

Alamelu Sundaresan (Lalita)

Sugar Land, TX 77479
US Citizen

713-313-7926 (W)

OBJECTIVE

Challenging teaching and research career in Immunology, cancer and integrative physiology research
Present Rank: Associate Professor , Biology, Tenured.

EDUCATION

Ph.D. in Molecular Immunology and Environmental Sciences , 1998, University of Texas ,
M.D.Anderson Cancer Center, and School of Public Health, Houston, TX.

KEY QUALIFICATIONS

Strong career in Science, Academics and Research: Research and Teaching of undergraduate and graduate Biology, Bioengineering, Environmental Science, Anatomy and Physiology, Toxicology, Immunology and Health science courses, Education and outreach, Space & Life Sciences Research, Pharmacology, Cellular Biotechnology, Medical and Cancer Research, Drug Development and Genetic Engineering.

GRANTS /FUNDED SUPPORT

PI: Studies of marker and chemo-microcapsules in normal and breast tumor cells". Nu Vue Therapeutics, Feb 1, 2015-January 31, 2016-.

PI: Mentor -Study Abroad grant from Texas Southern University-Awarded January 2015

PI: NASA Johnson Space Center (JSC) International Space Station (ISS) University Research Project .The effect of benzofuran 2-carboxylic acid derivatives in the augmentation of the immune system (UR-1)- 2013-2015

PI: Effects of AHCC in human lymphocytes in modeled microgravity. Pilot grant from Amino Up Chemical Company, Japan March 2013-August 2014,

PI: The effect of UV radiation on skin fibroblasts in parabolic flight and microgravity: National Space Grant Foundation, 2013.

PI-Development and elucidation of technologies to mitigate bone loss in microgravity: UNCSFP-NASA grant awarded 2011. Grant period 2011-2014.

Principal Investigator: Toxicological studies of Lunar dust in three dimensional lung tissue models; NASA grant, awarded, , 2010-2011

Co-Principal Investigator: Dr.D.Das/Dr.Alamelu Sundaesan. Modelling 'in vitro' cell culture under microgravity conditions using NASA's rotating bioreactor. Travel Grant to invite scientists from abroad, the Royal Society, UK. 2010.

NASA Administrator's Fellowship Program (NAFP) FAR research endeavor: Awarded July, 2008with matching NASA funds.

Principal Investigator :NASA administrator's Grant: Awarded from 2007-2009:

*Principal Investigator :NASA Institute of Science and Technology Grant award , 2008-2011.,
Principal Investigator: NIH Faculty Fellowship Award: Research and Community, Cardiovascular Disease and Stroke"- 2006-2007*

Principal investigator: Targeting Specific Bone Cell Signaling Pathways and Immune Suppression in Microgravity. NASA grant award. 2005-2008.

Co-Principal Investigator , The effect of radiation and simulated microgravity on genomic stability- NASA NRA grant, 2004-2009.

Co-Principal Investigator, Bone resorption models in microgravity-NASA CDDF (Jan 2004-December 2005), \$ 250,000).

Co-Investigator, NASA Grant, NRA-01-OBPR-06, Kathleen Cole, Ph.D., PI, Proposal dates: 10/01/02 – 9/30/05. \$150,000 per year. Title: Effects of prolonged exposure to a ground-based rotating cell culture system (RCCS) environment during embryonic development on skeletal morphogenesis, cephalization, locomotory and feeding behavior and subsequent reproductive development in the isogenic fish, Rivulus marmoratus.

Pending:

Co-Principal Investigator on International ESA/NASA (ILSRA) grant on Somatic Hypemutation in B cells (one million overall) with Dr.Jean Paul Fripiat (PI), University of Lorraine, Nancy, France. Awarded pending funding, March 2015.Slated dates October 1, 2015-September 30, 2018.

*NASA Johnson Space Center (JSC) International Space Station (ISS) University Research Project .The effect of benzofuran 2-carboxylic acid derivatives in the augmentation of the immune system
Principal Investigator: Co-Investigator on three NASA MIRO cluster grants with Texas Southern University, Jarvis Christian College, and Tougaloo College.Phase 2. One million overall, slated dates, October 1, 2015-march 31, 2017.*

Co-PI: 'PIGf a Predictive Biomarker to Maintain Crew Health in Space Exploration':Human Exploration Research Opportunities (HERO)Appendix A: NASA Research and Technology Development to Support Crew Health and Performance in Space Exploration Missions.NN14ZSA001N-FLAGSHIP.PI: Dr.Marie-Francoise Doursout, UT Medical School.

Collaborater in a European Center of Excellence Grant with University of Oslo, submitted Jan 2015.

Completed work:Only from 2005

Principal Investigator: Preliminary studies of Lunar dust in three dimensional lung tissue models; NASA HRP grant, awarded, 2010-2011

Co-Principal Investigator: Dr.Diganta Das and Dr.Alamelu Sundaresan. Modelling 'in vitro' cell culture under microgravity conditions using NASA's rotating bioreactor. Travel Grant to invite scientists from abroad, the Royal Society, UK. 2010).

NSF Travel Award for Joint NSF JAM conference, June 2010.

Principal Investigator: NASA Administrator's Fellowship Program (NAFP) FAR research endeavor: Awarded July, 2008 with matching NASA funds.

Principal Investigator: NASA administrator's Grant: Awarded from 2007-2009.

Principal Investigator: NIH Faculty Fellowship Award: Research and Community, Cardiovascular Disease and Stroke"- 2006-2008.

PI: Targeting bone loss in microgravity: NASA Human Research Program grant , 2005-2007.

Completed Space Flight and Analog Microgravity Missions:

ISS-UR-1-SpaceX-3 : The Investigation of Countermeasures to Modulate and Augment the Immune System (NanoRacks-ISS University Research (UR) – 1)-April 16, 2014.Principial Investigator.

Zero-G Parabolic Flight 1-November 2013-Effects of UV induced DNA damage in human skin during spaceflight. Principial Investigator.

Zero-G Parabolic Flight 2-July 2014 –Efficacy of Psoralen induced cell killing in breast cancer cells in microgravity . Principial Investigator.

Future team member for Sounding Rocket missions and SpaceX 8 –Thyroid cancer and ESA spheroids mission with Dr.Daniela Grimm, PI.

PROFESSIONAL AND ACADEMIC EXPERIENCE

2005, 2011-present:

Tenured Associate Professor, , Dept of Biology, Texas Southern University, HOUSTON, Texas-
Courses-Environmental Toxicology, and Pharmacy.Graduate Seminar Series, Graduate and Undergraduate Research.

Director : Integrative Toxicology and Physiology Laboratory, NASA Johnson Space Center, Houston, TX;

Assistant Professor of Surgery (toxic and immune response): University of Texas Health Science Center at Houston, Medical School, Houston, TX.

Assistant Professor - Human Health and Performance, University of Houston, Houston, TX.

Faculty-Space Life Sciences Ph.D.Track, University of Texas Medical Branch, Galveston, TX.

Affiliated Researcher IN Biomaterials And Engineering: University of Oslo-Department of Biomaterials.

International Consultant-IUPCRS-Microgravity Laboaratory, Porto Allegre, Brazil.

2001/2002 –2005

Director: Cellular Movement and Signal Transduction Laboratory, NASA Johnson Space Center, Houston, TX;

Senior Research Scientist: Universities Space Research Association (USRA), NASA Johnson Space Center, Houston, TX

Assistant Professor of Surgery: University of Texas Health Science Center at Houston, Medical School, Houston, TX.

Assistant Professor - Human Health and Performance, University of Houston, Houston, TX.

Lecturer: Space Medicine and Physiology Course offered at UTHSC and UTMB.

Lecturer: Immunology Course for medical and graduate students at the University of Texas Health Science Center at Houston, Houston, TX

International Consultant: IUPCRS Microgravity laboratory, Porto Allegre, Brazil, Biomaterials, University of Oslo, Norway.

Visiting Scientist and lecturer - Tokushima University, Japan

Chair-Cell Biology sessions-NASA Investigators Working Group Meetings since 200

Research Interest Keywords: Projects

- *Upstream targets in lymphocyte signaling in microgravity*
- *Adaptive genetic response gene suites in microgravity, hypergravity and high altitude stress*
- *Lymphocyte locomotion and signal transduction in microgravity*
- *Immune suppression, cardiovascular biomarkers and nutritional immunomodulation.*
- *Toxicology of mineral dusts-risk and health assessment*
- *Bone tissue engineering and resorption models*
- *Melanoma models in microgravity*
- *Particulate and nanoparticulate toxicity models*
- *Three dimensional mathematical tissue modeling of heavy ion effects.*

Primary Research Capability: Immune suppression, bone biology, tissue engineering, cardiovascular **biomarkers and nutritional immunomodulation.** Toxicological assessment, mathematical and biological.

Other Capabilities:

- Particulate and nanoparticulate toxicity models
- Three dimensional mathematical tissue modeling of heavy ion effects
- Bone tissue engineering and resorption models
- Melanoma models in microgravity
- **CELL BIOLOGY AND IMMUNOLOGY**
Tissue engineering, tissue culture and cell line development from human biopsies, mammalian cell culture (Bone cells, lymphocytes, colon carcinomas, NHL-B lymphoma cell lines, neuroblastoma, leukemia, melanoma, AIDS lymphoma, alveolar macrophage, Burkitts lymphoma), Thymidine incorporation assay, Isolation of B and T cells, Immunohistochemistry, Immunofluorescence techniques, Confocal microscopy, Mammalian tissue culture and maintenance, Drug Testing and Bioassay, Analysis of apoptosis in lymphoid cells, Cell adhesion assays, Lymphocyte locomotion assay, Popliteal lymph node assay, Parasite culture techniques FISH, In situ hybridization, Thymidine incorporation assay, B cell activation assay.
- **BIOREACTOR METHODS**
Bioreactor (NASA RWV and HARV) cell culture and detoxification, diffusion dynamics, fluid dynamics and mass transfer of nutrients.

- **BIOCHEMICAL , ANIMAL and ENVIRONMENTAL SCIENCE TECHNIQUES**
 In vitro biology models for chemical risk assessment, ICPMS, mass spectroscopy, chromatography, soil analysis, microbial analysis, acute, sub acute and chronic toxicity assays, datamining, risk extrapolation, and air sampling.
 Liposomal formulation of drugs, Glutathione S transferase assay, Superoxide dismutase assay, GTPase assay, *Rodent lung lavage, Transgenic mouse colony maintenance, Rodent injections, General animal techniques and radiation techniques.*
- **DATA MINING**
 Spotfire, QSAR, Probit analysis, Regression, Monte Carlo, Biomarker analysis, SPSS, SAS, Minitab,
- **PROTEIN METHODS**
 SDS (Sodium dodecyl sulfate) Polyacrylamide gel electrophoresis, Western blotting, Immunoprecipitation, Protein purification, ELISA (Enzyme Linked Immunosorbent Assay), 2-D gels, Chromatography, Fluorometry.
- **Seminars**
 - High level presentations both nationally and abroad at scientific assemblies
 - Grand Rounds Speaker-Departments of Pathology and Surgery, University of Texas Medical School in Houston.
 - Invited Speaker-European College of Sports Science, Clermont-Ferrand, France.
 - Universities Space Research Association Seminar Speaker.
- **Mentorship**
 - Expecting two fully fully funded Phd students from the University of Oslo in Aug 2013 (three month fellowships)
 - Trained and mentored seven Ph.D level students from the graduate school of biomedical students in molecular immunology.
 - Trained eight NASA co-ops/interns in laboratory and theoretical molecular immunology.
 - Training a collaborator group of 3 Ph.D. level students and 4 medical students in bioreactor culture and molecular biology.
 - Student Committees: Shen An Hwang, University of Texas, Graduate School of Biomedical Sciences-; Meghan Everett, University of Houston: .
- **Extra mural Teaching**
 - **Visiting Lecturer in Primary, middle and high schools in the Houston area.**
 - **Special topics lecturer in “Immunology”**
 - **Lecturer “Space Physiology and Medicine” courses at University of Texas Medical School and University of Texas, Medical Branch in Galveston-2001-2005.**

1997 - 2001

Cell Scientist: Wyle Laboratories, Cellular Biotechnology Program - NASA Johnson Space Center

- **Project:** “Lymphocyte Locomotion and Signal Transduction in Modeled Microgravity” and “Bone resorption models in microgravity”.
- **Collaborations:**
 - Mechanisms of apoptosis in microgravity

- Nutritional immunomodulation in microgravity
 - Infection models in microgravity.
 - Oxidative responses in microgravity.
 - Neural progenitor cell responses in microgravity.
 - Ontogeny of the teleost fish, *R. marmoratus* in microgravity.
- Plan and Perform all core experiments. Aid other groups as consultant on NRA projects and flight studies.
 - Write manuscripts and grant proposals.
 - Present research in premiere national and international symposia.
 - Mentor students during their research tenure on bioreactor culture and protein and molecular biology.
 - Work extensively using the bioreactor and anti orthostatic suspended mice as ground based models of microgravity.
 - Create and maintain database inventories for the department.
 - Served as cell science safety representative from 1999-2000. VPP red team member until November 2000.
 - Communicate with collaborator Principal investigators and aid with experimental protocols and trouble shooting.
 - Actively participate in NASA educational outreach programs and presented the BIOTECHNOLOGY program in Clear Lake high schools.
 - Prepared demonstration units of rotating wall vessel cell culture for different NASA and outside events including television shoots.
 - Plan, develop and execute new projects.
 - Initiate and set up collaborations nationally and internationally.

1993 - 1997

Pre-Doctoral Fellow, University of Texas M. D. Anderson Cancer Center

Molecular mechanisms of Liposomal All-trans Retinoic Acid and Vitamin D3 induced growth inhibition and apoptosis in aggressive B cell Non Hodgkin's Lymphomas

- **Teaching Assistant-Anatomy and Physiology Course-UT Medical School**
- Molecular characterization of Non Hodgkin's lymphomas without evidence of B or T cell lineage.
- Construction of a partial fibronectin knockout transgenic mouse model.
- Role of epidermal growth factor in colon cancer cells.
- Role of p53 and heat shock proteins in response to hypoxia in lungs.

1991 - 1992

Research Volunteer, M.D Anderson Cancer Center

- Medical Oncology and Clinical Oncology, Immunology & biological therapy.
- Worked on Philadelphia chromosome positive leukemia characterization.

1988-1991

Teaching fellow: JIPMER Medical College and Vector Control Research Center, Pondicherry, India

Courses taught: Human and Animal Physiology, Anatomy, Biochemistry, Biotechnology

FOREIGN LANGUAGES

Diplomas in French and German, Hindi, Tamil, Sanskrit. .Literary proficiency in English.(Authored plays in English and is an amateur dramatist)

COMPUTER SKILLS

Minitab, SPSSX, MSWord, MSEXcel, Word perfect, Cricket graph, Image analysis software (Kodak BioMax 1-D, Alpha Innotech, Bio Rad, NIH image), Molecular Dynamics image quant), Graph pad prism, Power point, Access, Illumina platform, Ingenuity, Intelligent and other gene and protein databases.

AWARDS

- **Johnson Space Center- NASA University Research 1 project Group Achievement Award-January 2015(Principal Investigator)**
- **Best Research Award: July 2014 for The International Congress on Nutrition and Integrative Medicine (ICNIM) for the project “AHCC Triggers Immune Proliferation and Activation of Human Lymphocytes via Targeted Phenotypic and Genotypic Transformation”.-July, 2014.**
- **Deans leadership Award-June 2011**
- **Faculty-Best Presentation Award, Texas Southern University, Research Week, 2006, 2009.**
- **Travel award –Invited Speaker-15th Humans in Space Symposium, May 22-26, 2005, Graz, Austria.**
- **Invited Speaker- Session on Gene expression-International Society of gravitational and Space Physiology, June 26-July 1, 2005, Cologne Germany.**
- **NASA Space Life Sciences-Biological Systems Office Special Achievement Group Award in teaching and research, 2005.January, 2005.**
- **NASA Life Sciences achievement award for teaching “Physiology and Medicine” graduate level course at UTMB Galveston, 2002**
- Excellence in Science award from Wyle Laboratories (Aug.1999)
- Trainee medal received during pre-doctoral fellowship (1997)
- World Health Organization (WHO) and Indian Council of Medical Research Fellowship for pursuing a PhD program (1990)
- Ranked second among 50 in the University in Master's program (1990)
- Indian Council of Medical Research Fellowship for Master's program in Medical Entomology (1988)
- Ranked second in Microbiology and Zoology in B.S program(1988)
- Gold medals in jeopardy, elocution, debate, creative writing and dramatics (1972-1990)

PROFESSIONAL AFFILIATIONS

European Low Gravity Research Association

European Biochemical Society

Society for In Vitro Biology

Reviewer-PLOS one, Jrl of Complementary and Alternative Medicine, “Clinical Nutrition”, Journal of Biomedical Sciences, NatureScientific Reports, Proteomics, NSF, NASA, European Space foundation and European Space Agency.

International Consultant-IUPCRS Microgravity laboratory, Porto Allegre, Brazil.

PUBLICATIONS AND PRESENTATIONS

- More than 10 peer reviewed publications
- Book chapter- Encyclopedia of cell and molecular medicine
- Oral presentations in the USA, Canada, Europe, Asia, Africa, Australia, and South America.
- See attached pages for “Publications and Presentations”.

PUBLICATIONS

Manshouri T, Huang S, **Sundaresan A**, Chakravarthy M, Chakrabarthy S and Albitar M. “Development of a Partial Fibronectin Knockout Transgenic Mouse Model”. *Transgenics*, 1996, Vol. 01, p 1-7.

Sundaresan A, Claypool K, Mehta K, Lopez-Berestein G, Ford RJ. “Retinoid Mediated Inhibition and Apoptosis in NHL-B Lymphomas”. *Cell Growth and Differentiation*, 1997, 8, 1071-1082.

Sundaresan A, Risin D, and Pellis NR. Locomotion inhibition in lymphocytes involves differential expression of PKC isoforms. *Scandinavian J. of Immunology*. 54 Supp. 1, pg 20, 2001

Sundaresan, A, Risin, D, and Pellis, NR. Loss of Signal transduction and inhibition of lymphocyte locomotion in a ground based model of microgravity. *In vitro cell and dev biol* 38(2), 118-122 (2002)

Kulkarni, AD, Yamauchi K, Hales MW, **Sundaresan A**, Andrassy, RJ, Pellis NR. Nutrition beyond nutrition:plausibility of immunotrophic nutrition for space travel. *Clinical Nutrition*. 21(3):231-238, June 2002

Hales NW, Yamauchi K, Martinez A.A, **Sundaresan A**, Pellis NR, Kulkarni AD. A countermeasure to ameliorate immune dysfunction in *in vitro* simulated micro gravity environment: Role of cellular nucleotide nutrition. *In Vitro Biol* 38(4):213-217, 2002

Sundaresan A, Yamauchi K, Kulkarni,AD, Pellis NR. Micro gravity and modeled micro gravity effects on lymphocyte signal transduction: Comparisons between human and mouse lymphocyte signaling. Japanese Jrl of Aerospace research, p2001-2002, Dec, 2002.

Yamauchi K, **Sundaresan A**, Hales NW, Yamamoto Y, Pellis NR, Kulkarni AD. Nutritional countermeasure to obviate immune dysfunction in microgravity. Japanese Jrl of Aerospace research, p2003-2004, Dec, 2002

Kulkarni AD, Yamauchi K, Taga M, Savary C, **Sundaresan A**, Pellis NR. Space immunology and countermeasures research in modeled micro gravity. *Aerospace Sciences Journal*. 2002-0325: 1-6, 2002.

Sundaresan, A., Risin D., and Pellis NR. Modeled microgravity-induced protein kinase C isoform expression in human lymphocytes. *J Appl Physiol*. June 2004.

Sundaresan A, Risin D and Pellis NR. Cell Growth in Microgravity. *In*: Meyers, R.A. , Sendtko, A. and Henheik, P. (eds.), Encyclopedia of Molecular Cell Biology and Molecular Medicine, Vol. 2, pp 303-321, Wiley-VCH, Weinheim, Germany, 2004.

Sundaesan A, Clarke MSF and Neal R Pellis: NASA technical disclosure document: titled MSC#24000 titled "Development and Characterization of a three dimensional model of human bone. March 2005.

Sundaesan A, Kulkarni AD, Yamauchi K and Pellis NR. Signaling in human and murine lymphocytes in microgravity: Parallels and contrasts, *Amer Gravit and Space Biol Bull*, Feb 2005

A.Sundaesan and N.R.Pellis: Human adaptation genetic response suites: Towards formulating new interventions and countermeasures for spaceflight
J. Grav. Physiol. 12(1):P229-P232, 2005

C.kaur, V.Sivakumar, S.Lin, and **A.Sundaesan**: Hypoxic damage to the periventricular white matter in neonatal brain: role of vascular endothelial growth factor, nitric oxide and excitotoxicity; *Journal of Neurochemistry* 2006 98:4 1200

Alamelu Sundaesan (Lalita), Anil D. Kulkarni, Keiko Yamauchi and Neal R. Pellis: The role of nucleotides in augmentation of lymphocyte locomotion: adaptational countermeasure development in microgravity analog environments: *Microgravity Science and Technology*-XVIII-3/4 (2006).

Sundaesan, A., Kulkarni, A.D., Yamauchi, K., and Pellis, N.R. The role of nucleotides in augmentation of lymphocyte locomotion: Adaptational countermeasure development in microgravity analog environments. *Microg. Sci. Tech.* (Feb)18:247-249, 2006.

Sundaesan, A. and Pellis, N.R. Cellular and genetic adaptation in low gravity environments. Gene Regulation in modeled microgravity: *Ann of NY Acad. Sci.*,1161, pg135-146, (2009).

Martinelli L.K., Russomano, T., Santos, M.A., Falcão, F.P., Bauer, M.E., Machado, A., and **Sundaesan, A.** Effect of microgravity on immune cell viability and proliferation-simulation using a 3D clinostat. *IEEE Engineering in Biology and Medicine.* (2009) 28(4), 85-90.

A.Ponomarev, **A.Sundaesan** and F.Cuccinotta: Spatial pattern of cell damage in tissue from heavy ions; Manuscript in press, *Aviation, Space and Environmental medicine*, April 2010)

Sundaesan, A., Ponomarev, A., Vazquez, M., Guida, P., Kim, A., and Cucinotta, F., "A Computer Model of the Effects of Heavy Ion Radiation on Human Tissue," *Advances in Space Research*, 47, pp 37-48, 2011.

Sundaesan, A., Russomano, T., dos Santos, M., Bosquillon, C., Falcao, F., Marriot, C., Forbes, B., "Modeling the Effects of Microgravity on the Permeability of Air-Interface Respiratory Epithelial Cell Layers," *Advances in Space Research*, 46(6), pp 712-718, 2010.

Shah, S., Walker, P., **Sundaesan, A.**, Moore-Olufemi, S., Kulkarni, A., Andrassy, R., "An Evidence based Review of a Lentinula edodes Mushroom Extract as Complementary Therapy in the Surgical Oncology Patient," *The Journal of Parenteral and Enteral Nutrition.* JPEN J Parenter Enteral Nutr July 2011 vol. 35 no. 4 449-458

A.Sundaesan: A Possible Cardiovascular Predictor of Susceptibility to Microgravity. *International Journal of Transport Phenomena* Volume 12, Number 1-2,pg 93-100, December 2011.

Sundaresan,A. Gibson T, Cao T, Clemens C and James J: Cellular effects of lunar simulant mineral dust on Human Airway Epithelial Cells: Proceedings of ITP2011, Interdisciplinary Transport Phenomena VII. Fluid, Thermal, Biological, Materials and Space Sciences, (13) pg 3-7, 2011.

Clarke, M.S.F*., **Sundaresan, A*.**, Vanderberg, C., and Pellis, N.R., A three-dimensional tissue culture model of bone formation utilizing rotational co-culture of human adult osteoblasts and osteoclasts **Acta Biomaterialia**, [Volume 9, Issue 8](#), August 2013, Pages 7908–7916.

A. Sundaresan, J. E. Reseland: Effects of load on normal human osteoblast function. *European Cells and Materials*,. Volume No 26 - Supplement 2, pages 32-33 – 2013.

A. Kulkarni, A. Sundaresan, M. Rashid, S. Yamamoto and F. Karkow: Application of diet derived taste active components for clinical nutrition. E-pub in ‘Current Pharmaceutical Design, Jul 26, 2013.

[Claudia Ulbrich](#),¹ [Markus Wehland](#),² [Jessica Pietsch](#),² [Ganna Aleshcheva](#),² [Petra Wise](#),³ [Jack van Loon](#),^{4,5,6} [Nils Magnusson](#),⁷ [Manfred Infanger](#),² [Jirka Grosse](#),⁸ [Christoph Eilles](#),⁸ [Alamelu Sundaresan](#),⁹ and [Daniela Grimm](#)¹⁰. Review Article. The Impact of Simulated and Real Microgravity on Bone Cells and Mesenchymal Stem Cells. *BioMed Research International*. Volume 2014 (2014), Article ID 928507, 15pages. <http://dx.doi.org/10.1155/2014/928507>

A. Sundaresan, K. Marriott, J. Mao, S. Bhuiyan, and P. Denkins: The effects of benzofuran-2-carboxylic acid derivatives as countermeasures in immune modulation and cancer cell inhibition., *Microgravity Science and Technology*, Online March 2015..

Submitted:

Two manuscripts to Journal of Gravitational Physiology

One Review to the FASEB Journal

In preparation:

Two book chapters and five manuscripts.

PATENTS:

1. Sundaresan, A., Clarke, S.F., and Pellis, N.R. “MINERALIZED THREE – DIMENSIONAL BONE CONSTRUCTS,” US Patent number:- [8076136](#), December 2011
2. Sundaresan, A., Clark, S.F., and Pellis, N.R., European patent, “[Constructions Osseuses Minéralisées En Trois Dimensions](#) [” Patent number: - EP2013730. Awarded December 2011
3. Alamelu Sundaresan, Sugarland, Tex. (US); Mark S. F. Clarke, Houston, Tex. (US); and Mark Brinker, Houston, Tex. (US). Development of a human colloidal bone graft material. US 8,506,982 B2; August 2013.

ABSTRACTS AND PRESENTATIONS

R. Ford, A.Sundaresan, *et al.*: “Target pathways for retinoids in aggressive B cell lymphomas: Cell cycle inhibition and apoptosis”- Abstract presented at The American Society of Hematology (ASH) 39th Annual Meeting, San Diego, California, December 5-9, 1997

A. Sundaresan and R. Ford: "Molecular mechanisms of retinoid-mediated apoptosis in NHL-B cells", Trainee Research Symposium (abstract), M. D. Anderson Cancer Center, Houston, May 1997.

A. Sundaresan and M. A. Albitar: "Fibronectin-regulation and physiological significance of the molecule in an antisense fibronectin transgenic mouse model", Gulf Coast Society of Toxicology meeting (abstract), Houston, TX, November 1994.

A. Sundaresan, K.C. Claypool and R.J. Ford: "Inhibition of cell growth and bcl-2 expression in aggressive B-cell lymphomas by retinoic acid", The American Society of Hematology (ASH) 37th Annual Meeting (oral presentation), Seattle, Washington, December 1-5, 1995.

A. Sundaresan, D. Risin and N. R. Pellis. Mechanism of lymphocyte locomotion inhibition by microgravity. Congress on In Vitro Biology, Las Vegas, Nevada, May 30-June 3. Addendum Booklet (Hot Topics), p.5, 1998 [Abstract SV-1003].

D. Risin, D. Cooper, A. Sundaresan and N. R. Pellis. Mechanisms of lymphocyte function inhibition in microgravity. 14th Annual Meeting of the American Society for Gravitational and Space Biology, Houston, TX, October 28-31, 1998. Gravitational and Space Biology Bulletin, v.12, N 1, p.58, abstract 118, 1998.

A. Sundaresan, D. Risin and N. R. Pellis. Signal transduction in lymphocyte locomotion. The American Society for Cell Biology Thirty-Eighth Annual Meeting, San Francisco, CA, December 12-16, 1998. Late Abstracts Poster Session, abstract L 98.

N. R. Pellis, D. Risin, A. Sundaresan and D. Cooper. Direct effect of microgravity (MG) on human lymphocytes: Functional and Morphological aspects, ELGRA News, Bulletin of the European Low Gravity Research Association, vol 21, p 71, Feb 1999.

A. Sundaresan, D. Risin and N. R. Pellis. Locomotion in lymphocytes is altered by differential PKC isoforms expression. Supplement to Molecular Biology of the Cell, vol.10, p.322a, abst#1923, Nov 1999.

D. Risin, A. Sundaresan and N. R. Pellis. PKC isoforms expression in modeled microgravity. Supplement to Molecular Biology of the Cell, vol.10, p.322a, abst#1922, Nov 1999.

D. Risin, D. Cooper, A. Sundaresan and N. R. Pellis. Lymphocyte functions in microgravity. Gravitational and Space Biology Bulletin, vol. 13, no. 1, p 53, abst# 106, 1999.

A. Sundaresan, D. Risin and N. R. Pellis. Lymphocyte locomotion and signal transduction in modeled microgravity is affected by differential expression of PKC isoforms. 13th IAA "Humans in Space Symposium", May 20-26, 2000, Santorini, Greece. P 111 (abstract).

D. Risin, A. Sundaresan and N. R. Pellis. Lymphocyte functions in space related conditions, 33rd COSPAR (Committee on Space Research) Scientific Assembly, Warsaw, Poland, July 16-23, 2000. 33rd COSPAR (Committee on Space Research) Scientific Assembly program book, manuscript number F1.4-0005, p.188.

A. Sundaresan, D. Risin and N. R. Pellis. Signal transduction in lymphocyte locomotion: microgravity induced lesions. 2000 World Congress on In vitro Biology, June 10-15, 2000, San Diego, CA. In Vitro cell and Dev Biol, vol. 36, no. 3, part II, p 49-A, 2000.(#VT-1001).

A. Sundaresan, D. Risin and N. R. Pellis. Locomotory functions in lymphocytes is affected by microgravity induced signal transduction lesions involving protein kinase C. 16th Annual Meeting of the American Society for Gravitational and Space Biology. October 25-28, 2000, Montreal, Canada, (accepted).

D. Risin, A. Sundaresan and N. R. Pellis. Microgravity induced inhibition of apoptosis in peripheral blood mononuclear cells and changes in PKC isoforms. 16th Annual Meeting of the American Society for Gravitational and Space Biology. October 25-28, 2000, Montreal, Canada..

D. Risin, S. Risin, R. J. Bick, A. Sundaresan and N. R. Pellis. Confocal microscopy analysis of PKC isoforms expression in peripheral blood mononuclear cells exposed to modeled microgravity. The 40th annual meeting of the American Society for Cell Biology, San Francisco, CA, Dec 9-13, 2000.

A. Sundaresan, D. Risin and N. R. Pellis. Lymphocyte migration in microgravity analog cultures. Presented at the NASA investigators working group meeting, March 2001, Houston, Texas.

A. Sundaresan, D. Risin and N. R. Pellis. Locomotion inhibition in lymphocytes involves differential expression of PKC isoforms. Presented at the International Congress of Immunology, July 22-27, 2001 at Stockholm, Sweden.

A. D. Kulkarni, K. Yamauchi, N. W. Hales, V. Ramesh, G. T. Ramesh, A. Sundaresan, R. Andrassy and N. R. Pellis; Nutrition beyond nutrition: Plausibility of immunotrophic nutrition for space travel. Presented at the 23rd ESPEN Congress on Clinical Nutrition and Metabolism, , Munich Germany, September 8-12, 2001.

A. Sundaresan, D. Risin and N. R. Pellis. Microgravity-induced lesions in lymphocyte signal transduction: Impairment in locomotion involves protein kinase C. Presented at the Biennial European Low gravity Research Association (ELGRA) Meeting, Banyuls-sur-mer, France, September 25-28, 2001.

A. Sundaresan, K. Yamauchi, A. Tarakad,, M. Taga, A. Kulkarni and N. R. Pellis. Inhibition of selective signaling pathways in modeled microgravity: Parallels in mouse and human lymphocyte signal transduction. Accepted for presentation at the 41st Annual Meeting of the American Society for Cell Biology, Washington, D.C., December 8-12, 2001.

A. Kulkarni, K. Yamauchi, M. Taga, C. Savary, A. Sundaresan,, and N, Pellis. Space immunology and countermeasure research in modeled microgravity, 40th AIAA Aerospace Sciences Meeting & Exhibit, Reno, NV, January 14-17, 2002 (AIAA-2002-0325).

K. Yamauchi, A. Sundaresan, N. W. Hales, Y. Yamamoto, N. R. Pellis,, and A. D. Kulkarni. Nutritional countermeasure to obviate immune dysfunction in microgravity, 23rd International Symposium on Space Technology and Science (ISTS), Matsue, Japan, May 26 – June 2, 2002.

A. Sundaresan, K. Yamauchi, A. D. Kulkarni,, and N. R. Pellis,. Microgravity and modeled microgravity effects on lymphocyte signal transduction: Comparisons between human and mouse

lymphocyte signaling, 23rd International Symposium on Space Technology and Science (ISTS), Matsue, Japan, May 26 – June 2, 2002.

A. D. Kulkarni, K. Yamauchi, G. T. Ramesh, A. Sundaresan, and N. R. Pellis. Inflammatory and immunomodulatory studies in simulated microgravity. 2002 NASA Cell Science Conference (IWG Meeting), Palo Alto, CA, February 26-28, 2002 (Abst).

A. Sundaresan, D. Risin and N. R. Pellis. Modeled microgravity selectively inhibits cell-signaling pathways in lymphocyte locomotion. 2002 NASA Cell Science Conference (IWG Meeting), Palo Alto, CA, February 26-28, 2002 (Abst).

A. Sundaresan, K. Yamauchi, N. R. Pellis and A. D. Kulkarni,,: Lymphocyte functions and second messenger trans-membrane signaling in mouse and human microgravity model systems. FASEB, New Orleans, LA, April 20-24, 2002.

N. R. Pellis, D. Risin and A. Sundaresan. Microgravity analog culture as a model for lymphocyte performance in space (Abst.). Presented at the 2002 Congress on In Vitro Biology Meeting, Vertebrate Symposium - Microgravity Cell Science, June 27, 2002.

A. Sundaresan and N. R. Pellis. Lymphocyte functions in microgravity: Selective signaling lesions in immune suppression and countermeasures. Presented at the 24th European Society for Parenteral and Enteral Nutrition (ESPEN) Congress, Glasgow, Scotland August 31 – September 4, 2002

A. Sundaresan, D. Risin and N. R. Pellis. Immune function in microgravity: Lymphocyte locomotion and signal perturbation. Presented at the 50th International Congress of Aviation & Space Medicine, Sydney NSW, Australia, September 15-19, 2002.

A. D. Kulkarni, K. Yamauchi, M. Taga, J. Odle, A. Sundaresan and N. R. Pellis. Perturbation in T cell signal transduction pathway in microgravity. Presented October 16, 2002 at the 34th COSPAR Scientific Assembly (COSPAR02-A-03015; F1.4-0010-02), The Second World Space Congress, George R. Brown Convention Center, Houston, TX, October 10-18, 2002

A. Sundaresan and N. R. Pellis. Microgravity induced selective lesions in immunosignaling: Upstream targets in lymphocytes. Presented October 16, 2002 at the 34th COSPAR Scientific Assembly (COSPAR02-A-03021; F1.4-0011-02), The Second World Space Congress, George R. Brown Convention Center, Houston, TX, October 10-18, 2002.

A. Kulkarni, K. Yamauchi, N. W. Hales, A. Sundaresan, N. R. Pellis, S. Yamamoto, S., and Andrassy, R.J. Yin-yang of space travel: Lessons from the ground-based models of microgravity and their applications to disease and health for life on Earth. Presented October 17, 2002 at the 34th COSPAR Scientific Assembly (COSPAR02-A-02979; F1.3-0016-02), The Second World Space Congress, George R. Brown Convention Center, Houston, TX, October 10-18, 2002.

K. Yamauchi, M. Taga, L. Furian, J. Odle, A. Sundaresan, N. Pellis, N., Andrassy, R., and Kulkarni, A. Altered tumor cell growth and tumorigenicity in models of microgravity. Poster presentation (F1.3 Animal Model System for Long-Term Space Flight - Abst#F032), October 18, 2002 at the 34th COSPAR Scientific Assembly, The Second World Space Congress, George R. Brown Convention Center, Houston, TX, October 10-18, 2002

S-A. Hwang, N. R. Pellis, A. Sundaresan and J. K. Actor. The effect of analog microgravity on *Mycobacterium tuberculosis*-infected macrophages, University of Texas Health Science Center Research Day, Edwin Hornberger Conference Center, Houston, TX, November 1, 2002. (Abst)

K. S. Cole, A. Sundaresan, N. R. Pellis and S. M. Green, Abnormal developmental effects following prolonged embryonic exposure to a rotating cell culture system (RCCS) environment, in the cypriniform

fish, *Rivulus Marmoratus*. Presented at the NASA Cell Science Meeting 2003, Houston, TX, February 20-22, 2003.

A. Sundaresan, D. Risin and N. R. Pellis. The role of protein kinase C in lymphocyte locomotion: Rescue or cause? Presented at the 2003 NASA Cell Science Meeting, Houston, TX, February 20-22, 2003.

A. Sundaresan, D. Risin and N. R. Pellis. The role of protein kinase C in lymphocyte locomotion: Rescue or cause? Presented at the European Low Gravity Research Association (ELGRA) Biennial Meeting and General Assembly, Munich, Germany, April 3, 2003, ELGRA News, vol. 23, April 2003.

S. Hwang, A. Sundaresan, N. R. Pellis and J. K. Actor. The effect of analog microgravity on mycobacterium tuberculosis infected human macrophages. Presented at the American Society for Microbiology 103rd General Meeting, Washington, DC, May 18-22, 2003.

A. Sundaresan and N. R. Pellis. Signal transduction in microgravity-selective changes in human lymphocytes. Poster presentation at the Federation of European Biochemical Societies (FEBS) 2003 Meeting, Brussels, Belgium, July 7, 2003.

D. Risin, S. Risin, S., Bick, R.J., Ward, N., Sundaresan, A, and Pellis, N.R. MG-induced inhibition of apoptosis: Molecular mechanisms and possible consequences for the long-term space missions. Accepted for poster presentation at the 51st International Congress of Aviation and Space Medicine, Madrid, Spain, October 5-9, 2003.

A. Sundaresan and N. R. Pellis. Adaptational response of human lymphocyte genes in microgravity. Accepted for oral presentation at the 51st International Congress of Aviation and Space Medicine, Madrid, Spain, October 5-9, 2003.

K. S. Cole, A. Sundaresan, N. R. Pellis and S. M. Green. Abnormal developmental effects in *Rivulus Marmoratus* (Teleostei) exposed to a rotating cell culture system environment during embryonic development. Presented at the American Society for Gravitational and Space Biology Meeting, Huntsville, AL, November 12-16, 2003.

A. Sundaresan and N. R. Pellis. Microgravity gene expression in human lymphocytes. For presentation at the 2004 NASA Cell Science Conference, Palo Alto, CA, February 26-28, 2004.

A. Kulkarni, K. Yamauchi, M. Sultenfuss, C. Savary, A. Sundaresan and N. R. Pellis. Supplemental nucleotides and immunosurveillance in microgravity model. Presented in Immune Response, Session 3 at the 2004 NASA Cell Science Conference, Palo Alto, CA, February 26-28, 2004

A. Sundaresan: Lymphocyte and immune function in microgravity: Invited Plenary lecture at the European College of Sports Science 2004 Convention, Clermont-Ferrand, France, July 2-7 2004.

A. Sundaresan and N. R. Pellis. Cellular consequences of the microgravity environment on lymphocyte function. Presented at the 35th Committee on Space Research (COSPAR) Scientific Assembly, Paris, France, July 18-25, 2004.

D. Risin, S. Risin, N. Ward, A. Sundaresan and N. R. Pellis. Structural and functional changes in lymphocytes in microgravity. Poster presentation at the 35th Committee on Space Research (COSPAR) Scientific Assembly, Paris, France, July 18-25, 2004.

A. Sundaresan and N. R. Pellis. Adaptation of human stress response genes in microgravity. Presented at the 52nd International Congress on Aviation and Space Medicine, Sun City, NW Province, South Africa, September 5-9, 2004.

A. Sundaresan, J. Conover and N. R. Pellis. Expression of human immune function genes in microgravity. Oral presentation at the Biotechnology 2004, 12th International Biotechnology Symposium and Exhibition, October 17-22, 2004, Santiago, Chile.

A. Sundaresan, A. D. Kulkarni, K. Yamauchi, K. and N. R. Signaling in human and murine lymphocytes in microgravity: Parallels and contrasts. Oral presentation at the 2004 Annual Meeting of the American Society for Gravitational and Space Biology (ASGSB), New York, NY, November 9-12, 2004 (Abst.#67).

A. D. Kulkarni, K. Yamauchi, A. Sundaresan, G. T. Ramesh and N. R. Pellis. Countermeasure for space flight effects on immune system: Nutritional nucleotides. Oral presentation at the 2004 Annual Meeting of the American Society for Gravitational and Space Biology (ASGSB) Meeting, New York, NY, November 9-12, 2004. (Abst. #75).

K. S. Cole, A. Sundaresan, R. C. Langston and N. R. Modeled microgravity alters brain and retinal development in the Teleost *Rivulus Marmoratus*. Presented at the 2005 NASA Cell Science Meeting, Galveston, TX, February 23-25, 2005.

A. D. Kulkarni, K. Yamauchi, A. Sundaresan, C. Ambrose, K. Wise, G. T. Ramesh, C. A. Savary and N. R. Pellis. Update on the development of a nutritional countermeasure addressing NASA's Immunology CPR and CRL. Presented at the 2005 NASA Cell Science Meeting, Galveston, TX, February 23-25, 2005.

A. Sundaresan and N. R. Pellis. Stress, and pathogen response gene expression in modeled microgravity. Presented at the 2005 NASA Cell Science Meeting, Galveston, TX, February 23-25, 2005.

A. Sundaresan and N. R. Pellis. Stress, and pathogen response gene expression in modeled microgravity. Submitted for presentation at the 15th IAA Humans in Space Symposium, Graz, Austria, May 22-26, 2005.

Alamelu Sundaresan :Micro gravity and modeled micro gravity effects on lymphocyte signal transduction: Comparisons between human and mouse lymphocyte signaling. July 1, 2005, LBMCC, Luxembourg

A. Sundaresan and N. R. Pellis. The role of the upstream T cell protein tyrosine kinase ZAP 70 in analog microgravity. Submitted for presentation at the 30th Federation of the European Biochemical Society (FEBS) Congress, Budapest, Hungary, July 2-7, 2005

Alamelu Sundaresan (Lalita)¹, Anil D. Kulkarni², Keiko Yamauchi² and Neal R. Pellis³:The Role Of Nucleotides In Augmentation Of Lymphocyte Locomotion: Adaptational Countermeasure Development In Microgravity Analog Environments. Oral presentation at the European Low Gravity Research Association (ELGRA) Biennial Meeting and General Assembly,, Sep 23-26, 2005, Santorini, Greece.

A.Sundaresan^{1,2}, A.D.Kulkarni², K.Yamauchi² and N.R.Pellis³: Biomarkers of cell and tissue injury in analog microgravity.: presented at "The International Astronautical congress, Oct 2005 in Fukuoka, Japan.

A. Sundaresan*(1), A. Dharmarajan(2), N. R. Pellis(3): Apoptosis And Wnt Signaling During Unloaded Conditions In Human Bone Cells Presentation at the European Calcified Tissues Society Conference, Prague, Czech Republic, May 2006.

A Sundaresan:Cell And Tissue Injury In Analog Microgravity: Presentation at the federation of European Biochemical Societies Conference, Istanbul, Turkey, June 2006.

S. L. Bishop (1), A. Sundaresan (2, 3): A Comparison of Objective and Subjective Stress in Homogeneous Male and Female Teams in a Mars Simulation; Submitted to the COSPAR congress, Beijing, July 2006.

Alamelu Sundaresan, Texas Southern University, Kamleshwar Singh, Neal R. Pellis, and James DuMond, Jr: A-2007 Signal Transduction Targets of Modeled Microgravity Society of In Vitro Biology Convention, 2006.

A.Sundaresan^{1,2}, A.D.Kulkarni², K.Yamauchi² and N.R.Pellis³: Cellular And Molecular Basis For Nutritional Countermeasures In The Microgravity Environment:Invited presentation at the “The International Astronautical congress, Oct 2006 in Valencia, Spain

A.Ponomarev, A.Sundaresan and F.Cuccinotta: Spatial pattern of cell damage in tissue from heavy ions; Presenation at the International radiation Conference in Dallas, March 2007.

A,Sundaresan, Thais Russomano, N. R. Pellis: Apoptosis and WNT signaling during unloaded conditions in human bone cells: Invited presentation in the “Experiments in Space and Beyond” Symposium by ESA, April 12,2007.

A.Sundaresan and N.R.Pellis: Gene expression in human osteoblasts and osteoclasts in a three dimensional tissue culture model: Presentation on May 6 and 7 at the European Calcified Tissue International Conference, Copenhagen, May 2007.

A.Sundaresan:Regulation of Raf/MEK kinases in lymphocytes in microgravity-Responses to Cellular Stress: Invited talk for the “Young Life Scientist” (Biochemical Society) conference in Glasgow UK. 7-10 July 2007.

A.Sundaresan-Recent Research talk at the UNCSFP_NAFP (NASA administrator’s Fellowship) conference, Cleveland, Ohio-July 16-19, 2007.

Sundaresan A. James DuMond , Kamaleshwar Singh, N.R. Pellis: GENETIC SIGNATURES DURING PHYSIOLOGICAL ADAPTATION: Selected for oral presentation (20 min, 15 min talk + 5 min discussion) in the “Gene Expression Profile” session on Wednesday, 5 september 2007, in the afternoon. European Low Gravity Research Association, September 4-7,2007, Florence, Italy.

A.Sundaresan, A.Ponomarev and F.Cuccinotta: Three dimensional Model of tissue and heavy ion effects: Selected for an oral presentation at the NASA International Astronautical Congress, Hyderabad, India, Sept 23-28, 2007.

A.Sundaresan:Cellular And Genetic Adaptation In Low Gravity Environments (Bio Response in Space Environments): Invited talk at the Bio Transport Phenomena, International Conference,Bansko, Bulgaria, Oct 14-17, 2007.

A.Sundaresan: Invited talk on “Three dimensional Clinostats” in the ESA conference on Microgravity Analogs December 9-12, 2007 in Noordwijk, Netherlands.

Invited lecture on ”Radiation effects of Microgravity” in the Technical University of Delft, Netherlands, Dec 7-9, 2007.

A.Sundaresan: Biosignatures in Microgravity, NASA Investigators Workshop Feb4-6, 2008 in South Shore Harbour, League City, TX.

A Sundaresan presented a Keynote lecture at the 7th international Head out water immersion symposium in Tartu, Estonia, May 17-18, 2008. (<http://www.howi-symposium.net/plenary.html>) (Immune Function in Microgravity).

A Sundaresan : Invited Speaker, Department of Biomaterials, University of Oslo (Three dimension Bone Tissue Models) from May 22-May 24, 2008.

Symposium speaker for the International Gravitational and Space Physiology/ESA/ELGRA meeting in Angers France from June 22-27, 2008 (Development and validation of a 3D clinostat for the study of immune cells) with committee meetings in Paris from June 18-21, 2008. .

A Sundaresan : Invited speaker : IUPCRS Microgravity laboratory, , Porto Alegre, Brazil-“Immune suppression in microgravity” lecture series (four), Nov 22-27, 2008.

A Sundaresan :Invited speaker: “Genetic adaptation in microgravity”-University of Loughborough, UK, Dec 13-18, 2008.

A Sundaresan: “A cardiovascular predictor of microgravity exposure”: Oral presentation in the Cardiovascular session of the Human Research Program’s Investigator’s workshop, February 2-4, 2009.

Committee member and presenter at the European Low Gravity Research Association conference and Interdisciplinary transport phenomena conference (Space toxicology for the future, PIGf, a possible predictor for cardiac dysfunction in microgravity, September and October, 2009).

A Sundaresan: “Tissue like assemblies in analog microgravity: keynote lecture, Scandinavian Society of Biomaterials, Hafjell, Norway, April 12-16, 2010”.

A.Sundaresan, Duane.L.Pierson, Todd Schlegel, Satish Mehta and Blaise Carabello: Placental growth factor in coronary artery disease and stress. Aerospace Medical Association Conference, Anchorage, April 2011.

Sundaresan.A, Gibson T, Cao T, Clemens C and James J: Cellular effects of lunar simulant mineral dust on Human Airway Epithelial Cells: Proceedings of ITP2011, Interdisciplinary Transport Phenomena VII. Fluid, Thermal, Biological, Materials and Space Sciences, September 19-23, 2011, Dresden, Germany

Sundaresan.A, Immune suppression in microgravity. Invited Speaker, Topical team in Immunology, European Space Agency, March 27-30,2012, Munich , Germany.

Alamelu Sundaresan, Sukesh Aghara , Terrell Gibson and Indi Siripirasan: Space radiation and osteoclastogenesis:The effects of radiation and microgravity on bone resorption: Presentation at the International radiation protection conference, Glasgow 2012.

Alamelu Sundaresan, and Janne E. Reseland: Effects of load on normal human osteoblasts (NHO) at different stages of differentiation.Presentation at the International Space and Gravitational Physiology Conference, Aberdeen, June 2012.

Alamelu Sundaresan, Anil Kulkarni and Koji Wakame. Effects of AHCC (Active Hexose Correlated compound in the liver. Amino Up Company, functional foods conference, Sapporo, Japan, July 2012.

A.Sundaresan,, K.Marriott, J.Mao, S.Bhuiyan, J. Madry- Taylor and P.Denkins. The effects of benzofuran 2-carboxylic acid derivatives as countermeasures to counteract immune suppression. NASA Human Research Program, Investigator's Working Group meeting (IWG) Feb 2013.

A.Sundaresan. Signalling mechanisms of bone loss in weightlessness: Plenary Speaker, The evidence thus far : 6th annual Scandinavian Society of Biomaterials, Hafjell, Norway, March 16, 2013.

A.Sundaresan. Load in Osteoblast function. University of Oslo Priority lecture, March 12, 2013.

A.Sundaresan: Effects of AHCC mushroom extract in human lymphocytes: 21st ICNIM conference, Sapporo, Japan, July 2013.

Doursout MF, Liang YY, Sundaresan Alumina, Kulkarni Anil. Effects of AHCC in an Animal Model of Inflammation-Induced Oxidative Stress. The 21th International Congress on Nutrition and Integrative Medicine (ICNIM) in Sapporo Japan, July 26th, 2013.

A.Sundaresan et al: The effects of benzofuran 2-carboxylic acid derivatives as countermeasures for immunosuppression. Oral presentation at the European Low gravity research association conference, Rome, September 2013.

A.Sundaresan . immunocyte signaling in microgravity. Topical Team in Immunology. ESA oral presentation. Germany, Jan 16, 2014 (via webex).

A.Sundaresan,K.Marriott, J.Mao, S.Bhuiyan, Malik Hopkins, R.Wilkins, B.Gersey, R.Gaza, W.Williams and P. Denkins. Benzofuran derivatives differentially modulate oxidative stress and increase cellular homeostasis in response to radiation and modeled microgravity stresses.The 2014 NASA Human Research Program Investigators' Workshop (HRP IWS 2014). Galveston, 2014.

Doursout MF; Segal G, Ahn S; Sundar D; Liang YY; Wakame K; Sundaresan A and Kulkarni A. Active Hexose Correlated Compound Moderates LPS-Induced Gut Injury in Rats. Exp. Bio. J: LB 576, 2014.

Doursout MF, Wakame K; Sundaresan A; and Kulkarni A: AHCC modulates hypertension via the nitric oxide signaling pathway in rats. #32; The 22nd International Congress on Nutrition and Integrative Medicine (ICNIM) Sapporo Japan, July 2014.

Sundaresan A. Olamigoke I, Mann V, Mansoor E, Ellis I, Okoro E, Wakame K, **Doursout MF** and Kulkarni A: AHCC triggers immune proliferation and activation of human lymphocytes via targeted

phenotype and genotype transformation. #31; The 22nd International Congress on Nutrition and Integrative Medicine (ICNIM) Sapporo Japan, July 2014.

Alamelu Sundaresan *et al*: Immune Modulation and Apoptosis Induction in Normal Human Lymphocytes and Lymphoblastoid Cancer Cells on ISS. Association of Space and gravitational research Symposium, Pasadena, CA, 2014.

Loretta Olamigoke, Vivek Mann, Elvedina Mansoor, Ivory Ellis, Elvis Okoro, Wakame K. Anil Kulkarni, Marie-Francoise Doursout and Alamelu Sundaresan. AHCC activates human lymphocytes via phenotypic, genotypic and differentiation changes to an adherent cell type. A possible novel mechanism of T cell activation. #0140; The 2015 NASA Human Research Program Investigators' Workshop (HRP IWS 2015). Galveston, 2015.

<http://www.wisetexas.org/blog/>

Feature-Women in STEM excellence-Dr.Sundaresan

A.Sundaresan, K.Marriott, J.Mao, S.Bhuiyan, R.Wilkins, B.Gersey, R.Gaza, W.Williams and P. Denkins. Immune Modulation in Normal Human Lymphocytes and radiation Assessment for the UR-1 project Cells on the ISS. The 2015 NASA Human Research Program Investigators' Workshop (HRP IWS 2014). Galveston, 2015.

Alamelu Sundaresan, Shakawat Bhuiyan, Jinghe Mao, Karla Sue Marriott, Richard Wilkins, Robert Guersey, Ramona Gaza, Pamela Denkins, Willie Williams, Misti Moore, Ivory Ellis, Elvis Okoro, Olivia Madison, Cody Carasquillo, Ayla Diles, Amanda Osborne, Joshua Agee, Shakema Bowman, Daniel Meis and Janet Reudas. Immune modulation and radiation measurements for ISS/SpaceX-3 flight radiation experiment in support of the UR-1 project in normal human lymphocytes. Oral presentation at the ISS R and D conference, July 7, 2015, Boston, MA.

Conferences organized:

Investigator's working group meetings for NASA Cell Science program from 1998-2009. TSU-NASA (NSTI) conference, October 8-11, 2012, Sterling Student Life Center, Houston, TX, ISS quarterly, September 2014).

Committees:

Department of Biology:

Faculty search committee chair(3), Graduate Committee chair and curriculum committee
COST: Scholarships and awards committee, Staff Grievance, Research Committee, Events committee,

University: Graduate Council, Pharmacy Dean Search Committees

Graduate students-main advisor-2012-2013

- 1.Terrell Gibson-PH.D., E-Tox:awarded May 2012
- 2.T.Cao-MS Biol-Awarded May 2012
- 3.Krystal Watson-MS Biol-Awarded May 2012
4. J.Pope-MS Biol, In progress

Committee member:

- 1.Edidong Obot: MS Etox-Defense, March 2013.-Approved.

2.Naga Naidu:Ph.D. E tox-Defended October 22, 2013. Approved.

3.Trey Hall III: Ph.D. E tox-Approved, Spring 2015.

TSU NSTI and Graduate and Undergraduate mentees:

Post Docs:2013-2014

1.Hanna Tianen

2.Sigrid Haugen

3.Christina Clemens

Graduate Students-2015

1.Elvedina Mansoor

2.Elvis Okoro-Defense March 2014

3.Ivory Ellis-Defense March 2014

4.Vivek Mann

5.Jordan Pope

6.Loretta Olamigoke

7.Xiao Ma: Phd.D University of Arhus, awarded Novemembr 2014(External Committee Memembr,

A.Sundaresan)

Undergraduate Students

1.NSTI (5)

2.UR-1 project (1)

3.Biol 401(2)

Past Under grad mentees(2010-2011):

1.Kyle Williams

2. Johnny Flores:

3.Nia Binion

4. Shonna Gaskin

5. Tommie Johnson

6. Bhupinder Singh

7.Kenny Robinson

8.Yametria Lewis

9. Brittney Hawkins

Other HBCU NSTI and Undergraduate mentees:

1.Demetrius Boyson-Tougaloo College

2.Deidra Huff-Jarvis Christian Collge.