



# CHRISTOPHER TACON

RF Systems Test Engineer

## Education

### MSc Systems Engineering

University of Southampton

Thesis: Microwave Spacecraft Propulsion  
Distinction  
2018 - 2021

### MEng Aerospace Engineering

University of Southampton

Thesis: Bipropellant Rocket Engine  
First Class Honours  
2015 - 2018

### A Levels

Tonbridge School

Maths (A\*), Further Maths (A\*),  
Physics (A\*), Economics (A\*)  
2009 - 2014

## Key Skills

RF Engineering, RF Testing, SDR

Vector Network Analysers

Spectrum Analysers, Signal Generators

Programming, Python, C, LabVIEW

CAD, Solidworks

Simulation, COMSOL, Ansys, AGI STK

Quality management in Jira

Automated and Manual Testing

Stakeholder Engagement

Project Management

Systems Engineering

## Awards

### University Award (2018)

Royal Aeronautical Society

### Dean's Award (2018)

University of Southampton

### Honorary Scholarship (2013)

Tonbridge School

### Gliding Scholarship (2013)

Royal Air Force

### Non-Commissioned Officer Corporal Rank (2013)

Royal Air Force &

Combined Cadet Force

## Publications

### Conference Paper

Project Sirius

### MEng Group Project

Bipropellant Rocket Engine

### MSc Dissertation

Microwave Electric Spacecraft Propulsion

### MSc Group Project

Converting CO<sub>2</sub> Back Into Hydrocarbons

## Professional Summary

Highly motivated RF and Aerospace Systems Test Engineer, with three years of experience in academia, defence and civil industries. Hard-working and organised team member who takes the time to upskill others and lead in-house projects. Strong interests in RF, telecoms, spacecraft, and systems engineering.

## Professional Experience

### Systems Test Engineer | Comtech Telecommunications Corp

2021 – Present

Hands-on large-scale satellite ground systems installation, diagnosis, delivery and servicing. Working both on the factory floor and on sites around the world. The following detail key experiences:

- Work with VNAs, spectrum analysers, signal generators and other RF test equipment
- Antenna sub-reflector balancing and focusing using radiation pattern analysis
- Siemens, ABB and Copley mechanical drive testing
- Independently developed software and operational procedures to gather and analyse two-dimensional antenna radiation patterns
- On-site antenna build, commissioning and servicing
- Developing Python based software to automate radiation pattern testing, gain and G/T calculations

### Aerospace Systems Engineering Consultant | ALTEN Ltd.

2021

Consultancy position which included placements at Thales Defence Mission Systems and Airbus Landing Gear, specifically working on:

- Military radar requirements verification, validation and performance analysis in various environments
- Civil aviation landing gear system modifications

### Maths and Physics Tutor | Titanium Tutors

2020 – 2021

- Taught students aged between 14 and 18 to prepare them for GCSE's and A-Levels
- Utilise a range of teaching methods to help students understand mathematical concepts

### Post Graduate Researcher | University of Southampton

2018 – 2020

Microwave/Plasma Spacecraft propulsion research role that combined with an additional MSc:

- Devised thermal simulations in COMSOL to model the performance of cathodes for electric propulsion
- Conducted dynamic and static structural Ansys studies of novel steam-based spacecraft propulsion
- Wrote machine learning based optimisation code for ECR Gridded Ion Thruster grids using Python
- Developed and procured vacuum system components for testing highly corrosive propellants
- Programmed a motorized 2-axis plasma probe using LabVIEW
- Organised and led an academic conference on sustainability; involved designing promotional material, inviting speakers and chairing
- Additionally, took on University Demonstrating, utilising Python, AGI STK and electronics knowledge to help students in university run laboratory classes

### Product Development Consultant | TrouDigital

2020

- Developed an elnk digital road sign prototype utilising digital electronics, C and Arduino
- Modified products to record body temperature and detect signs of COVID-19

### Mentor (Voluntary) | IntoUniversity

2018 – 2019

- Mentored a child from a disadvantaged background, helping them achieve their academic potential

### Systems Engineering Intern | University of Southampton Small Satellite

2017

- Analysed satellite re-entry and compiled the Critical Design Review documentation for the university's first satellite
- Worked with the European Space Agency as part of the Fly Your Satellite Programme

## Courses and Memberships

- Diploma in RF and Microwave Communications (2021), The Technology Academy
- Full (Advanced) Amateur Radio Licence with Distinction (2018), Ofcom
- A Hands-on Introduction to Engineering Simulation (2019), Cornell University
- Plasma Physics: Introduction (2019), EPFL
- Spacecraft Operations Training Course (2018), European Space Agency
- Archer Supercomputer Driving Test (2018), EPCC
- STK Certification Level 1 (2018), AGI
- Associate (2018-), Royal Aeronautical Society