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EDUCATION & TRAINING:	<ul style="list-style-type: none"> ➤ Applied Postdoctoral Fellow (May 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. GPA 3.96/4 ➤ Master of Technology in Aerospace Engineering (2010 – 2012), Indian Institute of Technology Kanpur, Kanpur, India. GPA 9.5/10 ➤ Bachelor of Technology in Electrical and Electronics Engineering (2006 – 2010), Jawaharlal Nehru Technological University Hyderabad, Hyderabad, India.
RESEARCH GRANTS:	<ul style="list-style-type: none"> ❖ 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: Principal Investigator. 12/01/2021 – 12/31/2022. MMRF Award Notification. ❖ 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: Principal Investigator. 01/01/2020 – 08/31/2020. Part of 5U54CA193489-04. ❖ Moffitt PSOC (Physical Sciences – Oncology Center) Project Award (\$20,000) Title: <i>An ODE-based Mathematical Model of Multiple Myeloma Cell Dynamics ex vivo</i>. Role: Principal Investigator. 01/01/2019 – 08/31/2019. Part of 4U54CA193489-04.
ACADEMIC EXPERIENCE:	<ul style="list-style-type: none"> ▪ Applied Research Scientist (September 2021 – present), H. Lee Moffitt Cancer Center & Research Institute. ▪ Instructor, Department of Aerospace and Ocean Engineering, Virginia Tech. <ul style="list-style-type: none"> ○ Computational Methods (AOE-2074), Summer II, 2016. ▪ Graduate Teaching Assistant (August 2012 – May 2015), Department of Aerospace and Ocean Engineering, Virginia Tech. <ul style="list-style-type: none"> ○ Spacecraft Dynamics & Control (AOE-4140), Spring 2015. ○ Aircraft Design (AOE-4065), Fall 2014. ○ Advanced Vehicle Dynamics & Control (AOE-6204), Spring 2014. ○ Astromechanics (AOE-4134), Fall 2013. ○ Experimental Methods (AOE-3054), Spring 2013. ○ Vehicle Vibration & Control (AOE-4034), Fall 2012. ▪ Graduate Teaching Assistant (August 2010 – May 2012), Department of Aerospace Engineering, Indian Institute of Technology Kanpur. <ul style="list-style-type: none"> ○ Flight Stability & Control (AE-648), Spring 2012. ○ Aircraft Design – I (AE-461), Fall 2011.
PATENTS:	<ul style="list-style-type: none"> ➤ Silva, A., Shain, K., Sudalagunta, P.R., Canevarolo, R., Meads, M., “A model of clinical synergy in cancer”, PCT/US2020/062232 (WO2021108551A1), priority date 11/25/2019. ➤ Silva, A., Shain, K., Sudalagunta, P.R., Canevarolo, R., “A Multiomic Approach to Modeling of Gene Regulatory Networks in Multiple Myeloma”, USPTO 63/301,507, <i>Provisional Patent Application (pending)</i>.
FEATURED IN MEDIA	<ul style="list-style-type: none"> • 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

<p style="text-align: center;">RESEARCH MENTORSHIP:</p>	<ul style="list-style-type: none"> ➤ Qibing Jiang (Fall, 2019 – present), Department of Computer Science, University of Central Florida, Orlando, FL (Co-mentored with Dr. Wei Zhang) <ul style="list-style-type: none"> ○ 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. <ul style="list-style-type: none"> Jonathan Williams (Summer, 2019), Pine Crest Preparatory School, Fort Lauderdale, FL <ul style="list-style-type: none"> ○ 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 <ul style="list-style-type: none"> ○ 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 <ul style="list-style-type: none"> ○ 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.
<p style="text-align: center;">FIRST-AUTHORED JOURNAL PUBLICATIONS:</p>	<ul style="list-style-type: none"> ❖ Sudalagunta, P. R., Silva, M. C., Canevarolo, R. R., Alugubelli, R. R., De Avila, G., Tungesvik, A., Perez, L., Gatenby, R., Gillies, R., Zhao, X., Meads, M. B., Walker, C., Landesman, Y., Shain, K. H., Silva, A., “Functional Genomic Landscape in Multiple Myeloma Identifies Novel Therapeutic Strategies,” <i>Nature Cancer (to be submitted in April, 2022)</i>. ❖ 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., “Pharmacodynamic Model of Clinical Synergy in Multiple Myeloma,” <i>eBioMedicine</i>, 2020, 102716. ❖ Sudalagunta, P. R., Sultan, C., Kapania, R., Watson, L. W., and Raj, P., “Aeroelastic Control-oriented Modeling of an Air-breathing Hypersonic Vehicle,” <i>AIAA Journal of Guidance, Control, and Dynamics</i>, Vol. 41, No. 5 (2018), pp. 1136 – 1149. ❖ 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.
<p style="text-align: center;">INVITED TALKS/ CONFERENCES</p>	<ul style="list-style-type: none"> → 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.
<p style="text-align: center;">MENTORED PUBLICATIONS:</p>	<ul style="list-style-type: none"> ❖ Jiang, Q., 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., Zhang, W., “CancerCellTracker: A Brightfield Time-lapse Microscopy Framework for Cancer Drug Sensitivity Estimation,” <i>Bioinformatics</i> (under-review).

<p>CO-AUTHORED JOURNAL PUBLICATIONS:</p>	<p>➤ RR Canevarolo, Meads M, Silva MCS, Sudalagunta, P. R., DeAvila G, Alugubelli RR, Tungesvik A, Bell ET, Burger K, Kulkarni A, Hampton O, Jiang Z, Dai H, Cubitt C, Teer J, Welsh E, Yoder S, Shah B, Tao J, Hazlehurst L, Gatenby R, Sullivan D, Alsina M, Nishihori T, Brayer J, Cleveland JL, Dalton W, Gillies RJ, Baz R, Shain KH, Silva AS. Dynamic super-enhancer core regulatory circuits and epigenetic landscapes drive malignant progression and refractory disease in multiple myeloma. Pre-print DOI: 10.21203/rs.3.rs-125536/v1 (To be submitted to Cancer Cell shortly).</p>
	<p>➤ Burger K, Meads MB, Sudalagunta P.R., Fernandez M, Oliveira P, Canevarolo RR, Alugubelli RR, Avila G, Silva M, Distler A, Dai H, Kulkarni A, Hampton O, Koomen J, Roush W, Monastyrskyi A, Berglund A, Silva AS, Cleveland J, Shain KH. CK1δ/CK1ε signaling is necessary to sustain mitochondrial metabolism and cell survival in multiple myeloma. <i>Journal of Clinical Investigation</i> (currently under review).</p>
	<p>➤ 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.</p>
	<p>➤ 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., Kmiecziak, 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.</p>
	<p>➤ 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.</p>
	<p>➤ 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.</p>
	<p>➤ 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.</p>
<p>AWARD-WINNING ABSTRACTS:</p>	<p>→ [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. “<i>Rationale for Selinexor Treatment in Daratumumab-Refractory MM Patients Identified By Paired Ex Vivo Drug Sensitivity and RNA-Seq</i>”, ASH Annual Meeting, December 2021, <i>Blood</i>.</p> <p>→ [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., “<i>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</i>”, ASH Annual Meeting, December 2018, <i>Blood</i>, 132(Suppl 1), 1919.</p> <p>→ [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., “<i>Mechanistic Modeling of Response to Therapy in Multiple Myeloma from ex vivo Measurements</i>”, 2017 Physical Sciences - Oncology Network Annual Investigators Meeting, MIT, October 2017.</p>

	<p>→ [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., “<i>Mechanistic Modeling of Response to Therapy in Multiple Myeloma from ex vivo Measurements</i>”, Frontiers in Biomedical Imaging Science VI, Vanderbilt University Institute of Imaging Sciences (VUIIS), May 2017.</p> <p>→ [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., “<i>Mechanistic Modeling of Response to Therapy in Multiple Myeloma from ex vivo Measurements</i>”, Moffitt Scientific Symposium, May 2017.</p>
<p>ACADEMIC AWARDS:</p>	<ul style="list-style-type: none"> ▪ 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. ▪ Moffitt Physical Sciences – Oncology Center Pilot Project Award – 2018. ▪ Abstract Achievement Award, American Society of Hematology, ASH Annual Meeting, 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.
<p>SERVICE ACTIVITIES:</p>	<ul style="list-style-type: none"> ➤ <u>SERVICE @ MOFFITT:</u> <ul style="list-style-type: none"> ❖ 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. ❖ Captain for the Moffitt Postdoctoral Team – TUMORBUSTERS, which raised over 5000\$ for 2019 Miles for Moffitt. Top 25 highest fundraising teams. ❖ Organized TUMORBUSTERS run club every week between September – November 2019 to help Miles for Moffitt participants train for the race. ❖ Volunteered at the St. Petersburg Science Festival (2017 & 2018) by representing Moffitt Cancer Center. ➤ <u>EDITORIAL:</u> Reviewed 21 publications. See Peer Review Profile <ul style="list-style-type: none"> ❖ Reviewer, IEEE Transactions on Automatic Control 2019 ❖ Reviewer, Nonlinear Dynamics 2018 ❖ Reviewer, AIAA Journal 2016 – 2017 ❖ Reviewer, IEEE Transactions on Intelligent Transportation Systems 2015 – 2016, 2019 ❖ Reviewer, American Control Conference 2014 – 2017 ❖ Reviewer, IEEE Conference on Decision and Control 2017 & 2019 ❖ Reviewer, ASME Dynamic Systems and Control Conference 2015 – 2016 ➤ 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> <ul style="list-style-type: none"> ❖ Hospice Volunteer, LifePath Hospice – Chapters Health System, Tampa, FL (2017 – 2019) <ul style="list-style-type: none"> ▪ 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) <ul style="list-style-type: none"> ▪ Certified to provide Mental Health First Aid ▪ Volunteer of the Month Award: January 2016 & Life Saver Award, 2016 ➤ <u>FUNDRAISING:</u> Raised funds towards Children’s Cancer Research Fund (CCRF) by participating in the Great Cycle Challenge USA 2018.

Research Trajectory: Past, Present & Future

