

ESA_lab@UCL

Theme: Interdisciplinary Space Studies and Research

Prof. Victor Buchli, Co-Director Space Domain
Department of Anthropology



Establishing Outer Space as a new field of area studies encompassing the hard and social sciences.

An opportunity to identify common problems with ESA to pursue from a social science perspective and enhance university training and research



- **An Ethnography of an Extra-terrestrial Society: the International Space Station**

[This project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement No. 833135)]

- **What:** This project proposes a comparative and multi-sited ethnography of the ISS among some of the key participants contributing to its modular architecture: The United States, Russia, Europe and Japan.
- **Why:** This project affords the opportunity to critically re-examine our terrestrially based theories in the social sciences. Space agencies are concerned with how humans make space stations, anthropologists want to know how those stations make humans.
- **How:** Methodologically the project looks at the quotidian and material dimensions of the ISS and its bodily and material techniques, re-examining traditional social scientific assumptions under 1G within the conditions of microgravity. More importantly the project examines the ISS as a complex nexus of inhabitation encompassing both terrestrial and extra-terrestrial sites in a novel configuration and thereby provides the first ever integrative and comparative study of this unprecedented form of human society and the material conditions of its emergence.

ETHNO-ISS TEAM

JO AIKEN

NASA, JOHNSON SPACE CENTER HOUSTON, TEXAS
NASA ORGANISATIONAL INFRASTRUCTURE AND THE ISS

VICTOR BUCHLI

NASA, AMES MOUNTAIN VIEW, CALIFORNIA
NEW MATERIAL CULTURE OF THE ISS IN LEO, 3-D AND BIO-MANUFACTURING

GILES BUNCH

ESA, COLOGNE, GERMANY
FLIGHT CONTROL TEAM TRAINING, COLUMBUS MODULE, MISSION CONTROL/ISS
NEXUS

EVGENIA GORBANENKO

RUSSIAN ORTHODOX CHURCH, MOSCOW, RUSSIA AND BAIKONUR,
KAZAKHSTAN
THE ISS AND RELIGIOUS LIFE IN THE RUSSIAN ORTHODOX CHURCH

DAVID JEEVENDRAM PILLAI

LONDON, ENGLAND
EARTH IMAGERY AND THE ISS; THE OVERVIEW EFFECT AND INSTITUTE

ADRYON KOZEL

LONDON, ENGLAND
SOCIAL MEDIA ENVIRONMENTS, ENTHUSIASM AND THE ISS

ALIÇA OKUMURA-ZIMMERLIN

JAXA, TSUKUBA JAPAN
THE ISS KIBO MODULE AND PROTOTYPING THE FUTURE

AARON PARKHURST

ESA, COLOGNE, GERMANY
MEDICAL ANTHROPOLOGY AND BIO MEDICAL RESEARCH ON THE ISS

MAKAR TERESHIN

VOSTOCHNY, SIBERIA AND BAIKONUR, KAZAKHSTAN
LAUNCH SPACE DEBRIS AND SCAVENGERS

After ETHNO-ISS:

**The ISS and prototyping the Moon Village
Identifying areas of concern and development from the social
science perspective**



Proposed MSc in the Interdisciplinary Study of Outer Space (ISOS)

The ISOS MSc will create a new generation of professionals and academics in the burgeoning Space sector. It will provide the critical tools for connected thinking, interdisciplinary training and research for this rapidly expanding field. Commercial and research activities are extending Human presence into this new area of study attracting billions of pounds in investment from industry and government. Yet this expanding field of human habitation, research, industry and economy requires an integrative and interdisciplinary focus across the social and hard sciences in order to be competitive and relevant.

UCL as one of the top research universities in the world has an extraordinary breadth of expertise at the disposal of ISOS MSc students from economics, law, policy and astronomy, to astrophysics, anthropology, geography, psychology, astrobiology, robotics, medicine, materials science, architecture and arts practice to name just a few areas of international excellence at UCL. In short, all the fields of research and endeavour at the heart of the development of the Space Sector are uniquely assembled here at UCL for the prospective student to exploit while they develop their own programme of interdisciplinary research to advance their professional and academic interests in this burgeoning sector and pursue further academic research at the PhD level.

There are two tracks to choose from depending on individual course prerequisites and the candidate's background - one in the social sciences and one in the hard sciences. Students will benefit from direct access to the UCL Space Domain, the Mullard Space Sciences Laboratory, the ESA_lab@ucl and the Off World Living Institute at the Bartlett school of architecture as well as wider departments and research. In addition, the global setting of London offers the candidate access to numerous international research institutes, learned societies, commercial headquarters and government institutions that are at the heart of the rapidly expanding Space sector.

PROGRAMME SUMMARY

MSc in the Interdisciplinary Study of Outer Space (ISOS)

- The degree consists of four elements:
 - 1) Core Course in Interdisciplinary Space studies
 - 2) Three Optional course elements; choice of hard science or social science track
 - 3) 15k word Original Dissertation supervised UCL Staff member
 - 4) Research Seminars
- **Possible MSc links with the ESA Academy?**
- **What does ESA need from an interdisciplinary training programme across the social and hard sciences?**

COSS: Centre for OuterSpace Studies

Director: Dr. David Jeevendrampillai (Jeeva)

email: david.jeevendrampillai@ucl.ac.uk

<https://www.ucl.ac.uk/institute-of-advanced-studies/centre-outer-space-studies>

The Centre for Outer Space Studies (COSS) was founded in 2019 to promote research and teaching related to the social study of Outer Space and our relationship to the cosmos and the planet. The Centre aims to act as a catalyst for serious debate, via talks, exhibitions, film screenings and other events that help us explore the socio-political impact of space science and the wider human relationship to outer space.

Selected programme of COSS events:

COSS TALKS, SOME TITLES: Amateur Astronomy; Astronauts and Anthropology; Visualising space politics; International women's day: A celebration of Women in Space; Regional Museums of Space Exploration in Russia: What can a planet do? Planetary social thought and the search for more-than-organic life.

COSS CATALYST: Each term three guest contributors are invited to present work on a theme related to outer space. Themes might include for example 'the body', 'environment', 'future', isolation, etc. The guests range from scholars to professionals to enthusiasts. Each will be invited to contribute work that takes around 10 minutes to engage with. This could be a video talk, a photo essay, a blog or any other format. These will be hosted and archived on the COSS website.

Themes to date are: 'Looking up'; 'Space Medicine'

COSS RESEARCH PROJECTS:

Myles Harris and Aaron Parkhurst (ETHNO-ISS), Space Analogue project: **Space Health and Disaster Risk Reduction**, with David Jeevendrampillai (COSS), Patrick Edgley (COSS) and others working with various UK Universities, the RAF Aviation Medicine, Austrian Space Forum, Alan Turing Institute and others.

Off-World Atlas: seminars, multimedia website and book project between UCL and PSL Paris, Funded by IAS, UCL Cities Partnerships Programme and Paris Sciences et Lettres



THANK YOU!

Victor Buchli

v.buchli@ucl.ac.uk