

## **Professor THAIS RUSSOMANO MD MSc PhD**

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An organized, detail-oriented, and conscientious self-starter, with more than 25 years of experience in Space Life Science, Aerospace Medicine, Biomedical Engineering and Telehealth. An effective leader, skilled in motivating and enlisting the support of colleagues and team members in alignment with project and organizational goals, demonstrated by the establishment and coordination of the Microgravity Centre, PUCRS, Brazil, an internationally recognized and pioneer Space Life Sciences Research Centre in Latin America. Able to strategize and prioritize effectively to accomplish multiple tasks, stay calm under pressure, and work successfully in national and international scenarios. Understanding of the importance of academic/commercial collaboration and partnerships in developing innovative products and processes for the market. Skilled in academic course creation and delivery at community, graduate and postgraduate levels.

### **CURRENT POSITIONS HELD**

- (1) Senior Lecturer, CHAPS, Faculty of Life Sciences & Medicine, King's College London
- (2) International Relations Director, HuSCO, Human Spaceflight Capitalization Office, London, UK
- (3) Founder & Director, InnovaSpace, UK
- (4) Co-Founder, Director & Chief Medical Officer, International Space Medicine Consortium Inc., USA
- (5) Guest lecturer ViCCA Master's Course, Alto University, Finland
- (6) Consultant Skolkovo Foundation, Moscow, Russia
- (7) Member of the iB Hubs Global Mentor Community, eHealth projects, India
- (8) Brazilian representative for the ISO/TC 20/SC 14/WG 6, Space systems and operations (Manned space flight)
- (9) Member of the Mars One Mission Advisory Board, Holland

### **SUMMARY**

- 25+ years experience in Aerospace Medicine, Human Physiology, Biomedical Engineering, Telemedicine & eHealth
- Founded & Coordinated for 18 years the Microgravity Centre (MicroG), PUCRS, Brazil
- Special interest & active participation in research/committees into Manned Space Flight and Space Tourism
- Development of Microgravity/Hypogravity & Hypergravity simulation research projects
- Development of an international MicroG network of Space focused research teams
- Educational Space lectures for the Brazilian Space Agency, Universities, Schools and general public
- Biomedical research & development, project coordination, management & liaison
- Inter-, multi-, transdisciplinary experience in developing and conducting national & international eHealth projects
- Invited participant, Rockefeller Foundation sponsored National eHealth Policies conference, Bellagio 2008
- Co-founder/Co-Coordinator of the Student Committee of the International Society for Telemedicine & eHealth
- Peer reviewer for 5 scientific journals in the areas of Telemedicine, eHealth and Aerospace Sciences
- Multidisciplinary teaching at both undergraduate & postgraduate level
- Extensive supervision of PhD & MSc thesis and BSc final projects at PUCRS & King's College London
- Numerous publications in peer reviewed journals and Chapters in Books
- Publication of 6 books in the areas of Astronomy, Space Life Sciences, & Aerospace Biomedical Engineering
- Holder of 7 patents: Products and processes related to Space Life Sciences and Aerospace Biomedical Engineering

Research areas include: telemedicine and eHealth projects; microgravity, hypogravity and hypergravity simulations; parabolic flight campaigns with the European Space Agency; hyperbaric and hypobaric chamber studies; tests in human centrifuges, Barany's chair, flight simulators, lower body positive pressure and negative pressure boxes, and positive pressure chambers, among others.

## EDUCATIONAL BACKGROUND

- 2006 - 2007 Post-Doctoral in Space Life Science, King's College London, England, UK
- 2000 - 2009 Visiting Research Fellow - Department of Aerospace Medicine and Human Applied Physiology, King's College London, UK
- 1994 - 1998 PhD in Respiratory Space Physiology, King's College London, England, UK
- 1991 - 1995 MD in Emergency Rooms, Intensive Care Units and Ambulance Services, in the Porto Alegre region
- 1989 - 1991 Master's Degree Program in Aerospace Medicine (GPA = 3.94/4.0), Wright State University, Ohio, USA
- 1985 - 1989 Internal Medicine Residency Program, Clinical Hospital of Porto Alegre, RS, Brazil. Chief Resident (1988) and Senior Resident (1989) in Internal Medicine
- 1980 - 1985 School of Medicine of the Federal University of Pelotas, RS, Brazil

## RESEARCH/TEACHING & EMPLOYMENT POSITIONS

- 2017 - Guest Lecturer at Deggendorf Institute of Technology, Germany, delivering eHealth modules
- 2016 - Senior Advisor, HuSCO, Human Spaceflight Capitalization Office, London, UK
- 2015 - Co-Founder, Corporate Director & Chief Medical Officer, International Space Medicine Consortium Inc. ([www.ISMCInc.com](http://www.ISMCInc.com))
- 2013 - Guest Lecturer at Alto University, Finland delivering Space & Design modules
- 2009 - 2009 Consultant - Wyle Laboratories GmbH, Cologne, Germany - Earlobe Arterialized Blood Collector Study
- 2001 - Supervisor - MSc Dissertations - Biomedical Engineering Master's Degree Program, School of Engineering, PUCRS, Porto Alegre, RS, Brazil
- 2009 - Visiting Senior Lecturer, CHAPS, Faculty of Life Sciences & Medicine, King's College, London
- 2000 - 2009 Visiting Research Fellow - Department of Aerospace Medicine and Human Applied Physiology, King's College London
- 1999 - Coordinator of the Microgravity Centre, PUCRS, Porto Alegre, RS, Brazil
- 1997 - Guest Scientist - Institute of Aerospace Medicine, German Space Agency – DLR, Cologne, Germany
- 1998 - Professor - Biomedical Engineering Master's Degree Program – School of Electrical Engineering, PUCRS, Porto Alegre, RS, Brazil
- 1998 - Professor - Institute of Aeronautical Sciences, PUCRS, Porto Alegre, RS, Brazil
- 1998 - Professor - Department of Internal Medicine, School of Medicine, PUCRS, Porto Alegre, RS, Brazil
- 1993 - 1998 Assistant Professor - Department of Internal Medicine, School of Medicine, PUCRS, Porto Alegre, RS, Brazil
- 1990 - 1993 Associate Researcher - Institute of Cardiology of Rio Grande do Sul, Porto Alegre, RS, Brazil

## PRINCIPAL PROJECTS DEVELOPED UNDER MY COORDINATION

- Tele-transmission of surgical procedures
- Tele-education via international video conferences
- Tele-medical assistance to remote areas including projects in: Tele-ECG, Tele-dermatology, Tele-pathology, Tele-odontology, Tele-toxicology, Tele-nutrition, Tele-pharmacy, Tele-physiotherapy, Tele-psychiatry and Tele-radiology
- eHealth for primary care attention
- eHealth for Indian tribes in the Amazon, Brazil
- Development and Validation of the first all-Brazilian Heart Defibrillator
- Development and Validation of a Normobaric Hypoxia Chamber
- Development and Validation of Lower Body Negative Pressure Box and Lower Body Positive Pressure Box
- Development and Validation of a Human Powered Small Centrifuge
- Development of small centrifuge for the study of effects of hyperG on plants
- Development and Validation of a Tilt Table for Microgravity Simulation
- Development of an Earlobe Blood Collector for use in Microgravity
- Evaluation of Cardiopulmonary Resuscitation Procedures in Microgravity (Parabolic Flight) and Hypogravity simulations
- Development and Validation of a Clinostat 3D for the Study of Cells in Microgravity Simulation
- Development and Validation of a Barany's Chair for the Study of the Vestibular System
- Development of small hypobaric chamber to study the effects of pressure changes on medication
- Development and validation of individual portable dark chambers

## PRESENTATION/PUBLICATION & EDUCATIONAL WORKS

Participation in 250+ scientific events with 300+ scientific papers presented, as well scientific and educational works in 30+ countries:

Argentina, Austria, Bosnia & Herzegovina, Brazil, Canada, China, Croatia, Czech Republic, England, Finland, France, Germany, Greece, India, Israel, Italy, Lithuania, Luxembourg, Mexico, The Netherlands, Norway, Philippines, Poland, Portugal, Romania, Russia, Scotland, Singapore, Slovenia, South Africa, Spain, Switzerland, Thailand, and United States of America.

## SELECTION OF PUBLICATIONS IN SCIENTIFIC JOURNALS

NUNES, A. C. P.; SANTOS, Gléison A. dos; SANTOS, Marlise A. dos; **RUSSOMANO, T**; SANTOS, Osmarino P. dos; VALENTE, Brígida M. dos Reis Teixeira ; RESENDE, Marcos D. V. de. APPLICATION OF HYPERGRAVITY IN EUCALYPTUS AND CORYMBIA SEEDS. *Ciência Rural*, v. 48, p. 1-7, 2018.

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**RUSSOMANO, T.**, CARDOSO, Ricardo B, DUVAL, Vinicius, LOPES, Maria H I, Celia S, HUTTER, Eder, HUTTER, Edison. Space Technology Used to Improve Health Care in Remote Areas. *Aviation Space And Environmental Medicine.* , v.80, p.61 - 63, 2009.

MARTINELLI, Leonardo K, **RUSSOMANO, T.**, SANTOS, M. A., FALCÃO, Felipe P, BAUER, Moises, Amanda Machado, SUNDARESAN, Alamelu. The effect of microgravity immune cell viability and proliferation. *IEEE Engineering in Medicine and Biology Magazine.* , v.1, p.85 - 90, 2009.

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**RUSSOMANO, T.**; RIZZATTI, Mara R; AZEVEDO, Dario F G de; COELHO, Rodrigo P; SCOLARI, Diogo; SOUZA, Daniel de; PRÁVELEDA, Paula. Effects of Simulated Hypergravity on Biomedical Experiments. *IEEE Engineering in Medicine and Biology Magazine*, England, UK, v. May/Jun, p. 66-71, 2007.

**RUSSOMANO, T** ; EVETTS, Simon; CASTRO, João; SANTOS, Marlise A dos; GAVILLON, Jorge; AZEVEDO, Dario F G de; WHITTLE, John; COATS, Edward; ERNSTING, John. A Device for Sampling Arterialized Earlobe Blood in Austere Environments. *Aviation, Space, and Environmental Medicine*, Alexandria, Virginia, EUA, v. 77, n. 4, p. 453-455, 2006.

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RUSSOMANO, T; Dalmarco, G; Falcao, Felipe P. Synthesis Lectures on Biomedical Engineering #18 - The Effects of Hypergravity and Microgravity on Biomedical Experiment (Paperback). 1. ed. Connecticut: Morgan & Claypool Publishers, 2008. v. 1. 70 p.

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RUSSOMANO, T. Mosaico. 1. ed. Pelotas: Editora Jornal Diario Popular, 2002. v. 1. 238 p.

RUSSOMANO, T.; Bauermann, B.. O ABC da vida no espaço. (*The ABC of Life in Space*) 1. ed. Porto Alegre: Editora Alcance, 1992. v. 1. 82 p.

RUSSOMANO, T.; Chatkin, M. ; Chatkin, A. . Três Crianças Falam de Astronomia. (*Three Children Talk About Astronomy*) 1. ed. Rio de Janeiro: Editora Freitas Bastos S.A., 1976. v. 1. 43 p.

## CHAPTERS in BOOKS

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- (7) RUSOMANO T, EC Grigolo, DFG Azevedo, RP Coelho, JC Castro. Disposição construtiva em câmara escura individual e portátil (ceip). (*Development of individual portable dark chambers*) Patent MU8200234-7 31<sup>st</sup> January 2002

## PROFESSIONAL ASSOCIATIONS/COMMITTEES – Past & Present

Co-founder/Co-coordinator Student Committee of the International Society for Telemedicine & eHealth Aerospace Medical Association, USA  
Asociacion Iberoamericana de Medicina Aeroespacial, Mexico.  
Brazilian Aerospace Society, Scientific Director, Brazil  
Honorary Member Slovenian Aerospace Medical Association, Slovenia  
IAA – International Academy of Astronautics, Space Life Sciences Committee  
International Academy of Aviation and Space Medicine, Europe  
Advisory Board of the Envihab, German Aerospace Centre  
International Space Committee ISO/TC 20/SC 14/WG 6 - Space systems - Man- Life activity support systems and equipment integration in space flight.  
Honorary member of the Philippine Academy of Aerospace Medicine & Biomedical Engineering  
Former member of the IAA – Medical Guidelines for crew members - Committee  
Former member of the IAA - Study Group in Space Tourism  
Former member of the Educational and Training Committee of the Aerospace Medical Association, USA  
Former member of the Educational Committee of the International Astronautical Federation  
Former member of the International Astronautical Federation’s Committee on the Contribution of Space Related Research to Advances in the Field of Medicine

## MEMBER OF INTERNATIONAL WORKING GROUPS

2013 International Academy of Astronautics (IAA), Commission 2 on Space Life Sciences  
2013 International Academy of Astronautics (IAA), Space Life Sciences in the Exploration Era  
2011 International Space Committee ISO/TC20/SC14/WG6, Space Systems – Man-Life Activity Support Systems and Equipment Integration in Space Flight  
2011 International Academy of Astronautics (IAA), Medical Safety Guidelines for Space Crews Involved in Short-Duration Commercial Orbital Flight Operations  
2010 Advisory Board of Envihab, German Aerospace Centre  
2010 International Academy of Astronautics (IAA), Space Life Sciences Committee  
2010 International Academy of Astronautics (IAA), Space Tourism Committee  
2008 National eHealth Policies. Promoted by The World Health Organisation & The Rockefeller Foundation.  
2008 Commission 2 - International Academy of Astronautics Study Group –eLearning in space life science  
2006/2007 Medical Safety Guidelines for Passengers on Commercial Orbital Space Flights. Promoted by International Academy of Astronautics Study Group, Commission 2 – Life Sciences. 2006/2007  
2005 Space Flight Issues in the 21st Century: Cardiovascular and Fluid Shift Issues. Bellagio, Italy. Promoted by The Rockefeller Foundation & The Mayo Clinic, USA

## LANGUAGES

Portuguese Fluent, native language  
Spanish Fluent in comprehension, speech, reading and writing  
English Fluent in comprehension, speech, reading and writing  
French Good comprehension, speak, read and write reasonably well

## REFERENCES

Available upon request