheral blood T-cell balance after percutaneous tumor ablation. *Minim Invasive Ther Allied Technol*. 2017 Apr 18:1-7
10. **Srimathveeravalli G**, Cornelis F, Wimmer T, Monette S, Kimm SY, Maybody M, Solomon SB, Coleman JA, Durack JC. Normal Porcine Ureter Retains Lumen Wall Integrity but Not Patency Following Catheter-Directed Irreversible Electroporation: Imaging and Histologic Assessment over 28 Days. *J Vasc Interv Radiol*. 2017 Mar 30.
11. Boas FE, **Srimathveeravalli G**, Durack JC, Kaye EA, Erinjeri JP, Ziv E, Maybody M, Yarmohammadi H, Solomon SB. Development of a Searchable Database of Cryoablation Simulations for Use in Treatment Planning. *Cardiovasc Intervent Radiol*. 2017. Epub.
12. Kaye EA, Monette S, **Srimathveeravalli G**, Maybody M, Solomon SB, Gulati A. MRI-guided focused ultrasound ablation of lumbar medial branch nerve: Feasibility and safety study in a swine model. *Int J Hyperthermia*. 2016 Jul 21:1-9.
13. Murray KS, Ehdaie B, Musser J, Mashni J, **Srimathveeravalli G**, Durack JC, Solomon SB, Coleman JA. Pilot Study to Assess Safety and Clinical Outcomes of Irreversible Electroporation for Partial Gland Ablation in Men with Prostate Cancer. *J Urol*. 2016 Apr 23
14. Takaki H, Imai N, Contessa TT, **Srimathveeravalli G**, Covey AM, Getrajdman GI, Brown KT, Solomon SB, Erinjeri JP. Peripheral Blood Regulatory T-Cell and Type 1 Helper T-Cell Population Decrease after Hepatic Artery Embolization. *J Vasc Interv Radiol*. 2016 Apr 12.
15. **Srimathveeravalli G**, Cornelis F, Mashni J, Takaki H, Durack JC, Solomon SB, Coleman JA. Comparison of ablation defect on MR imaging with computer simulation estimated treatment zone following irreversible electroporation of patient prostate. *Springerplus*. 2016 Feb 29;5:219.
16. Kimm SY, Tarin TV, Monette S, **Srimathveeravalli G**, Gerber D, Durack JC, Solomon SB, Scardino PT, Scherz A, Coleman J. Nonthermal Ablation by Using Intravascular Oxygen Radical Generation

- with WST11: Dynamic Tissue Effects and Implications for Focal Therapy. *Radiology*. 2016 Mar 17;141571
17. Murray KS, Winter AG, Corradi RB, LaRosa S, Jebiwott S, Somma A, Takaki H, **Srimathveeravalli G**, Lephherd M, Monette S, Kim K, Scherz A, Coleman JA. Treatment Effects of WST11 Vascular Targeted Photodynamic Therapy for Urothelial Cell Carcinoma in Swine. *J Urol*. 2016 Jul;196(1):236-43.
 18. Wimmer T, **Srimathveeravalli G**, Silk M, Monette S, Gutta N, Maybody M, Erinjeri JP, Coleman JA, Solomon SB, Sofocleous CT. Feasibility of a Modified Biopsy Needle for Irreversible Electroporation Ablation and Periprocedural Tissue Sampling. *Technol Cancer Res Treat*. 2015 Oct 6. [Epub ahead of print]
 19. Kaye EA, Gutta NB, Monette S, Gulati A, Loh J, **Srimathveeravalli G**, Ezell PC, Erinjeri JP, Solomon SB, Maybody M. Feasibility Study on MR-Guided High-Intensity Focused Ultrasound Ablation of Sciatic Nerve in a Swine Model: Preliminary Results. *Cardiovasc Intervent Radiol*. 2015;38(4):985-92
 20. Maybody M, Taslakian B, Durack JC, Kaye EA, Erinjeri JP, **Srimathveeravalli G** and Solomon SB. Feasibility of intermittent pneumatic compression for venous thromboembolism prophylaxis during magnetic resonance imaging-guided interventions. *Eur J Radiol*. 2015; 84(4):668-70.
 21. **Srimathveeravalli G**, Silk M, Wimmer T, Monette S, Kimm S, Maybody M, Solomon SB, Coleman J and Durack JC. Feasibility of Catheter-Directed Intraluminal Irreversible Electroporation of Porcine Ureter and Acute Outcomes in Response to Increasing Energy Delivery. *J Vasc Interv Radiol*. 2015;26(7):1059-66
 22. Lee KS, Takaki H, Yarmohammadi H, **Srimathveeravalli G**, Luchins K, Monette S, Nair S, Kishore S and Erinjeri JP. Pleural Puncture That Excludes the Ablation Zone Decreases the Risk of Pneumothorax after Percutaneous Microwave Ablation in Porcine Lung. *J Vasc Interv Radiol*. 2015;26(7):1052-8
 23. Wimmer T, **Srimathveeravalli G**, Gutta NB, Ezell PC, Monette S, Maybody M, Durack JC, Erinjeri JP and Solomon SB. Planning Irreversible Electroporation (IRE) in the Porcine Kidney: Are Numerical Simulations Reliable for Predicting Empiric Ablation Outcomes? *Cardiovasc Intervent Radiol*. 2015;38(1):182-90.
 24. Cornelis F, Takaki H, Laskhmanan M, Durack JC, Erinjeri JP, Getrajdman GI, Maybody M, Sofocleous CT, Solomon SB and **Srimathveeravalli G**. Comparison of CT Fluoroscopy-Guided Manual and CT-Guided Robotic Positioning System for In Vivo Needle Placements in Swine Liver. *Cardiovasc Intervent Radiol*. *Cardiovasc Intervent Radiol*. 2015;38(5):1252-60
 25. **Srimathveeravalli G**, Kim C, Petrisor D, Ezell P, Coleman J, Solomon S, Stoianovici D, and Hricak H. MRI-Safe Robot for Targeted Transrectal Prostate Biopsy: Animal Experiments. *BJU Int*. 2014;113(6):977-85.
 26. Tam AL, Abdelsalam ME, Gagea M, Ensor JE, Moussa M, Ahmed M, Goldberg SN, Dixon K, McWatters A, Miller JJ, **Srimathveeravalli G**, Solomon SB, Avritscher R, Wallace MJ, Gupta S. Irreversible Electroporation of the Lumbar Vertebrae in a Porcine Model: Is There Clinical-Pathologic Evidence of Neural Toxicity? *Radiology*. 2014;272(3):709-19.
 27. Silk M, Wimmer T, Lee KS, **Srimathveeravalli G**, Brown KT, Sofocleous CT, Kingham PT, Fong Y, Durack JC and Solomon SB. Percutaneous Ablation of Peri-Biliary Tumors with Irreversible Electroporation (IRE). *J Vasc Interv Radiol*. 2014;25(1):112-8.
 28. Krishnaswamy S, Shriber L and **Srimathveeravalli G**. The Design And Efficacy of A Robot Mediated Visual Motor Program for Children Learning Disabilities. *J of Comp Asst Learning*. 2014; 30(2):121-131.
 29. Stoianovici D, Kim C, **Srimathveeravalli G**, Sebrecht P, Petrisor D, Coleman J, Solomon SB and Hricak H. MRI-Safe Robot for Endorectal Prostate Biopsy. *IEEE ASME Trans Mechatron*. 2013;19(4):1289-1299.
 30. **Srimathveeravalli G**, Wimmer T, Monette S, Ezell PC, Gutta NB, Maybody M, Weiser MR and Solomon SB Evaluation of an Endorectal Electrode for Performing Focused Irreversible Electroporation Ablations in the Swine Rectum. *J Vasc Interv Radiol*. 2013;24(8):1249-56.

31. Wimmer T, **Srimathveeravalli G**, Gutta NB, Ezell PC, Monette S, Kingham PT, Durack JC, Fong Y and Solomon SB. Comparison of Simulation Based Treatment Planning to Imaging and Pathology Outcomes for Percutaneous CT-Guided Irreversible Electroporation of the Porcine Pancreas: A Pilot Study. *J Vasc Interv Radiol*. 2013;24(8):1249-56.
32. **Srimathveeravalli G**, Leger J, Ezell P, Maybody M, Gutta N, Solomon SB. A study of porcine liver motion during respiration for improving targeting in image-guided needle placements. *Int J Comput Assist Radiol Surg*. 2013;8(1):15-27.
33. Subrahmaniyan N, Krishnaswamy S, Chowriappa A, **Srimathveeravalli G**, Bisantz A, Shriber L and Kesavadas T. A Visual Haptic System for Children with Learning Disabilities: Software and Hardware Design Considerations. *J of Interactive Learning Res*. 2013; 23(2): 113-141
34. Seixas-Mikelus SA, Stegemann AP, Kesavadas T, **Srimathveeravalli G**, Sathyaseelan G, Chandrasekhar R, Wilding GE, Peabody JO, Guru KA. Content validation of a novel robotic surgical simulator. *BJU Int*. 2011;107(7):1130-5.
35. Kesavadas T, Stegemann A, Sathyaseelan G, Chowriappa A, **Srimathveeravalli G**, Seixas-Mikelus S, Chandrasekhar R, Wilding G, Guru K. Validation of Robotic Surgery Simulator (RoSS). *Stud Health Technol Inform*. 2011;163:274-6.
36. Seixas-Mikelus SA, Kesavadas T, **Srimathveeravalli G**, Chandrasekhar R, Wilding GE, Guru KA. Face validation of a novel robotic surgical simulator. *Urology*. 2010;76(2):357-60.
37. **Srimathveeravalli G**, Kesavadas T, Li X. Design and fabrication of a robotic mechanism for remote steering and positioning of interventional devices. *Int J Med Robot*. 2010;6(2):160-70.
38. Seixas-Mikelus SA, Adal A, Kesavadas T, Baheti A, **Srimathveeravalli G**, Hussain A, Chandrasekhar R, Wilding GE, Guru KA. Can image-based virtual reality help teach anatomy? *J Endourol*. 2010; 24(4):629-34.
39. **Srimathveeravalli G**, Gourishankar V, Kumar A and Kesavadas T. Experimental Evaluation of Shared Control for Rehabilitation of Fine Motor Skills, *ASME J. Comput. Inf. Sci. Eng*. 2009; 9(1):82-90.
40. Arulesan V, **Srimathveeravalli G**, Kesavadas T, Nagathan P, Baier RE. Data acquisition and development of a trocar insertion simulator using synthetic tissue models. *Stud Health Technol Inform*. 2007;125:25-7.
41. Kesavadas T, **Srimathveeravalli G**, Arulesan V. Parametric modeling and simulation of trocar insertion. *Stud Health Technol Inform*. 2006;119:252-4.

TEXTBOOKS, CHAPTERS AND REVIEW ARTICLES

* Corresponding/Senior author; UMass trainees are underscored and italicized. # UMass graduate student; & UMass undergraduate student; ^ UMass postdoctoral or research trainee.

1. Ridouani F, **Srimathveeravalli G***. Percutaneous image-guided ablation: From techniques to treatments. *Presse Med*. 2019 Jul - Aug;48(7-8 Pt 2):e219-e231.

Pre-UMass

1. Cressman ENK, Newton I, Larson AC, Woodrum DA, **Srimathveeravalli G**, Borrelli MJ, Hunt S, Johnson T, Kim CY, White S, Pereira PL, Katsanos K, Gaba RC. State of the Research Enterprise in IR and Recommendations for the Future: Proceedings from the Society of Interventional Radiology Foundation Investigator Development Task Force. *J Vasc Interv Radiol*. 2018 Jun;29(6):751-757.
2. Vroomen LGPH, Petre N, Cornelis F, Solomon SB and **Srimathveeravalli G**. Irreversible Electroporation and Thermal Ablation of Liver, Lung, Kidney and Bone: What are the differences? In: Special Issue of on Interventional Oncology in Diagnostic and Interventional Imaging. July 2017
3. **Srimathveeravalli G**, Balesh E, Cheng CP and Chen D. If You Build It, They Will Come – to Develop an Academic Innovation Enterprise. In: Tech in Vasc and Interven. Rad. Vol. 20 Issue 2. July 2017.

4. Ueshima E, **Srimathveeravalli G** and Solomon SB. Medical Imaging of Electroporation. In: Handbook of Electroporation. Eds Damijan Miklavcic. Springer 2017.
5. Vogel J, Vroomen LGPH and **Srimathveeravalli G**. The Effect of Irreversible Electroporation on Blood Vessels, Bile Ducts, Urinary Tract, Intestines and Nerves. In: Irreversible Electroporation in Clinical Practice. Eds Meijerink, Scheffer and Narayanan. Springer 2016.
6. Kodama H, **Srimathveeravalli G** and Solomon SB. Irreversible Electroporation of Lung Tumors. In: Irreversible Electroporation in Clinical Practice. Eds Meijerink, Scheffer and Narayanan. Springer 2016.
7. **Srimathveeravalli G** and Solomon SB “Principles of Irreversible Electroporation”. Interventional Oncology 2nd Edition. Eds. Geschwind JF and Soulen MC, Cambridge Publishers 2015.
8. Silk M, Tahour D, **Srimathveeravalli G**, Solomon SB, Thornton RH. The state of irreversible electroporation in interventional oncology. Semin Intervent Radiol 2014. 31(2):111-7.
9. Natarajan S, **Srimathveeravalli G**, Kesavadas T and Levy E. Robotics in Endovascular Surgery. Cong. Neuro Surgeons. CNS Quarterly Spring 2011. Vol 12(2) pp4-8.

PATENTS & IP

Pre- UMass

1. **Srimathveeravalli G** and Solomon SB. System, Method and Computer-Accessible Medium for Treating Circulating Tumor Cells in the Blood Stream. WO2017151987A1. Filed February 2017.
2. **Srimathveeravalli G**, Solomon SB and Adusumulli PS. Electroporation for Enhancing T-cell Immunotherapy. Disclosure to MSKCC, September 2017.
3. Pillarsetty K, **Srimathveeravalli G**, Reiner T, Solomon SB and Lewis JS. Methods and Devices to Enhance Selective Intravascular Drug and Therapeutic Delivery In Vivo. Disclosure to MSKCC, March 2017.
4. **Srimathveeravalli G**, Reiner T and Solomon SB. Systems and methods for enhancing delivery of diagnostic and/or therapeutic compositions in vivo using electric pulses. WO2017173089A1. Filed March 2016.
5. **Srimathveeravalli G**, Massague J, Norton L, Solomon SB, Heller DA and Shama Y. Capture Device for Detection of Malignant Cells in Blood and Methods of Therapeutic Use. WO2017044723A1. Filed September 2016.
6. **Srimathveeravalli G**, Solomon SB, Luis Cardoso, Estefany Condo, Joanne Lee, Kamran Nazim and Maribel Vasquez. MR Safe Manipulator. WO2016176683A1. Filed April 2015.
7. **Srimathveeravalli G** and Solomon SB. System, Method and Computer Accessible Medium for In-Vivo Tissue Ablation and/or Damage. US Patent Application No. 61/862,580. Filed June 2014.
8. **Srimathveeravalli G** and Kesavadas T, System for Endovascular Telerobotic Access. Provisional patent filed by University at Buffalo, (US20120245595 A1) 2010. Optioned by E-Bot Surgery Systems
9. Guru K, Kesavadas T and **Srimathveeravalli G**, Method and System for Minimally Invasive Surgery Training. (WO/2010/105237) 2010. Patent licensed by Simulated Surgical Systems.
10. Guru K, Kesavadas T and **Srimathveeravalli G**, System and Method for Robotic Surgery Simulation. (WO/2009/114613) 2009. Patent licensed by Simulated Surgical Systems.

SELECT CONFERENCE PROCEEDINGS (TALKS AND POSTERS)

* Corresponding/Senior author; UMass trainees are underscored and italicized. # UMass graduate student; & UMass undergraduate student; ^ UMass postdoctoral or research trainee. (T) – Talk; (P) – Poster.

1. (P) Sheehan MC[#] and **Srimathveeravalli G**^{*}. Finite Element Models Guide Energy Delivery for Non-contact Irreversible Electroporation in the Esophagus without Thermal Damage. Submitted to ASME IMECE 2021.

2. (P) Sheehan MC[#], Vista WR, Adusumilli PS and **Srimathveeravalli G***. Computational Models Guide Irreversible Electroporation Strategy for Cancer Directed, T Cell Sparing Ablation. Submitted to BMES 2021.
3. (P) Rajagopalan NR[#] and **Srimathveeravalli G***. Electrical Pulse Assisted Drug Delivery Across Bronchial Epithelium. Submitted to BMES 2021.
4. (P) Kimura Y[^], Ramesh A[#], Kulkarni A, Burrell W[&] and **Srimathveeravalli G***. Damage-associated molecular patterns (DAMPs) released by irreversible electroporation (IRE) treated cancer cells skew macrophages to M2 phenotype. SIR annual meeting 2021.
5. (T) Kimura Y[^], Ranjan R, Rajagopalan NR[#], and **Srimathveeravalli G***. Electric pulse assisted transcriptomic and proteomic profiling of tumors. SIR annual meeting 2021.
6. (T) Raghuraman NR[#], Collins SW[&], Kodama H, Mason C, Reiner T and **Srimathveeravalli G***. Electric Pulse Assisted Nanoparticle Delivery to Bronchial Wall with Microporous Balloon Catheter. ASME SB3C meeting. June 2020.
7. (T) Collins SW[&], Raghuraman NR[#], Solomon SB and **Srimathveeravalli G***. Non-Contact Electroporation for Treatment of Exophytic Esophageal Tumors. ASME SB3C meeting. June 2020. **Finalist in undergraduate design competition.**
8. (P) Ridouani F, Cornelis F, Petre E, Hsu M, Moskowitz C, Solomon SB and **Srimathveeravalli G***. Recovery of Liver Parenchyma and Ablation Zone Involution is Faster in Patients Treated with Irreversible Electroporation and is Independent of Functional Liver Status. SIR annual meeting 2020.
9. (T) **Govindarajan Srimathveeravalli***, William Vista, Masashi Fujimori, Scott Collins, Camille Linot, Jordan Dozier, Stephen B Solomon and Prasad Adusumilli. Irreversible Electroporation can Selectively Ablate Cancer Cells without Affecting Proliferation or Effector Function of Chimeric Antigen Receptor Engineered T Cells. SIR annual meeting 2020.
10. (T) Tarek Munawar, Masashi Fujimori, William Vista, Stephen B Solomon and **Govindarajan Srimathveeravalli***. Mechanisms besides membrane permeabilization drive cell death during high-pulse low-voltage tissue ablation. Proc. Of World Congress on Electroporation September 2019.
11. (P) Helena Cindrič, Masashi Fujimori, Francois H. Cornelis, Stephen B. Solomon, **Govindarajan Srimathveeravalli***, Damijan Miklavčič, Bor Kos. Numerical modelling of thermal effects during treatment of liver tumors with irreversible electroporation. Proc. Of World Congress on Electroporation September 2019.
12. (T) Helena Cindrič, Masashi Fujimori, Francois H. Cornelis, Stephen B. Solomon, **Govindarajan Srimathveeravalli**, Damijan Miklavčič, Bor Kos. Numerical modelling of treatment of liver metastases with irreversible electroporation. Proceedings of ERK. 2019
13. (T) Kodama H, Shabay Y, Shah J, Heller D and **Srimathveeravalli G**. Electroporation Enhances Delivery and Effectiveness of Sorafenib Nanoparticles for the Treatment of Colorectal Cancer. SIR, March 2019.
14. (T) Munawar T, Vista W, Fujimori M, Solomon SB and **Srimathveeravalli G**. Chances in Ph and not Temperature Significantly Contributes to Cell Death During IRE Performed at Low-Voltage and High Pulse Numbers. SIR, March 2019.

Pre-UMass

1. (P) Cindric H, Fujimori M, Bor K, Cornelis FH, Miklavcic D, Solomon SB and **Srimathveeravalli G**. Reduction in the Efficacy of Irreversible Electroporation for the Ablation of Colorectal Liver Metastases in the Presence of Metallic Objects can be Modeled with Computer Simulations. RSNA, December 2018.
2. (P) Munawar T, Vista W, Fujimori M, Solomon SB and **Srimathveeravalli G**. Mechanisms Mediating Cell Death During Treatment with Pulsed Electric Field. Presented at ABRCMS, Nov 2018
3. (T) Cindric H, Kos B, Durack JC, Petre EN, Sofocleous CT, Miklavcic D, Solomon SB and **Srimathveeravalli G**. Numerical Study of Irreversible Electroporation Treatment of Liver Tumors in the Vicinity of Metallic Surgical Clips. EBTT 2018.

4. (P) Vroomen L, Fujimori M, Vista W, Cai L and **Srimathveeravalli G**. Bleomycin Electrochemotherapy Augments the Efficacy of Temozolomide and Olaparib for the Treatment of Brain Cancer. PACHE 2018.
5. (P) Dev AK, Abrol R, Fujimori M and **Srimathveeravalli G**. Large Gage Fenestrated Needle Allows Uniform and Penetrative Percutaneous Injection of Drug Eluting Beads. WCIO, June 2018.
6. (T) Fujimori M, Ueshima E, Vroomen LGPH, Dupuy D, Erinjeri J, Solomon SB and **Srimathveeravalli G**. Sparring of Collagen and Extracellular Matrix Proteins in Irreversible Electroporation Treated Normal Porcine Lung Promotes T-cell and Macrophage Infiltration Throughout Ablated Tissue. Presented at Society of Interventional Radiology Annual Meeting 2018.
7. (T) Fujimori M, Vroomen LGPH, Ueshima E, Kim K, Nagar K, Coleman JA and **Srimathveeravalli G**. Transforming growth factor- β 1 blockade after irreversible electroporation of murine urothelial tumor does not provide additional survival or cancer control benefits. Presented at Society of Interventional Radiology Annual Meeting 2018.
8. (T) Vroomen LGPH, Fujimori M, Sivaraman A, Solomon SB and **Srimathveeravalli G**. Irreversible Electroporation is a Safe and Reproducible Technique to Induce Predictable Unilateral Ureteral Obstruction in a Rat Model. Presented at Society of Interventional Radiology Annual Meeting 2018.
9. (P) Santos L, Fujimori M, Vroomen LGPH, Ueshima E, Kim K, Nagar K, Coleman JA and **Srimathveeravalli G**. The Effects of Partial Irreversible Electroporation (pIRE) on T-cell and Macrophage Populations in Murine Bladder Tumor Microenvironment. Presented at Society of Interventional Radiology Annual Meeting 2018.
10. (P) Vroomen LGPH, Vista W, Fujimori M, Solomon SB and **Srimathveeravalli G**. Comparison of Electrochemotherapy and Radiation for Chemosensitization of Drug Resistant Cell Lines. Presented at Society of Interventional Radiology Annual Meeting 2018.
11. (T) Vroomen LGPH, Fujimori M, Solomon SB, **Srimathveeravalli G**. Bleomycin Electrochemotherapy can Rescue Temozolomide Resistance of Glioblastoma in Vitro. Second World Congress on Electroporation. September 2017
12. (P) Esmaeilpour Z, Khadka N, FallahRad M, Bikson M, **Srimathveeravalli G**. Testing the feasibility of non-invasive brain electroporation using rat and human models. Second World Congress on Electroporation. September 2017.
13. (P) Fujimori M, Ueshima E, Vroomen LGPH, Kodama H, Dupuy D, Erinjeri JP, Solomon SB, **Srimathveeravalli G**. Preservation of the Extracellular Matrix During Irreversible Electroporation Promotes Infiltration and Proliferation of Macrophages and T-cells in the Ablated Normal Porcine Lung. Second World Congress on Electroporation. September 2017.
14. (T) Vroomen LGPH, Kodama H, Ueshima E, Gao S, Reilly J, Monette S, Paluch L, Solomon SB and **Srimathveeravalli G**. Feasibility and Mid-term Safety of Endobronchial Electroporation with a Novel Catheter Electrode". In Proc. of World Conference on Interventional Oncology 2017
15. (T) **Srimathveeravalli G**, Abdel-Atti D, Perez-Medina C, Takaki H, Solomon SB, Mulder WJ and Reiner T. Imaging Reversible Electroporation Enhanced Liposomal Doxorubicin Delivery in Mouse Tumors Using Radiolabeled Nanoparticles. Presented at Society of Interventional Radiology Annual Meeting 2017.
16. (T) Kodama H, Gaos S, Ueshima E, Monette S, Lee-Ronn P, Howk K, Erinjeri JP, Solomon SB and **Srimathveeravalli G**. Mid-term safety of MWA ablation in normal porcine lung: Evolution of the treatment zone on CT imaging and histological analysis. Presented at Society of Interventional Radiology Annual Meeting 2017.
17. (T) Ueshima E, Kodama H, Erinjeri JP, Coleman JA, Chen J, Felsen D, Solomon SB and **Srimathveeravalli G**. Presence of TGF- β 1 but not Irreversible Electroporation (IRE) Causes Differentiation and Collagen Related Gene Expression in Fibroblasts. Presented at Society of Interventional Radiology Annual Meeting 2017.
18. (T) Kodama H, Ueshima E, Gao S, Howk K, Solomon SB and **Srimathveeravalli G**. Ablation Zone Evolution and Comparison Between CT Imaging Measurements and Gross Ablation Size Following

- Microwave Ablation of Swine Lung. In Proc Radiology Society of North America Annual Meeting 2016.
19. (P) Moreland A, Petre E, Sarkar D, Solomon SB and **Srimathveeravalli G**. Treatment Parameter and Tumor Anatomy Determinants of Change in Tissue Resistance During Irreversible Electroporation of Colorectal Cancer Metastases. In Proc. of World Conference on Interventional Oncology 2016
 20. (T) Kodama H, Ueshima E, Gao S, Howk K, Solomon SB and **Srimathveeravalli G**. CT Imaging Measurements Predict Gross Ablation Size at 48 Hours Following Microwave Ablation of Swine Lung In Proc. of World Conference on Interventional Oncology 2016
 21. (P) Kodama H, Gao S, Reilly J, Monette S, Solomon SB and **Srimathveeravalli G**. Feasibility and Acute Safety Following Catheter Directed Endoluminal In Vivo IRE of Porcine Bronchus. In Proc. Of Society of Interventional Radiology Annual Meeting 2015.
 22. (T) Ueshima E, Kodama H, Monette S, Coleman JA, Durack JC, Solomon SB and **Srimathveeravalli G**. Irreversible Electroporation Induced Stricture Formation in Porcine Ureter is Characterized by Myofibroblast. In Proc. Of Society of Interventional Radiology Annual Meeting 2015.
 23. (T) Boas FE, **Srimathveeravalli G**, Kaye EA, Durack JC, Erinjeri JP, Ziv E, Yarmohammadi H and Solomon SB. Development of a searchable database of cryoablation simulations, for use in treatment planning. In Proc. Of Society of Interventional Radiology Annual Meeting 2015.
 24. (T) Moreland A, Chester J, Solomon SB, and **Srimathveeravalli G**. Role of Treatment Parameters on Changes in Electrical Resistance During IRE of Colorectal Cancer Metastases in Patients. In Proc. Of First World Congress on Electroporation. September 2015.
 25. (P) **Srimathveeravalli G**, Takaki H, Monette S, Solomon SB and Durack JC. Catheter Directed Irreversible Electroporation of the Swine Common Bile Duct. In Proc. Of Society of Interventional Radiology Annual Meeting 2015.
 26. (P) **Srimathveeravalli G**, Winter A, Takaki H, Kimm S, Tarin TV, Monette S, Solomon SB, Durack JC and Coleman J. Comparison of Catheter Directed WST11-Vascular Targeted Phototherapy (WST11-VTP) and Irreversible Electroporation (IRE) for Intraluminal Ablation in the Porcine Ureter. In Proc. Of EUS Symposium 2014.
 27. (P) **Srimathveeravalli G**, Takaki H, Lakshmanan M, Cornelis F, Maybody M, Getrajdman G, Sofocleous CT, Durack JC, Erinjeri JP and Solomon SB. Comparison of Performance as a Cohort of Experienced IR Physicians versus Novice CT-Guided Robotic Positioning System Operators for Needle Placements to Small In-Vivo Targets. In Proc. of World Conference on Interventional Oncology 2014
 28. (T) **Srimathveeravalli G**, and Solomon SB. Alternate Pulse Parameters for the in-vivo Low Voltage Pulsed Electric Field Ablation of Swine Liver. In Proc. Of Society of Interventional Radiology Annual Meeting 2014.
 29. (T) **Srimathveeravalli G**, Wimmer T, Monette S, Durack JC, Maybody M, Gerdes H and Solomon SB. Feasibility and Acute Safety Following Catheter Directed IRE for Endoluminal Ablation of the Porcine Esophagus. In Proc. Of Society of Interventional Radiology Annual Meeting 2014.
 30. (T) **Srimathveeravalli G**, Takaki H, Lakshmanan M, Cornelis F, Maybody M, Getrajdman G, Sofocleous CT, Durack JC, Erinjeri JP and Solomon SB. Evaluation of a CT Guided Robotic Positioning System to Minimize Needle Manipulation During Placements to Small in Vivo Targets. In Proc. Of Society of Interventional Radiology Annual Meeting 2014.
 31. (T) **Srimathveeravalli G**, Wimmer T, Monette S, Kimm S, Coleman J, Solomon SB and Durack JC. Catheter-Directed Transmural IRE Ablation in the Porcine Ureter: Functional and Histologic Assessment Over 1 Month. In Proc. Of Society of Interventional Radiology Annual Meeting 2014.
 32. (P) Brand C, **Srimathveeravalli G**, Irwin C, Lewis JS, Weber WA and Reiner T. New Approach for Confirmation of Electrochemical Ablation by a Small Molecule Sensor. In Proc. Of World Molecular Imaging Conference 2013.
 33. (P) Wimmer T, Kimm S, **Srimathveeravalli G**, Gerber D, Scherz A, Durack JC, Coleman J and Solomon SB. Histological characterization and comparison of tissue effects following irreversible

electroporation, vascular targeted photodynamic therapy, radiofrequency, and cryotherapy ablation: implications for focal therapy. In Proc. Of Cardiovascular and Interventional Radiology Society of Europe Annual Meeting 2013.

34. (P) Wimmer T, Gutta NB, Monette S, Solomon SB, Sofocleous CT and **Srimathveeravalli G**. A Single Device for Percutaneous Tissue Ablation Using Irreversible Electroporation and Subsequent Core Biopsy in a Swine Model. In Proc. of World Conference on Interventional Oncology 2013
35. (T) Durack JC, **Srimathveeravalli G**, Monette S, Ezell P, Maybody M, Erinjeri JP and Solomon SB. Intraluminal Catheter Directed Irreversible Electroporation in the Porcine Ureter. In Proc. Of Society of Interventional Radiology Annual Meeting 2013.
36. (P) **Srimathveeravalli G**, Gutta NB, Monette S, Ezell P, Paty P and Solomon SB. New Device and Technique for Application of Irreversible Electroporation for Focal Rectal Ablation. In Proc. Of Society of Interventional Radiology Annual Meeting 2013.
37. (T) Wimmer T, **Srimathveeravalli G**, Gutta NB, Monette S, Ezell P, Thornton R, Erinjeri JP, Durack JC, Maybody M and Solomon SB. Prediction model and imaging correlation in acute and chronic outcomes following irreversible electroporation of the kidney. In Proc. Of Society of Interventional Radiology Annual Meeting 2013.
38. (P) Wimmer T, **Srimathveeravalli G**, Gutta NB, Monette S, Ezell P, Erinjeri J, Maybody M and Solomon SB. Prediction model, pathology and imaging correlation of acute and chronic outcomes following irreversible electroporation of the pancreas. In Proc. Of Society of Interventional Radiology Annual Meeting 2013.
39. (T) **Srimathveeravalli G** and Solomon SB. Treatment Planning Considerations for IRE in the Lung: Placement of Needle Electrodes is Critical. In Proc. Of Society of Interventional Radiology Annual Meeting 2013.
40. (P) **Srimathveeravalli G**, Kim C, Petrisor D, Coleman J, Hricak H, Solomon SB and Stoianovici D. Pre-Clinical Evaluation of a MRI-Safe Robot for Endorectal Prostate Biopsy. In Proc. Of EUS Symposium 2013.
41. (T) Kim C, **Srimathveeravalli G**, Sebrecht P, Petrisor D, Ezell P, Coleman J, Solomon SB, Hricak H and Stoianovici D. Robot-Assisted Direct MRI-Targeted Transrectal Prostate Biopsy. In Proc. Of EUS Symposium 2012.
42. (P) Kesavadas T, Stegemann A, Sathyaseelan G, Chowriappa A, **Srimathveeravalli G**, Seixas-Mikelus S, Chandrasekhar R, Wilding G, Guru K. Validation of Robotic Surgery Simulator (RoSS). Stud Health Technol Inform. 2011;163:274-6.
43. (P) **Srimathveeravalli G**, Leger J, Ezell P, Maybody M, Gutta N and Solomon S Study of Porcine Liver Motion During Respiration Using Electromagnetic Sensors, In Proc. of World Conference on Interventional Oncology 2011
44. (T) Chowriappa A, Subrahmaniyan N, **Srimathveeravalli G**, Bisantz A and Kesavadas T Modeling and Defining Expert Handwriting Behavior, In Proc. of IEEE Systems, Man and Cybernetics 2009
45. (P) Li X, **Srimathveeravalli G**, Singla P and Kesavadas T A Novel and Robust Algorithm for Modeling Writing Skill for Haptic Applications In Proc. of IEEE Systems, Man and Cybernetics 2009
46. (P) Kumar A, Kesavadas T, **Srimathveeravalli G**, Karimpuzha S, Baheti A, Chandrasekhar R, Wilding G, Butt Z and Guru K Efficacy of Robotic Surgery Simulator (RoSS) for the daVinci® Surgical System, The Journal of Urology 181:4 Supplement, 2009
47. (T) Baheti A, Guru K, Kesavadas T, Kumar A, **Srimathveeravalli G**, and Butt Z In-Vivo Videos Enhance Cognitive Skills for da Vinci® Surgical System, The Journal of Urology 181:4 Supplement, 2009
48. (P) Kocherry J, **Srimathveeravalli G**, Chowriappa A, Kesavadas T and Shin G Improving Haptic Experience through Biomechanical Measurements, In Proc. of IEEE World Haptics Conference, 2009
49. (P) Baheti A, Kumar A, **Srimathveeravalli G**, Kesavadas T and Guru K RoSS: Virtual Reality Robotic Surgical Simulator for the DaVinci Surgical Simulator System, In Proc. of IEEE Haptics Symposium, 2008

50. (P) Kumar A, Seshadri S, Baheti A, **Srimathveeravalli G**, Butt Z, Kuvshinoff B, Mohler J, Kesavadas T and Guru K Virtual Reality Surgical Trainer for Robotic Urological Procedures, The Journal of Urology 179:4:Supplement 1, 2008
51. (P) Kesavadas T, Seshadri S, **Srimathveeravalli G** and Guru K Design and development of RoSS: A Virtual Reality Simulator for da Vinci Surgical System, In Proc. of Computer Aided Radiology and Surgery, 2008
52. (T) **Srimathveeravalli G**, Gourishankar V and Kesavadas T Comparative Study: Virtual Fixtures and Shared Control for Rehabilitation of Fine Motor Skills, In Proc. of IEEE World Haptics Conference, 2007
53. (P) Gourishankar V, **Srimathveeravalli G** and Kesavadas T HapStick: A High Fidelity Haptic Simulation for Billiards, In Proc. of IEEE World Haptics Conference, 2007
54. (P) Arulesan V, **Srimathveeravalli G**, Kesavadas T, Nagathan P, Baier R, Data Acquisition and Development of a Trocar Insertion Simulator Using Synthetic Tissue Models, In Proc. of Medicine Meets Virtual Reality, 2007
55. (T) **Srimathveeravalli G**, Gourishankar V and Kesavadas T, Haptic Attributes and Human Motor Skills, In Proc. of IEEE Haptics Symposium, 2006
56. (P) Kesavadas T, **Srimathveeravalli G** and Arulesan V, Parametric Modeling and Simulation of Trocar Insertion, In Proc. of Medicine Meets Virtual Reality 2006
57. (P) Mehta C, **Srimathveeravalli G** and Kesavadas T, An Approach to Design and Development of Decentralized Data Fusion Simulator, In Proc. of Winter Simulation Conference 2005
58. (T) **Srimathveeravalli G** and Kesavadas T, Motor Skill Training Assistance Using Haptic Attributes, In Proc. of IEEE World Haptics Conference, 2005
59. (T) **Srimathveeravalli G**, Subramanian N and Kesavadas T, A Scenario Generation Tool for DDF Simulation Testbeds, In Proc. of Winter Simulation Conference, 2004

INVITED TALKS

1. **S&G Translational Medicine Conference**. “Mechanisms determining post-ablation macrophage recruitment and polarization, its impact on immunotherapy”. Online Presentation. March 2021.
2. **International Conference on Basic and Translational Research: Novel Ideas and Approaches**. “Energy Based Cancer Therapy”. Online/Crescent Inst of Technology, India. June 2020.
3. **Dept. of Veterinary and Animal Sciences**. “Energy Based Cancer Therapy”. Amherst, March 2020.
4. **BTP Tales**. “Let’s explore cancer therapy with macrophages through cat memes”. Amherst, February 2020.
5. **Workshop on Electroporation Based Treatments and Techniques, University of Ljubljana**. “Tumor Ablation: Thinking Outside the Membrane”. Ljubljana, Slovenia. November 2019.
6. **Dept. of Urology, Albany Medical Center**. “Energy Based Treatment in the Genitourinary Tract”. Albany, NY, USA. October 2019.
7. **BDRM meeting**. “Electric Field Assisted Nanoparticle Delivery”. Amherst, September 2019.

Pre-UMass

8. **Thompson Family Foundation Annual Symposium**. “VTP of Pancreas in the Normal Swine Model”. Rehovot, Israel. December 2018.
9. **Frank Reidy Center for Bioelectrics, Old Dominion University**. Electrochemotherapy: Thinking Beyond Membrane Permeabilization. Norfolk, USA. November 2018.
10. **Eng. In Medicine and Biology Conference**. The What, How and Why of Irreversible Electroporation. Honolulu, USA. July 2018.
11. **Dept. of Mechanical Eng. Indiana University – Purdue University**. Simulation-Modeling Driven Device Design and Energy Delivery for the Minimally Invasive Treatment of Cancer. Indianapolis, USA. March 2018.
12. **Dept. of Mechanical and Industrial Eng. University of Massachusetts at Amherst**. Simulation Modeling for Advancing Minimally Invasive, Function Sparing Cancer Therapy. Amherst, USA. February 2018.

13. **JFR 2017.** Radiofrequency, Microwave Ablation and Irreversible Electroporation: What are the differences?. Paris, France. October 2017.
14. **2nd World Congress on Electroporation.** Catheter Directed Endoluminal Irreversible Electroporation of the Upper Urinary Tract. Norfolk, USA. September 2017.
15. **Dept. of Biomedical Engineering,** City College of New York. Innovation and Commercialization From an Academic Setting. NYC, USA. April 2017.
16. **Society of Interventional Radiology Annual Meeting.** Future of Ablation Techniques and Technology: Endoluminal Ablation. Vancouver, Canada. April 2016.
17. **Dept. of Engineering Design, Indian Institute of Technology.** Catheter Directed Irreversible Electroporation for Soft Tissue Ablation in Hollow Organs. Chennai, India. January 2016
18. **Thompson Family Foundation Annual Symposium on TS-VTP.** VTP and Fibrosis: The Role of TGF beta1. New York, USA. November 2015.
19. **Society of Interventional Radiology Annual Meeting.** Irreversible Electroporation: A New Direction. Atlanta, USA. March 2015
20. **Thompson Family Foundation Annual Symposium on TS-VTP.** Histologic Tissue Effects of Ablative Therapies: TS-VTP Compared to other Ablation Modalities – Objective Observations. Oxford UK. November 2014.
21. **Hepatobiliary Disease Management Team Conference.** Feasibility and Safety of Catheter Directed Intraluminal Irreversible Electroporation of the Biliary Tree. May 2014, MSKCC NY.
22. **MSKCC Drug and Medical Device Development Symposium.** Clinical Testing of New Medical Devices. New York, USA. May 2014.
23. **Society of Interventional Radiology Annual Meeting.** Principles of Irreversible Electroporation. San Diego, USA. March 2014.
24. **AmmaCHI Labs, Amrita University.** Robotics for Endovascular Surgery. Kollam, India. December 2011.
25. **Dept. of Biomedical Engineering, City College of New York.** Robotics for Endovascular Surgery. New York, USA. February 2011.
26. **Center for Brain Health, University of Texas.** Comparative Study: Virtual Fixtures and Shared Control for Fine Motor Skill Rehabilitation. Dallas, USA. May 2010.
27. **Robotic Surgery Training Workshop, American Urology Association.** Workshop Faculty. Face and Content Validity of a Novel Robotic Surgery Simulator. San Francisco, USA. May 2010.
28. **Faculty of Engineering, Wilkes University.** Invited research lecture. Design and Fabrication of a Teleoperated Robotic System for Endovascular Neurosurgery. Wilkes – Barre, USA. April 2010.
29. **Faculty of Engineering, Indian Institute of Technology Gandhinagar.** Control Algorithms and Modeling Methods for Robot Assisted Motor Skill Training and Rehabilitation. Online presentation. April 2010.
30. **ACM Student Chapter.** Research Overview: UB Virtual Reality Laboratory. Buffalo, USA. October 2007.

PROFESSIONAL ACTIVITIES

Service:

<u>Board Member,</u> Society of Interventional Radiology Foundation	2021 – Present
<u>Study Section Member,</u> NIH IGIS	06/2020 – Present
<u>Study Section Member,</u> NSF GRFP	10/2020
<u>Judge,</u> Poster Competition, SB3C	06/2019
<u>Chair,</u> Awards Committee, ISEBTT	07/2018 – Present
<u>Study Section Member,</u> DoD KCRP and LCRP	02/2018 – Present

<u>Member</u> , IEEE EMBS, Technical Committee on Therap. Sys. & Tech.	09/2017 – Present
<u>Coordinator</u> , Special Session on IRE, World Congress on Electroporation	07/2016 – Present
<u>Member</u> , Program Committee, World Congress on Electroporation	07/2016 – Present
<u>Member</u> , Grants and Research Division, SIR Foundation	04/2015 – Present
<u>Workshop Coordinator</u> , Innovation and Technology, SIR Annual Meeting	03/2015 – Present
<u>Session Moderator</u> , Engineering in Urology Symposium, AUA	05/2014
<u>Session Moderator</u> , Engineering in Urology Symposium, AUA	05/2013

Affiliations:

ASME BED Biotransport Committee	06/2019 – Present
The International Society for Electroporation Based Technology and Treatments	2016 – Present
Society of Interventional Radiology	2013 – Present
Engineering in Medicine and Biology Society	2012 – Present
American Society of Mechanical Engineers	2010 – 2017
Technical Committee on Haptics	2007 – 2017
Institute of Electrical and Electronics Engineers	2004 – Present

Journal Reviewer:

Nature Communications	2020 – Present
Ann Surg Oncology	2020 – Present
App Biochemistry and Biotech.	2020 – Present
Biomaterials Science.	2020 – Present
Journal of Clinical and Translational Research.	2020 – Present
Cancers.	2020 – Present
Scientific Reports.	2020 – Present
Cellular and Molecular Bioengineering .	2020 – Present
Computerized Medical Imaging & Graphics.	2020 – Present
Computer Methods and Programs in Biomedicine.	2020 – Present
Computers in Biology and Medicine.	2020 – Present
Bioelectricity	2019 – Present
Ann Biomedical Engineering	2019 – Present
J Invest. Surg.	2018 – Present

Bioelectrochemistry.	2018 – Present
Diag. Imaging and Intervention	2017 – Present
J. Euro. Radiology	2017 – Present
Nature Comm. Biology	2017 – Present
Intl. J Hyperthermia	2017 – Present
Tech. in Cancer Res. & Treat.	2017 – Present
IEEE Trans. On Biomedical Engineering	2017 – Present
PLoS One	2016 – Present
Journal of Vascular and Interventional Radiology	2014 – Present
International Journal of Computer Assisted Radiology and Surgery	2013 – Present
International Journal of Medical Robotics and Computer Assisted Surgery	2009 – Present

Industrial Consulting:

Intuitive Inc.,	2020
Farapulse Inc.,	2019 – 2020
Aperture Inc.	2019 – Present

TEACHING

Courses Taught:

ME413 Design of Mechanical Assemblies	Spring 2020, 21
ME597/697MD Practical Medical Device Design	Fall 2019, 20, 21
ME413 Design of Mechanical Assemblies (<i>co-taught with Prof. Hyers</i>)	Spring 2019

Courses Developed:

ME597/697MD Practical Medical Device Design

Pre-UMass

Principles of Medical Device Design, Spring 2012, 13
 Dept. of Biomedical Engineering, City College of New York, NY

MENTORING

Graduate Students:

Mary Chase Sheehan, PhD Mechanical Engineering	Expected September 2025
Neeraj Raghuraman, MS-PhD Mechanical Engineering	Expected May 2024
Sarah Kim, MS Mechanical Engineering	2021 – 2022

Garett Maglio, <u>Independent Study</u> , MS Mechanical Engineering	Spring 2020
<u>Committee Member</u>	
Anujan Ramesh, PhD Biomedical Engineering	2020 – Present
Feiyu Yang	2019 – Present
Christopher Cardimino	2021
<u>Pre-UMass</u>	
Laurien Vroomen, Ph.D., VUMC Amsterdam	2019
Tamer Naguib, MS Biomedical Engineering, CCNY, USA	2012
Undergraduate Students:	
Brian Simoes	2020 – Present
Devan Kumar, Mechanical Engineering	2020 – Present
Hans Foelsche, <u>Independent Study</u> , Mechanical Engineering	Spring 2020
Mehri Orkash, <u>Independent Study</u> , Biomedical Engineering	Spring 2020
Devan McAndrews, Biomedical Engineering	2019 – 2020
Scott Collins, Biomedical Engineering	2019 – 2021
Wells Burrell, <u>Honors College Thesis</u> , Microbiology	2019 – 2021
Yuling Huang, Biochemistry	2019 – 2020
<u>Committee Member</u>	
Krishna Shah, Honors Thesis, BS Chemical Engineering	2021
Abigail Laughlin, Honors Thesis, BS Mechanical Engineering	2020
<u>Pre-UMass</u>	
Tarek Munawar, BS Biotechnology, City College of New York (<i>Travel award and poster for ABRCMS 2018</i>)	06/2018 – 12/2018
Kimberly Crowley, MS Biomedical Engineering, Washington Univ. St. Louis	06/2018 – 08/2018
Julia Radzio, BS Mechanical Engineering, Cornell University	06/2018 – 08/2018
Jennifer Reilly, BS Biomedical Engineering, George Washington Univ.	06/2015 – 08/2015
Postdoctoral Fellows:	
Leo Razakamanantsoa, MD MS, France	01/2020 – 09/2020
Awarded fellowship by the French govt. to study in the lab.	
Yasushi Kimura, MD, Osaka University, Japan	05/2019 – 03/2023

Awarded fellowship by the Uehara Foundation. to study in the lab.

Pre-UMass

Masashi Fujimori, MD, Mie University, Japan	01/2017 – 01/2019
Laurien Vroomen, MD <u>PhD</u> , Fulbright Scholar , VU Medical Center, Netherlands	11/2016 – 11/2017
Eisuke Ueshima, MD PhD, Kobe University, Japan	09/2015 – 03/2017
Hiroshi Kodama, MD, Mie University, Japan	01/2015 – 01/2017

Capstone Projects:

Dept. of Mechanical Engineering.

Ian-Teare Thomas, Patrick McCrotty, Anik Kachroo	2019 – 2020
--------------------------------------------------	-------------

Pre-UMass

Biomedical Engineering, CCNY

Estefany Condo, Kamran Nazim, Joanne Lee	2014 - 2015
Leslie Guardon, Bijay Kharel, Daphne Harel	2011 - 2012
Ling Ge Zeng, Steven Vuong, Soonwok Kwon	2011 - 2012

High School:

<i>PSEG Program</i> , Engineering the Gap – Building Bridges for Students from Holyoke/Springfield to UMass	2021
----------------------------------------------------------------------------------------------------------------	------

Pre-UMass

Arvind Dev, Pre-med Honors student, Hunter College (<i>Poster Presentation at WCIO annual meeting</i>)	2017
Lucia Santos, Pre-med at George Mason Univ. (<i>Poster Presentation at SIR annual meeting</i>)	2017
Julia Radzio, BS Mechanical Engineering, Cornell University (<i>2nd place in New York Science and Engineering Fair</i>)	2016
Azreen Hasan	2015
Sarah Tress, BS Mechanical Engineering, MIT. (<i>Presentation at New York Science and Engineering Fair</i>)	2014

Middle School:

New York Academy of Science Teaching Fellow First Robotics League, East Harlem	2010 – 2011
-----------------------------------------------------------------------------------	-------------

INSTITUTIONAL SERVICE

Faculty Search Committee,

NSO

Remote Teaching Committee, Dept. of Mechanical & Industrial Eng. **2020 – 2021**

Student Engagement Committee, Dept. of Mechanical & Industrial Eng. **2020 – 2021**

Theme Co-Leader, Center for Bioactive Delivery, IALS **2020 – Present**

Graduate Committee, Dept. of Mechanical & Industrial Eng. **2019 – 2020**

Pre-UMass

IACUC **04/2018 – 12/2018**

Responsible Conduct of Research, Facilitator **04/2017 – 12/2018**

Innovation and Technology Working Group **02/2015 – 12/2018**

Junior Faculty Council **04/2013 – 08/2015**

Radiology Research Council **07/2013 – 12/2018**

Radiology High School Outreach Program **2012 – 2018**