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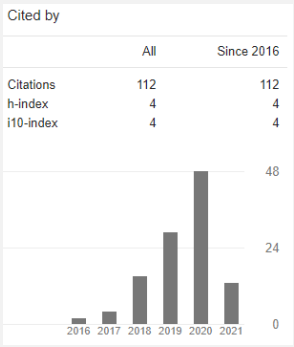
EDUCATION & TRAINING:	➢ **Applied Postdoctoral Fellow (May, 2018 – present)**, Department of Cancer Physiology, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL. ➢ **Postdoctoral Fellow (September, 2016 – April, 2018)**, Department of Cancer Imaging and Metabolism, H. Lee Moffitt Cancer Center & 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:	▪ Moffitt Physical Sciences – Oncology Center Pilot Project Award (01/01/2020 – 08/31/2020), Role: Principal Investigator. Part of 5U54CA193489-04. ▪ Moffitt Physical Sciences – Oncology Center Pilot Project Award (01/01/2019 – 08/31/2019), Role: Principal Investigator. Part of 4U54CA193489-04.
TEACHING EXPERIENCE:	• **Instructor**, Department of Aerospace and Ocean Engineering, Virginia Tech. o Computational Methods (AOE-2074), Summer II, 2016. • **Graduate Teaching Assistant**, Department of Aerospace and Ocean Engineering, Virginia Tech (August, 2012 – May, 2015). o Spacecraft Dynamics & Control (AOE-4140), Spring 2015. o Aircraft Design (AOE-4065), Fall 2014. o Advanced Vehicle Dynamics & Control (AOE-6204), Spring 2014. o Astromechanics (AOE-4134), Fall 2013. o Experimental Methods (AOE-3054), Spring 2013. o Vehicle Vibration & Control (AOE-4034), Fall 2012. • **Graduate Teaching Assistant**, Department of Aerospace Engineering, Indian Institute of Technology Kanpur (August, 2010 – May, 2012). o Flight Stability & Control (AE-648), Spring 2012. o Aircraft Design – I (AE-461), Fall 2011.
RESEARCH MENTORSHIP:	➢ Qibing Jiang (2020 – present), University of Central Florida → Developing a cell tracking algorithm that segments cells based on cell behavioral changes across time to differentiate between MM cells and macrophages. **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 *ex vivo* 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 *ex vivo* reconstruction of the bone marrow

PATENTS:	Silva, A., Shain, K., **Sudalagunta, P.R.**, Meads, M.B., Canevarolo, R.C., "Pharmacodynamic Model of Clinical Synergy in Cancer", USPTO 62/940,223 (provisional patent filed on 11/25/2019 and IPC (International Patent Classification) filed on 11/25/2020).	
PUBLICATIONS: (Overall FWCI[2]: 2.23)  Source: Google Scholar (as of 01/31/2021)	**TPP[1]: 98%, FWCI[2]: NA, CP[3]: NA**	**1.** **Sudalagunta, P. R.**, Silva, M. C., Canevarolo, R. C., 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," ***eBioMedicine,*** 2020, 102716.
	TPP[1]: 93%, FWCI[2]: 1.92, CP[3]: 85%	**2.** 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", ***Cancer Cell***, Volume 35, Issue 5, 2019, pp. 752 – 766.
	TPP[1]: 96%, FWCI[2]: 1.52, CP[3]: 81%	**3.** **Sudalagunta, P. R.**, Sultan, C., Kapania, R., Watson, L. W., and Raj, P., "Aeroelastic Control-oriented Modeling of an Air-breathing Hypersonic Vehicle," ***AIAA Journal of Guidance, Control, and Dynamics***, Vol. 41, No. 5 (2018), pp. 1136 – 1149.
	TPP[1]: 99%, FWCI[2]: 5.33, CP[3]: 97%	**4.** 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", ***Journal of Clinical Investigation***, Vol. 128, No. 12 (2018), pp. 5517 – 5530.
	TPP[1]: 67%, FWCI[2]: 1.95, CP[3]: 86%	**5.** 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", ***Cancer Research***, Vol. 77, No. 12 (2017), pp. 3336 – 3351.
	TPP[1]: 47%, FWCI[2]: 0.90, CP[3]: 68%	**6.** **Sudalagunta, P. R.**, Sultan, C., Kapania, R., Watson, L. W., and Raj, P., "Accurate Computing of Higher Vibration Modes of Thin Flexible Structures," ***AIAA Journal,*** Vol. 54, No. 5 (2016), pp. 1704 – 1718.
	TPP[1]: 96%, FWCI[2]: 4.43, CP[3]: 96%	**7.** **Sudalagunta, P. R.**, Sultan, C., Kapania, R., Watson, L. W., and Raj, P., "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.
	TPP[1]: 26%, FWCI[2]: 2, CP[3]: 87%	**8.** **Sudalagunta, P. R.**, Sultan, C., Kapania, R., Watson, L. W., and Raj, P., "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, pp. 1-18.

[1]TPP – Topic Prominence Percentile. 100% → Most prominent field, 0% → Least prominent field.
[2]FWCI – Field-weighted Citation Impact. FWCI = 1 implies average citations within field.
FWCI > 1 → above average, FWCI < 1 → below average.
100×(FWCI-1) → Percent citations higher than the average cited paper within the field.
[3]CP – Field Citation Percentile. 100% → Most cited within field, 0% → Least cited within field.
All metrics as of 31st January, 2021.

ABSTRACTS PRESENTED:	❖ ***[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, ***Blood***, 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.

ACADEMIC AWARDS:	➢ 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.
RESEARCH WORK:	**Network Controllability of Transcriptional Regulatory Model in MM (2020 – present),** **Advisor: Dr. Ariosto Silva, H. Lee Moffitt Cancer Center & Research Institute.** → Identifying transcriptional hubs for differentially expressed genes using RNA-seq data of MM patients, ChIP-seq data from ENCOD/ChEA, and phosphorylation sites from PhosphositePlus. → Developing a biophysical model accounting for transcription, translation, and post-translational effects to simulate specificity of targeted therapies on differentially expressed genes **An ODE-based Mathematical Model of Multiple Myeloma Cell Dynamics in ex vivo Culture (2018 – 2020),** **Role: Principal Investigator, Moffitt PSOC Pilot Project Grant 2018 & 2019** → Identifying basis functions that represent the dynamics of tumor growth, quiescent behavior, and cell death from multiple myeloma (MM) cell line response data in ex vivo culture. → Segmentation of MM cells and macrophages based on morphology and cell behavior via individual cell tracking. **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 (2017 – 2018),** **Advisor: Dr. Ariosto Silva, H. Lee Moffitt Cancer Center & Research Institute.** → Modeling two-drug combination effects in patient-derived MM cells cultured ex vivo by taking into account intratumoral heterogeneity and tumor microenvironment. → High-throughput drug combination screening via LD50, AUC, and Best Response Predictions. **Mechanistic Modeling of Response to Therapy in Multiple Myeloma from ex vivo Measurements (2016 – 2017),** **Advisor: Dr. Ariosto Silva, H. Lee Moffitt Cancer Center & Research Institute.** → A mathematical framework that translates ex vivo response data of patient-derived MM cells into patient-specific clinical response predictions within five days of biopsy by accounting for intratumoral heterogeneity.

	Control-Oriented Modeling of an Air-breathing Hypersonic Vehicle under Extreme Aero-thermal Loads (2012 – 2016), **Advisor: Dr. Cornel Sultan, Co-advisor: Dr. Pradeep Raj, Virginia Tech.** → Modeling aero-thermo-elastic effects for a waverider using Lagrange's equations of motion. → A novel scheme was used to compute free vibration mode shapes accurately for higher modes. → An integrated control framework was developed to study the effect of certain design parameters on the closed-loop dynamics of the system **Optimal Aero Assisted Orbital Transfer with Predictive Time-linear Control and Adaptation (2010-2012),** **Advisor: Dr. Ashish Tewari, Indian Institute of Technology Kanpur, Kanpur** → Computing optimal trajectories for an aeroassisted orbital transfer from a high earth orbit (HEO) to a low earth orbit (LEO). → Predictive time-linear control is a novel scheme for computing optimal control laws which are linear in time, easy to implement onboard. → An adaptive control law was developed to handle system uncertainties.
SERVICE ACTIVITIES:	➢ **SERVICE @ MOFFITT:** ❖ 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 Moffitt Day 2019, 2020, and 2021 (planned) 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. ➢ **EDITORIAL:** Reviewed 21 publications. See Peer Review Profile ❖ 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, 2020 ❖ 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. ➢ **COMMUNITY SERVICE:** ❖ Hospice Volunteer, LifePath Hospice, 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 ➢ **FUNDRAISING:** Raised funds towards Children's Cancer Research Fund (CCRF) by participating in the Great Cycle Challenge USA 2018.