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Research Vision: To develop computational frameworks that can accurately characterize the functional space of cellular biology from molecular features using integrative biology, gene regulatory networks, and artificial intelligence.

RESEARCH EXPERIENCE & EDUCATION:	➤ Applied Research Scientist II (September 2024 – present), Department of Metabolism & Physiology, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL. ➤ Applied Research Scientist I (September 2021 – September 2024), Department of Cancer Physiology, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL. ➤ Applied Postdoctoral Fellow (April 2018 – September 2021), Department of Cancer Physiology, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL. ➤ Postdoctoral Fellow (September 2016 – April 2018), Department of Cancer Imaging and Metabolism, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL. ➤ PhD in Aerospace Engineering (2012 – 2016), Virginia Polytechnic Institute and State University, Blacksburg, VA. ➤ Master of Technology in Aerospace Engineering (2010 – 2012), Indian Institute of Technology Kanpur, Kanpur, India. ➤ Bachelor of Technology in Electrical and Electronics Engineering (2006 – 2010), Jawaharlal Nehru Technological University Hyderabad, Hyderabad, India.
RESEARCH GRANTS & FUNDING:	❖ Research Instructor 2022 – 2025 (20% FTE) Intramural support of 20% FTE to help carve out independent research projects to aid in career advancement for successful postdoctoral fellows and research scientists at Moffitt Cancer Center. ❖ 2021 MMRF (Multiple Myeloma Research Foundation) Research Fellow Award (\$75,000) Title: <i>A Multiomic Approach to Reverse Therapy Resistance in Multiple Myeloma</i>. Role: <u>Principal Investigator</u>. 12/01/2021 – 12/31/2022. ❖ 2019 Moffitt PSOC (Physical Sciences – Oncology Center) Pilot Project Award (\$15,000) Title: <i>Ex Vivo Dynamical Modeling of Multiple Myeloma using Individual Cell Tracking</i>. Role: <u>Principal Investigator</u>. 01/01/2020 – 08/31/2020. ❖ 2018 Moffitt PSOC (Physical Sciences – Oncology Center) Pilot Project Award (\$16,600) Title: <i>An ODE-based Mathematical Model of Multiple Myeloma Cell Dynamics ex vivo</i>. Role: <u>Principal Investigator</u>. 01/01/2019 – 08/31/2019.
PATENTS:	➤ Silva, A., Shain, K., Sudalagunta, P.R., Canevarolo, R., Meads, M., “A model of clinical synergy in cancer”, PCT/US2020/062232 (WO/2021/108551-A1), priority date 11/25/2019. ➤ Silva, A., Sudalagunta, P.R., Shain, K., Canevarolo, R., Meads, M., “A Multiomic Approach to Modeling of Gene Regulatory Networks in Multiple Myeloma”, PCT/US2022/024217 (WO/2022/217136-A1), priority date 04/10/2021. ➤ Silva, A., Shain, K., Canevarolo, R., Sudalagunta, P.R., Meads, M., “Altering Epigenetic Landscapes Control Progression and Refractory Disease States In Multiple Myeloma”, PCT/US2023/078667 (WO/2024/097981), priority date 11/03/2022.
FEATURED IN MEDIA	• Targeted Oncology (May 17th, 2025): https://www.targetedonc.com/view/unlocking-myeloma-insights-with-generative-ai • The Patient Story (March 1st, 2022): https://www.thepatientstory.com/research/multiple-myeloma-research/daratumumab-selinexor-moffitt/ • Moffitt Endeavor (February 4th, 2021): https://moffitt.org/endeavor/archive/combining-cycling-people-and-a-passion-for-cancer-research

DATA SCIENCE & TECHNOLOGY CONTRIBUTIONS (CONCEPTION, DESIGN, DEVELOPMENT, AND DEPLOYMENT)	❖ <u>Agentic AI Framework for Automated Biomedical Data Analysis:</u> Molecular, functional, and longitudinal clinical datasets generated and curated by Pentecost Myeloma Research Center (PMRC) are organized into a semantic knowledge layer that captures key biomedical entities, their aliases, their locations in a Snowflake database, contextual descriptions, and foundational relationships. These relationships are derived from the underlying data as well as targeted browser-based searches to complement a locally hosted open-weight model's pre-training and are hard-wired into the knowledge layer through lexical and semantic indexing. The system can therefore retrieve key information such as, where specific data elements are located, how they are represented across different tables, and how they relate to other molecular, clinical, and functional entities. When this retrieved information is placed into the context of the agentic system, it provides the agent with an understanding of both data location in the warehouse and biological/clinical relationships, allowing it to identify relevant evidence, connect related elements across datasets, and plan appropriate next steps for downstream biomedical analysis. ❖ <u>Automated Monitoring and Analysis of Ex Vivo Drug Sensitivity Assays:</u> Total Cancer Care® (TCC) consented Multiple myeloma (MM) patient samples at PMRC are treated with 31 drugs in ex vivo co-cultures and live imaged for six days. These experiments are programmatically monitored by a code continuously running on a HPC, which inspects the image metadata and flags any experimental issues by sending automated text messages to members of PMRC lab. This code also automatically analyzes the images once the experiment is completed and generates a PDF report summarizing the experimental results. Currently, these reports are forwarded to MM physicians at Moffitt to aid in clinical decision making. ❖ <u>Abstraction of Longitudinal Clinical Data:</u> Patient samples collected by PMRC lab (so far ~1100) are subjected to molecular (RNA-seq/WES) and functional characterization (ex vivo drug screening). The high-fidelity data obtained from these samples needs to be contextualized by their treatment/response histories and cytogenetic status from FISH (Fluorescence In-situ Hybridization) pathology reports. This was done by programmatically querying MM patients' treatments received, their doses, and billing dates from billing codes, FISH pathology reports, and serum labs data from Moffitt Cancer Analytics Platform (MCAP).
FIRST-AUTHORED JOURNAL PUBLICATIONS: (* equal contributions)	1. Sudalagunta, P.R., Zhao, X., Canevarolo, R.R., Meads, M.B., Silva, M., Perez, A., DeAvila, D., Gebert, R., Baz, R.C., Shain, K.H., Silva, A.S. "<u>A Multiomic Approach to Overcome Therapy Resistance in Multiple Myeloma</u>", in preparation. 2. Sudalagunta, P.R.*, Ionescu, F.*, Canevarolo, R.R., Silva, M., DeAvila, D., Meads, M.B., Zhao, X., Perez, A., Drekolias, D., Irimia, R., Thapa, S., Patel, P., Baz, R., Shain, K.H., Silva, A.S., Grajales-Cruz. "<u>Venetoclax-based Therapy Improves Outcomes across the Evolving Biology of t(11;14) Multiple Myeloma</u>", <i>Journal of Hematology and Oncology</i>, 2026 (to be submitted shortly). 3. Canevarolo, R.R.*, Sudalagunta, P.R.*, Xu, L., Karbalaie, K., Olgun, G., Wolf, Y., Hannenhalli, S., Koonin, E., Silva, A.S., Persi, E., "<u>Fluctuating environment causes neoplastic transition and epithelial-mesenchymal plasticity in human cells</u>", <i>Oncogene</i>, 2026 (pending revisions). 4. Sudalagunta, P. R., Canevarolo, R. R., Meads, M. B., Silva, M. C., Zhao, X., Cubitt, C., Sansil, S., De Avila, G., Alugubelli, R. R., Bishop, R., Logothetis, C., Tungesvik, A., Zhang, Q., Hampton, O., Teer, J., Welsh, E., Yoder, S., Shah, B., Hazelhurst, L., Perez, L., Gatenby, R., Van Domelen, D. R., Chai, Y., Wang, F., DeCastro, A., Bloomer, A. M., Siegel, E. M., Lynch, C., Sullivan, D., Alsina, M., Nishihori, T., Brayer, J., Cleveland, J., Dalton, W., Walker, C., Landesman, Y., Baz, R., Silva, A., Shain, K. H., "<u>The Functional Transcriptomic Landscape Informs Therapeutic Strategies in Multiple Myeloma</u>," <i>Cancer Research</i>, 2025, 85 (2), pp. 378 – 398. 5. Sudalagunta, P. R., Silva, M. C., Canevarolo, R. R., Alugubelli, R. R., De Avila, G., Tungesvik, A., Perez, L., Gatenby, R., Gillies, R., Meads, M. B., Shain, K. H., Silva, A., "<u>Pharmacodynamic Model of Clinical Synergy in Multiple Myeloma</u>," <i>eBioMedicine</i>, 2020, 102716. 6. Sudalagunta, P. R., Sultan, C., Kapania, R., Watson, L. W., and Raj, P., "<u>Aeroelastic Control-oriented Modeling of an Air-breathing Hypersonic Vehicle</u>," <i>AIAA Journal of</i>

	<i>Guidance, Control, and Dynamics</i>, Vol. 41, No. 5 (2018), pp. 1136 – 1149. 7. Sudalagunta, P. R., Sultan, C., Kapania, R., Watson, L. W., and Raj, P., “Accurate Computing of Higher Vibration Modes of Thin Flexible Structures,” <i>AIAA Journal</i>, Vol. 54, No. 5 (2016), pp. 1704 – 1718.
MENTORED PUBLICATIONS: (* equal contributions)	8. Jiang, Q., Meads, M. B., Zhao, X., Achille, A., Noyes, D., Silva, M. C., Canevarolo, R. R., Shain, K. H., Silva, A., Sudalagunta, P. R.*, Zhang, W.*, “TLCellClassifier: Machine Learning Based Cell Classification for Bright-Field Time-Lapse Images,” <i>IEEE Transactions on Medical Imaging</i> (pending revisions). 9. Jiang, Q., Sudalagunta, P. R., Silva, M. C., Canevarolo, R. R., Alugubelli, R. R., De Avila, G., Tunesvik, A., Perez, L., Gatenby, R., Gillies, R., Meads, M. B., Shain, K. H., Silva, A., Zhang, W., “CancerCellTracker: A Brightfield Time-lapse Microscopy Framework for Cancer Drug Sensitivity Estimation,” <i>Bioinformatics</i>, Vol. 38, No. 16 (2022), pp. 4002 – 4010.
CO-AUTHORED JOURNAL PUBLICATIONS:	10. Babajanyan, S.G., Wolf, Y.I., Canevarolo, R.R., Sudalagunta, P.R., Silva, A.S., Koonin, E.V., Persi, E. “Evolutionary implications of phenotype switching for growth and survival of tumors in stochastic environments”, <i>PNAS</i>, 2026 (under review). 11. Maura, F., Freeman, C.L., Maclachlan, K.H., Ilundain, M.L., Ziccheddu, B., Meermeier, E.W., Garces, J.J., Durante, M., Lee, H., Firestone, R., Menges, M., Reid, K., Diamond, B., Papadimitriou, M., Silva, A.S., Sudalagunta, P.R., Leblay, N., Ahn, S., Fuller, E., Briercheck, E., Sharik, M.E., Du, M.T., Agius, P., Hansen, D.K., Song, X., Zhao, X., Meads, M.B., Teer, J., Jelinek, T., Hagner, P., Baz, R., Alsina, M., Ramasubramanian, A.M., Smith, E., Giralt, S.A., Mailankody, S., Bergsagel, L.P., Neri, P., Chesi, M., Martinez-Climent, J.A., Locke, F.L., Bahlis, N.J., Landgren, O., Hamadeh, I., Usmani, S.Z., Shain, K.H. “Plasma cell identity escape drives resistance to anti-BCMA T-cell-redirecting therapy in multiple myeloma”. <i>Nature Genetics</i>, 2026 (accepted). 12. Tauro, M., Li, T., Sudalagunta, P. R., Meads, M., Alugubelli, R., Lawrence, N. J., Lawrence, H., Gunawan, S., Tran, T. H., Shay, G., Schonbrunn, E., Bishop, R. T., Nasr, M., Cleveland, J. L., Silva, A. S., Shain, K. H., Lynch, C. Unc-51 Like Kinase 3 (ULK3) is essential for autophagy and cell survival in multiple myeloma. <i>Nature Communications</i>, 2026 (accepted). 13. Canevarolo RR, Sudalagunta, P. R., Meads, M. B., Silva, M., Zhao, X., Magaletti, D., Alugubelli, R. R., DeAvila, G., Persi, E., Maura, F., Bell ET, Bishop, R., Cubitt, C., Sansil, S., Zhang, W., Teer, J., Teng, M., Yoder, S., Siegel, E., Shah, B., Nishihori, T., Hazlehurst, L., Lynch, C., Landgren, O., Hampton, O., Gatenby, R., Sullivan, D., Brayer, J., Dalton, W., Cleveland, J. L., Alsina, M., Baz, R., Shain, K. H., Silva, A. S. “Integrated Genomic and Epigenomic Analysis Reveals Epigenetic Plasticity in Disease Progression and Multidrug Resistance in Multiple Myeloma”. <i>Cancer Research</i>, 2026 (available online). 14. Meads, M.B., Zhao, X., Noyes, D., Sudalagunta, P.R., Achille, A., Zhang, C., Canevarolo, R.C., Silva, M., Magaletti, D., DeAvila, D., Toska, S., Oates, A., Lastorino, D., Idiaquez, D.W., Song, J., Sansil, S.S., Yoder, S.J., Grajales-Cruz, A.F., Blue, B., Freeman, C.L., Kim, J., Alsina, M., Brayer, J., Silva, A.S., Song, S., Shain, K.H., Baz, R. “Target antigen and plasma cell phenotype are critical factors for sensitivity to response-adapted daratumumab therapy”. <i>Blood</i>, 2026; 147 (5): 497–512. 15. Mariano, S.S., Assis, L.H.P., Correa, J.R., Canevarolo, R.R., Migita, N.A., Sudalagunta, P.R., de Azevedo, A.C., Meidanis, J., Brandalise, S.R., Silva, A.S., and Yunes, J.A. ELDA: real-time functional drug profiling in acute lymphoblastic leukemia. <i>Frontiers in Oncology</i>, 2026, 16:1685447. 16. Maura, F., Bergsagel, P.L., Ziccheddu, B., Kumar, S., Maclachlan, K., Derkach, A., Garces, J., Firestone, R., Braggio, E., Asmann, Y., Durante, M., Diamond, B.T., Papadimitriou, M., Hultcrantz, M., Marella, A., Castellano, G., Maeda, A., Lionetti, M., Matera, A., Pioggia, S., Claudio Da Vià, M., de Magistris, C., Leongamornlert, D., DeAvila, D., Sudalagunta, P.R., Canevarolo, R.R., Siegel, E.M., Agius, P., Teer, J., McPherson, A., Yamashita, Y., Silva, A.S., Blaney, P., Baz, R., Patel, K.K., Campbell, P., Morgan, G., Fonseca, R., Landgren, O., Orlowski, R.Z., Shain, K.H., Bolli, N., Usmani, S., Rajkumar, V. “Genomics Define Malignant Transformation in Myeloma Precursor Conditions”, <i>Journal of Clinical Oncology</i>, 2026 44:3, 188-199 17. Persi, E., Sudalagunta, P. R., Wolf, Y., Canevarolo, R.R., Damaghi, M., Shain, K., Silva, A.,

	Koonin, E., Genome-level selection in tumors as a universal marker of resistance to therapy. <i>Nature Communications</i>, 2025. 18. Bishop, R. T., Li, T., Sudalagunta, P. R., Nasr, M., Nyman, K., Alugubelli, R., Meads, M., Frieling, J., Nerlakanti, N., Tauro, M., Fang, B., Grant, S., Koomen, J., Silva, A., Shain, K. H., Lynch, C., Acid ceramidase controls proteasome inhibitor resistance and is a novel therapeutic target for the treatment of relapsed / refractory multiple myeloma. <i>Hematologica</i>, 2025. 19. Li, L., Hu, X., Nkwocha, J., Kmiecik, M., Meads, M.B., Shain, K.H., Alugubelli, R.R., Silva, A.S., Mann, H., Sudalagunta, P.R., Canevarolo, R.R., Liang Zhou, Steven Grant. “Combined MEK1/2 and ATR inhibition promotes myeloma cell death through a STAT3-dependent mechanism in vitro and in vivo”, <i>British Journal of Hematology</i>, 2024, Volume 6, Issue 24. 20. Bishop, R. T., Miller, A. K., Froid, M., Nerlakanti, N., Li, T., Frieling, J., Nasr, M., Nyman, K., Sudalagunta, P. R., Canevarolo, R. R., Silva, A. S., Shain, K. H., Lynch, C., Basanta, D. The bone ecosystem facilitates multiple myeloma relapse and the evolution of heterogeneous proteasome inhibitor resistant disease. <i>Nature Communications</i> 15, 2458 (2024). 21. Burger K, Fernandez M, Meads MB, Sudalagunta P.R., Oliveira P, Canevarolo RR, Alugubelli RR, Tungesvik A, Avila G, Silva M, Graeter A, Dai H, Vinceletti N, Prabhu A, Magaletti D, Yang C, Li W, Kulkarni A, Hampton O, Koomen J, Roush W, Monastyrskyi A, Berglund A, Silva AS, Cleveland J, Shain KH. CK1δ/CK1ε Signaling Sustains Mitochondrial Metabolism and Cell Survival in Multiple Myeloma. <i>Cancer Research</i>, 2023, 83 (23). 22. Canevarolo, R.R., de Souza Melo, C.P., Cury, N.M., Artico, L.L., Correa, J.R., Lau, Y.T., Mariano, S.S., Sudalagunta, P.R., Brandalise, S.R., de Mattos Zeri, A.C., Yunes, J.A. “Glutathione levels are associated with methotrexate resistance in acute lymphoblastic leukemia cell lines”, <i>Frontiers in Oncology</i>, 2022, Vol. 12. 23. Mostofa, A. G. M., Distler, A., Meads, M. B., Sahakian, E., Powers, J. J., Achille, A., Noyes, D., Wright, G., Fang, B., Izumi, V., Koomen, J., Ramakrishnan R., Nguyen, T. P., De Avila, G., Silva, A. S., Sudalagunta, P., Canevarolo, R. R., Silva, M. C., Alugubelli, R. R., Dai, H. A., Kulkarni, A., Dalton, W. S., Hampton, O. A., Welsh, E. A., Teer, J. K., Tungesvik, A., Wright, K. L., Pinilla-Ibarz, J., Sotomayor, E. M., Shain, K. H., and Brayer, J., “Plasma cell dependence on histone/protein deacetylase 11 reveals a therapeutic target in multiple myeloma”. <i>JCI Insight</i>, Volume 6, Issue 24, 2021. DOI: 10.1172/jci.insight.151713. 24. Zhou, L., Zhang, Y., Meads, M. B., Dai, Y., Ning, Y., Hu, X., Li, L., Sharma, K., Nkwocha, J., Parker, R., Bui D., McCarter, J., Kramer, L., Purcell, C., Sudalagunta, P. R., Canevarolo, R. R., Silva, M. C., DeAvila, G., Alugubelli, R. R., Silva, A. S., Kmiecik, M., Ferreira-Gonzalez, A., Shain, K. H., Grant, S, “IAP and HDAC inhibitors interact synergistically in myeloma cells through noncanonical NF-κB– and caspase-8–dependent mechanisms”. <i>Blood Adv</i>, 2021, Volume 5, Issue 19, pp. 3776–3788. DOI: 10.1182/bloodadvances.2020003597. 25. Zhao, X., Ren, Y., Lawlor, M., Shah, B. D., Park, P. M. C., Lwin, T., Wang, X., Liu, K., Wang, M., Gao, Jing., Li, T., Xu, M., Silva, A. S., Lee, K., Zhang, T., Koomen, J. M., Jiang, H., Sudalagunta, P. R., Meads, M. B., Cheng, F., Bi, C., Fu, K., Fan, H., Dalton, W., Moscinski, L., Shain, K. H., Sotomayor, E., Wang, G. G., Gray, N. S., Cleveland, J. L., Qi, J., Tao, J., “BCL2 Amplicon Loss and Transcriptional Remodeling Drives ABT-199 Resistance in B Cell Lymphoma Models”, <i>Cancer Cell</i>, Volume 35, Issue 5, 2019, pp. 752 – 766. 26. Ren, Y., Bi, C., Zhao, X., Lwin, T., Wang, C., Yuan, J., Silva, A. S., Shah, B. D., Fang, B., Li, T., Koomen, J., Jiang, H., Chavez, J., Pham, L., Sudalagunta, P. R., Wan, L., Wang, X., Dalton, W., Moscinski, L., Shain, K. H., Vose, J., Cleveland, J. L., Sotomayor, E., Fu, K., Tao, J., “PLK1 stabilizes a MYC-dependent kinase network in aggressive B cell lymphomas”, <i>Journal of Clinical Investigation</i>, Vol. 128, No. 12 (2018), pp. 5517 – 5530. 27. Silva, A., Silva, M. C., Sudalagunta P., Distler, A., Jacobson, T., Collins, A., Nguyen, T., Song, T., Chen, D., Chen, L., Cubitt C., Baz, R., Perez, L., Rebatchouk, D., Dalton, W., Greene, J., Gatenby, R., Gillies, R., Sontag, E., Meads, M. B., and Shain, K. H., “An Ex Vivo Platform for the Prediction of Clinical Response in Multiple Myeloma”, <i>Cancer Research</i>, Vol. 77, No. 12 (2017), pp. 3336 – 3351.
INVITED TALKS/ CONFERENCES	→ Sudalagunta, P. R., “Functional Transcriptomics Supports DARATUMUMAB-SELINEXOR Sequential Therapy in Multiple Myeloma”, Medical Education Seminar, FORUS Therapeutics Inc., May, 2024. → Sudalagunta, P. R., “Functional Genomic Landscape of Multiple Myeloma Identifies Novel

	Therapeutic Strategies”, 2022 Moffitt Scientific Symposium, Tampa, Florida, 2022. → Sudalagunta, P. R., “Functional Genomic Landscape of Multiple Myeloma Informed by TCC-Avatar Data Identifies Novel Therapeutic Strategies”, 2022 ORIEN Scientific Retreat, Saint Petersburg, Florida, 2022. → Sudalagunta, P. R., “Rationale for Selinexor Treatment in Daratumumab-Refractory MM Patients Identified By Paired Ex Vivo Drug Sensitivity and RNA-Seq”, 2021 American Society of Hematology Annual Meeting, Atlanta, Georgia, 2021. → Sudalagunta, P. R., “Aeroelastic Control-oriented Modeling of an Air-breathing Hypersonic Vehicle,” 15th Dynamics Specialists Conference, AIAA Science and Technology Forum and Exposition, San Diego, California, 2016. → Sudalagunta, P. R., “A Novel Scheme to Accurately Compute Higher Vibration Modes using the Ritz Method and a Two-point BVP Solver,” 56th AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Kissimmee, Florida, 2015.
AWARD-WINNING ABSTRACTS:	→ [Abstract Achievement Award] Sudalagunta, P. R., Canevarolo, R. R., Meads, M. B., Silva, M. C., Cubitt, C., De Avila, G., Alugubelli, R. R., Logothetis, C., Zhang, Q., Hampton, O., DeCastro, A., Van Domelen, D. R., Chai, Y., Walker, C. J., Silva, A. S., Landesman, Y., Baz, R., and Shain, K. H. “Rationale for Selinexor Treatment in Daratumumab-Refractory MM Patients Identified By Paired Ex Vivo Drug Sensitivity and RNA-Seq”, ASH Annual Meeting, December 2021, Blood. → [Abstract Achievement Award] Sudalagunta, P. R., Renatino Canevarolo, R., Coelho Siqueira Silva, M. D., Meads, M. B., Tungesvik, A., De Avila, G., Shain, K. H., & Siqueira Silva, A., “Pharmacodynamical Modeling of Two-Way Synergistic Effect for High-Throughput Drug Combination Screening in an Ex Vivo Reconstruction of Bone Marrow Using Primary Multiple Myeloma Cells”, ASH Annual Meeting, December 2018, <i>Blood</i>, 132(Suppl 1), 1919. → [Best Poster Award] Sudalagunta, P. R., Renatino Canevarolo, R., Coelho Siqueira Silva, M. D., Meads, M. B., De Avila, G., Nguyen, T., Cubitt, C., Baz, R., Dalton, W., Shain, K., Silva, A., “Mechanistic Modeling of Response to Therapy in Multiple Myeloma from ex vivo Measurements”, 2017 Physical Sciences - Oncology Network Annual Investigators Meeting, MIT, October 2017. → [Young Investigator Award for Outstanding Poster] Sudalagunta, P. R., Renatino Canevarolo, R., Coelho Siqueira Silva, M. D., Meads, M. B., De Avila, G., Nguyen, T., Cubitt, C., Baz, R., Dalton, W., Shain, K., Silva, A., “Mechanistic Modeling of Response to Therapy in Multiple Myeloma from ex vivo Measurements”, Frontiers in Biomedical Imaging Science VI, Vanderbilt University Institute of Imaging Sciences (VUIIS), May 2017. → [Best Poster Award] Sudalagunta, P. R., Renatino Canevarolo, R., Coelho Siqueira Silva, M. D., Meads, M. B., De Avila, G., Nguyen, T., Cubitt, C., Baz, R., Dalton, W., Shain, K., Silva, A., “Mechanistic Modeling of Response to Therapy in Multiple Myeloma from ex vivo Measurements”, Moffitt Scientific Symposium, May 2017.
RESEARCH MENTORSHIP:	➤ Qibing Jiang (Fall, 2019 – present), Department of Computer Science, University of Central Florida, Orlando, FL (Co-mentored with Dr. Wei Zhang) - Developed a comprehensive digital image processing tool in Python to dynamically quantify live imaging data of multiple myeloma cells extracted from bone marrow specimens donated by patients at Moffitt Cancer Center. ➤ High School Internship Program – Integrated Mathematical Oncology, Moffitt Cancer Center & Research Institute, Tampa, FL. Jonathan Williams (Summer, 2019), Pine Crest Preparatory School, Fort Lauderdale, FL - Reconstructed concentration-time curves using a pharmacokinetic model for an orally administered drug (Panobinostat) from parameters estimated in phase I clinical trials. Showed that dose modulation can benefit partially responding multiple myeloma (MM) patients, reinforcing the need for personalized medicine tools. Daniel Newton (Summer, 2018), San Marcos High School, Santa Barbara, CA - Developed an ODE model for MM cell line growth by fitting first and second order growth rates of MM cell populations (as opposed to cell population measures) in an <i>ex vivo</i> reconstruction of the bone marrow. Instrumental in PSOC pilot project award. Currently, an undergraduate student at Harvard. Urvashi Mahajan (Summer, 2017), C. Leon King High School, Tampa, FL - Simulated adaptive therapy for Bortezomib monotherapy using patient-specific models in multiple myeloma (MM), informed by experiments conducted on patient-derived MM cells in an <i>ex vivo</i> reconstruction of the bone marrow.

ACADEMIC AWARDS:	▪ Research Instructor 2022 – 2025, H. Lee Moffitt Cancer Center & Research Institute. ▪ 2021 MMRF (Multiple Myeloma Research Foundation) Research Fellow Award. ▪ Abstract Achievement Award, American Society of Hematology, ASH Annual Meeting, 2021. ▪ Moffitt Physical Sciences – Oncology Center Pilot Project Award – 2019. ▪ Abstract Achievement Award, American Society of Hematology, ASH Annual Meeting, 2018. ▪ Moffitt Physical Sciences – Oncology Center Pilot Project Award – 2018. ▪ Two Minute Elevator Pitch Contest Winner, Developing Clinical Decision Support Tools in Multiple Myeloma, Junior Scientists Retreat, USF, 2018. ▪ Best Poster Award, Novel Quantitative Methods, 2017 Physical Sciences - Oncology Network Annual Investigators Meeting, MIT, October 2017. ▪ Young Investigator Award for Outstanding Poster, Frontiers in Biomedical Imaging Science VI, Vanderbilt University Institute of Imaging Sciences (VUIIS), May 2017. ▪ Best Poster Award, Clinical Science Division, Moffitt Scientific Symposium, May 2017. ▪ Academic Excellence Award in Aerospace Engineering from Indian Institute of Technology Kanpur for the year 2010 – 2011. ▪ Secured All India Rank (AIR) 94 in GATE-2010 (Graduate Aptitude Test in Engineering) and 102 in GATE-2009, Electrical & Electronics Engineering.
SERVICE ACTIVITIES:	➤ <u>EDITORIAL:</u> Reviewed 24 publications. ❖ Editorial Board Member, Frontiers in Pharmacology & Frontiers in Bioinformatics ❖ Reviewer, Nature Communications, Frontiers in Pharmacology, Frontiers in Immunology, IEEE Transactions on Automatic Control, Nonlinear Dynamics, AIAA Journal, IEEE Transactions on Intelligent Transportation Systems, American Control Conference, IEEE Conference on Decision and Control, and ASME Dynamic Systems and Control Conference. ➤ Grant Reviewer, Multiple Myeloma Research Foundation (MMRF) Research Fellowship Award 2021 – 2023, 2026. ➤ Planning Committee Member, NCI Physical Sciences-Oncology Network (PS-ON) and Cancer Systems Biology Consortium (CSBC) Annual Junior Investigator (JI) Meeting 2019. ➤ <u>COMMUNITY SERVICE:</u> ❖ Hospice Volunteer, LifePath Hospice – Chapters Health System, Tampa, FL (2017 – 2019) ▪ Provide companionship to patients under end-of-life hospice care by making weekly visits to a nursing home. ❖ Para-professional Phone Counsellor, RAFT Crisis Hotline, New River Valley Community Services (2015 – 2016) ▪ Certified to provide Mental Health First Aid ▪ Volunteer of the Month Award: January 2016 & Life Saver Award, 2016 ➤ <u>SERVICE @ MOFFITT:</u> ❖ Service Committee Chair (2019 – 2020), Moffitt Postdoctoral Association, Moffitt Cancer Center & Research Institute, Tampa, FL. ❖ Biked 325 miles on a bicycle from Tampa to Tallahassee for annual Moffitt Day 2019 – 2021 at the Florida State Capitol to advocate for continued support towards cancer research from the state of Florida.