

## Professional Experience

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### Sep 2013 to Aug 2017      Experiment Systems Engineer, PRODEX Office, European Space Agency, Noordwijk, NL - for HE Space Operations B.V.

- Acted as/supported technical officer for projects from science, earth observation and microgravity including:
  - BELA for Bepicolombo
  - RPWI LP-PWI, RWI, LVPS, DPU and e-box for JUICE
  - ALTIUS phase B1
  - VIS RSU for EUCLID
  - Frame contract for coordinated component procurement for JUICE Instruments via PRODEX
- Day-to-day management responsibility for a range (up to >25 in parallel) of industrial contracts and PRODEX Experiment Agreements including instrument hardware developments. Prioritising my level of involvement on a case by case basis according to need in consultation with head of office and technical specialists
- Support to TO for several other industrial contracts and PEAs
- Responsibilities include:
  - Acting as focal point between stakeholders including principal investigators from European academia, industrial contractors undertaking hardware and software developments, colleagues from ESA mission teams, ESA technical specialists, head of PRODEX office, national delegation representatives
  - Preempting and addressing serious technical and contractual issues as needed, including identifying and coordinating expert resources
  - Leading and participating in project milestone reviews and progress meetings including review of technical content, compatibility with higher level requirements, schedule and budgets
  - Planning and implementing industrial contracts in collaboration with instrument PIs and other parts of ESA
  - Managing industrial and institute contracts on a day to day basis, particularly in phases B, C and D, including negotiation of contract changes

### Aug 2012 to Aug 2013      Assistant Systems Engineer: Iris Programme Office, European Space Agency, Noordwijk, NL - for HE Space Operations B.V.

- Requirements management including use of DOORS at mission level, working closely with aviation stakeholders (including SESAR and EUROCONTROL) and ESA experts and gap analysis to lower level requirements for the space and ground segments
- Guidance and review of work of related stakeholder projects developing user requirements within SESAR Joint Undertaking (main project with Thales Italy as prime)
- Identification and implementation of publication activities promoting the programme in a variety of stakeholder groups
- Support to management of industrial activities within the programme, including the main ANTARES development which was in phase B, including document review
- Contributing to definition and review of internal activities, both technical and programmatic, and those performed under ESA contract including expert stakeholder consultants

### Apr 2007 to Aug 2012      Systems Engineer: Ursa Minor Space & Navigation B.V., Delft, NL

- Galileo Search and Rescue Test Beacon (SAR-TB) development under ESA contract (Septentrio (BE) as prime) including systems engineering, requirements management, H/W and S/W test design and execution, documentation and project management. Participation in formal reviews e.g. DRB and S/W CDR.

- Responsibility within SAR-TB delta development and integration into SAR Verification Test Bench (SARVTB) under contract to CNES (CapGemini (FR) as prime).
- Requirements definition, design and implementation of commercial products and services including a GNSS RF signal simulator, implemented in LabVIEW.
- Consortium building and proposal coordination for ESA, EC and national funding programmes
- Interference detection and localisation system design and implementation in GALMONET project under Dutch national funding for GNSS RF monitoring grid concept using both a software defined radio product and commercial GNSS receiver
- Led company contribution to ESA study on telecommunications market evolution (ARTES 1 ESA AO/1-5508/07/NL/CLP)
- Responsibility for company role in at all technical levels of FP6 project MTTS, demonstrating a potential integrated application using Galileo capabilities
- Software development including Matlab, LabVIEW and Java

**Sep 2011 to Jan 2012      Lecturer, Fachhochschule Gelsenkirchen, Bocholt, DE**

- Creation and teaching of optional undergraduate course, 'Biomimetics & Space Engineering' within a new degree programme in Biomimetics at the university's new Institute for Biomimetics
- Subjects covered include Matlab, LaTeX, space systems engineering, biomimetic case studies, biomimetic methodology and technical writing

**Jun 2005 to May 2006      Young Graduate Trainee: Advanced Concepts Team (ACT), European Space Agency, Noordwijk, NL**

- Support of Ariadna programme, for collaboration with academia in small, efficient studies on emerging topics with relevance to space:
  - Involvement in programme management and evolution, including software management, support to administration of individual studies, actions to streamline processes and development of research objectives
  - Support to tender processes and study contract negotiations
  - Critical evaluation of study topics, at all stages from conception to completion, leading to a working understanding of research across the broad range of Ariadna activity
- Systems level study of various novel concepts in relation to potential Ariadna study and personal research and publications, particularly relating to robotics for exploration
- Involvement in CDF study (SPAESS) into alternative energy storage technologies in technical support of study manager
- Contributed to ACT and ESA objectives in areas such as ACT approach to new media including collaboratively authored databases and General Studies Programme external review

**various short term      Other Work Experience: Various Companies and Organisations, Several UK  
roles 2000 to 2005      locations**

- Campus Representative for graduate recruitment company, WCN. Responsible for autonomously raising company profile and increasing membership on campus.
- Volunteer Consultant, Cranfield Trust. Preliminary project planning for Driving Home, a disabled driven expedition aiming to raise in the region of £1 million
- Other Customer facing – Also includes work as bar and venue staff and shop assistant.
- Other Administrative – Includes 3 months at Standard Life Assurance Company

## Education

**2002 to 2003      Cranfield University (UK): MSc - Astronautics and Space Engineering**

- Courses included: Astrodynamics, Software Engineering, Control Engineering, Space Communications, Launch and Re-entry Aerodynamics, Space Propulsion and Introduction to Space Structures
- Group project title: 'Yes2: The Second Young Engineers Satellite – Mission Analysis and Trajectories' Collaborated with other members of the group in an iterative process of vehicle optimisation to produce a baseline design for this ESA funded project (launch 2007). Provided initial mission analysis and identification of safety issues from deployment to recovery of an inherently safe, inflatable sample return vehicle
- Thesis title: 'Mathematical Analysis of Dust Devils' – Analysis of suitability of mathematical models for representation of dust devils with particular focus on Mars. Code was written in C to fit theoretical model to

experimental data and simulations of particle movement in dust devils were implemented in Matlab\Simulink using equations of motion derived from selected force equation

#### 1997 to 2001 University of Edinburgh (UK): 2(ii) BSc (Hons) – Astrophysics

- Final year project - “Erratic Variability in Quasars”. Developed C code to perform statistical analysis of x-ray data from a bright, high redshift galaxy. Tested potential theoretical models for the variation
- Final year team review project - “The origin of the initial stellar mass function”
- Final year modules included: Electromagnetism, Thermodynamics, Atomic and Particle Physics, Astrophysical Cosmology, General Relativity, Stellar Evolution and a practical electronics module

#### 1991 to 1997 Belmont Academy, Ayr (UK)

- Sixth Year Studies – 2 at grade A in Physics and Chemistry
- Higher Grades – 5 at grade A including Maths, Biology, and Chemistry and 1 at grade B
- Standard Grades – 7 at grade 1 including Maths, Computing and French

### Training

- Self-financed/Independent Training
  - Environmental Engineering & Sustainable Development, London School of Economics summer school, London, UK, 3 weeks, 2010, grade A-
  - Introduction to computer networks, online course, 2012, <https://class.stanford.edu/courses/Engineering/Networking/Winter2014/about>
- European Space Agency/HE Space Operations B.V.
  - Reliable Electrical Engineering, ESA, ESTEC, 3 days, 2017
  - Effective Meetings, ESA, ESTEC, 2 days, 2015
  - Personal Impact in Meetings, RADA Enterprises, London, UK, 2 days, 2013
  - Advanced Negotiation Skills, ESA, ESTEC, NL, 2 days, 2012
  - Space systems Engineering, Southampton University, ESTEC, NL, 2 days, 2005
- Ursa Minor Space & Navigation B.V.
  - Autumn School in Planetary Sciences, NVR, Mendig, DE, 3 days, 2009
  - How to write a proposal, ESA, ESTEC, NL, 2 days, 2008

### IT Skills

- Advanced level – Microsoft Office, Matlab, LaTeX
- Intermediate level – DOORS, LabVIEW, Java, C, STK, Maple, Photoshop, GIMP

### Languages

- English – Native
- French – Listening – Fair, Reading - Basic, Speaking – Fair, Writing – Basic
- Dutch – Listening – Fair, Reading – Basic, Speaking – Fair, Writing – Basic
- Mauritian Creole – Listening – advanced, Reading – Fair, Speaking – Basic, Writing - Basic

### Other Interests

- Travel – independent travel including participation in a sponsored charity rally across 14 countries and 13000km.
- Music and Arts - Active member of university radio station while attending Edinburgh University. Violinist and self-taught guitarist. Keen photographer
- Other – Enjoy participating in sports and outdoor activities, currently mainly cycling and hiking. Formerly captain of my 5 a side football team. PADI qualified Open Water scuba diver. Full clean UK driving license