PERSONAL INFORMATION	Claudio Campa
	Sex Male | Date of birth 17/07/1962 | Nationality italian
CURRENT POSITION SSD (if applicable)	***Retired (November 2025)***
RESEARCH TOPICS / EXPERIENCES	▪ Telecommunication system ▪ Digital Signal Processing architecture ▪ FPGA/ASIC design for ground and for space ▪ Embedded processors and multiprocessor architectures ▪ Digital Hardware design for ground and for space ▪ Digital Beam Forming ▪ On Ground Beam forming ▪ TT&C and ranging Ground and on board modems ▪ Cryptographic communications ▪ Navigation payload signal generation ▪ Spread Spectrum systems ▪ Mars communication protocols (Proximity-1)

EDUCATION AND TRAINING

1987/12/11	Master Degree in Electronic Engineering, University of Rome “Sapienza” 110/110 cum laude
1981/07/25	Liceo Classico Diploma, Liceo “F. Vivona”, 60/60

WORK EXPERIENCE

since 2023/04/01	Digital Communications Technical Authority
since 2020/10/01	Head of Telecomm Technologies Dept. *Airbus Italia S.p.A., Rome (Italy)*
since 2014/03/01	Head of Development & Implementation Department
since 1996/06/01	Digital Techology Area senior engineering *Space Engineering SpA Rome (Italy)*
since 1989/04/10	Digital designer *Contraves Italiana SpA Rome (Italy)*

MAIN ROLES AND RESPONSIBILITIES

© European Union, 2002-2012 | http://europass.cedefop.europa.eu

From 1 April 2023 To November 2025	**Digital Telecomm Technical Authority in the CoE (Centre of Expertise) department** ▪ Responsible of Digital Telecomm roadmap in Airbus Italia ▪ Technical offers selection and preparation ▪ Supervisor of digital communication designs and developments activities in Airbus Italia
From 1 October 2020 To November 2025	**Head of Telecomm Technologies in the Engineering department** ▪ Head of Telecomm department (20 people) dealing with digital system development. ▪ Member of the Airbus DS **Galileo G2SB1** development team as Navigation Payload Firmware architect
From 1 July 2017 to October 2020	**Head of System technologies in the Engineering Department** ▪ Technical authority for the Firmware architecture of the Galileo G2G Test bed Navigation Payload (ESA project), as subcontractor of the Airbus DS Galileo GTS team. Responsible of the architecture and development of the Signal Generator Module of the G2G Navigation Payload, including the Monitoring and Compensation unit, for both the Demonstrator and the Galileo GTS Airbus offer.
From 1 Feb 2016 to 1 July 2017	**Head of Digital Group in the Smart Connectivity Solution Business Line** ▪ Project manager of the digital section of a Ka band **ISL Tasking Receiver** for LEO satellites, based on a space qualified FPGA. Low cost and low power Direct Sequence Spread Spectrum demodulator working at low C/No and high Doppler shift/rate ▪ Project manager of the ground TT&C modem of an Airbus DS military telecom satellite system based of a FH uplink and SS downlink with TRANSEC and COMSEC features. Responsible of the HW/FW architecture, design and development.
From 1 Mar 2014 To 1 Feb 2016	**Head of Development & Implementation Department** ▪ Program manager of the ESA project "Frequency Flexible **M2M** Terminal Modem Development**"** ▪ Program manager of the R&D activity on **SDR** (Software Defined Radio) TT&C ground modem ▪ Project responsible for the design and implementation of the UHF TT&C Proximity-1 Transceiver for the UHF SCOE for the Rover module of the **Exomars 2016** and **2018** mission. ▪ Project manager of the ESA project "**On Ground Beam Forming Networks** and Multi-User Detection Proof-of-Concept"
From 1 Jun 1996 to 1 Mar 2014	**Project/program manager – Telecom System/Hardware designer** Project manager of many projects for satellite ground station modems and study programs for ESA (partial list): ▪ Project manager of the ESA project "New generation of Consumer Terminal Architecture for Broadband and Broadcasting Applications" ▪ Project manager of test systems (SCOE) for satellite flight parts and payloads, like the TT&C and ranging modem for the **Galileo** satellites (both Standard Mode and Spread Spectrum), ▪ Design and Implementation of the satellite TT&C and ranging spread spectrum ground modem and of the Doppler Compensation Unit for **SICRAL 1, 1B and 2** systems (Alenia, Italian AM), for Korea (**KMilSatCom,** Frequency hopping and Spread Spectrum) and **YAHSAT**; ▪ Project manager of many ESA study projects, lilke "Fast Approximate Fourier Transforms for Irregularly Sampled Satellite Signals", "Future Multi-Purpose TT&C Systems & Techniques" (ESA), including a demonstrator with automatic detection of the waveform (modulation scheme and data rate ▪ Project manager of several ASI projects, like an exploitation study of a DVB S2/RCS Space Engineering ASIC on the Athena Fidus System Project manager of several EC ACT 05 projects, like "Functional UMTS Real Emulator (FUTURE)", "Virtual Home UMTS on Satellite (VIRTUOUS)" and others

© European Union, 2002-2012 | http://europass.cedefop.europa.eu

From 1 Mar 1993 To 1 Jul 1995	Oerlikon Contraves AG, Zuerich (Switzerland) Consultant as Hardware system designer in the projects: ▪ Skyguard radar: calibration system for X-band waveguide ▪ Design of the Electronic Cabinet to be included in a new radar system . In particular I lead a design team to redesign the old analog based Oerlikon Contraves radar signal processing system, to convert it in a new fully digital one. The result was a multi-DSP based architecture implementing both the search and track radar with a fully software flexible solution.
From 10 Apr 1989 to Mar 1993	Contraves Italiana SpA, Roma (Italy) Digital Hardware and Firmware designer: ▪ Contraves **Shorar 3D** radar: signal processing firmware ▪ EuroSam missile guidance system based on DSP Analog Device 2101 ▪ Study for new polyphase codes for radar pulse compression ▪ Study for ADC undersampling techniques for radar applications

HONOURS, AWARDS, MEMBERSHIPS, OTHER QUALIFICATIONS

2022	▪ Appointment as Airbus DS Firmware architect of the Galileo G2SB1 Navigation Payload project

Publications

List of the most relevant publications

- D. Gianfelici, C.Campa, R. Abello, S. Marti: “Multiple Spacecraft Per Aperture With Code Division Multiple Access Modulation: ESA 9th TT&C International Workshop, November 2022
- D. Silvi, C. Campa et alii: “ISL Multi-Service Satellite Transceiver For Constellation Management And Formation Flying”, IWSCFF-2019 Glasgow, July 2019
- S. Chatzinotas, B Ottersten, R. De Gaudenzi (Editors), C. Campa et alii: “Cooperative and Cognitive Satellite Systems”, Academic Press, 2015 Elsevier Ltd.
- C.Campa et alii: “A Low Cost ISL Tasking Receiver for LEO Satellites”, TTC 2016 ESA Conference proceeding, Sept 2016
- C.Campa et alii: “On Ground Beam Formin and Multi User Detection: Hardware Demonstrator Test Results And Technology Roadmap”, proceeding of 20st Ka and Broadband Communications, Navigation and Earth Observation Conference, Vietri (SA, Italy), Oct 2014
- C. Campa et alii: “On Ground Beam Forming And Multi User Detection Proof Of Concept”, proceeding of 31st AIAA International Communications Satellite Systems Conference, Florence, Oct 2013.
- F. Di Cecca, G. Gallinaro, E. Tirrò, C. Campa, S. Cioni, P. Angeletti, E.A. Candreva, F. Lombardo, A. Vanelli-Coralli, “On-Ground Beamforming and Interference Cancellation for next generation mobile systems”, Proc. of AIAA/Ka-band conference 2012, Ottawa (Canada), Sep. 2012

© European Union, 2002-2012 | http://europass.cedefop.europa.eu

- C. Campa: "A new autonomous TT&C Receiver architecture: algorithms analysis and implementation test", proceeding of ESA TTC2010 conference, Nordwijk, sept 2010.
- Campa, C., Della Pietra, G., Crisconio, M.: “Hardware implementation of a fuzzy attitude controller for small satellites”, ESA 4S Symposium of Small Satellites, System and Services, Chia Laguna, Italy, Sept 2006
- E.Rossini, C.Campa et alii: “Programmable Single Board Spread Spectrum Digital Modem” ESA/SPSC2003 - Eighth International Workshop on Signal Processing for Space Communications, Catania, Italy 2003.
- Seoung-Hoon Oh, Claudio Campa et alii: "QoS provision and IP Multimedia Services in FUTURE: Physical Demonstrator Architecture for Experiments”, IST Mobile Communications Summit 2003
- G. Gallinaro, H.P.Widmer, C.Campa: “A Real-Time Satellite & Terrestrial UMTS Physical Layer Testbed for the VIRTUOUS Project“, IST Mobile Communications Summit 2001
- G. Chiassarini, C. Campa, M. Cipriani: “Implementation of a Multicode BLQS-CDMA Modem Codec, in single PC board, using DSP and FPGAs"; proceeding of International Conference on DSP Applications & Technology (ICSPAT), Toronto 1998 pp.694-698.
- C. Campa, P. D'Alessandro, E. Rossini: “A General Purpose Processing System based on Digital Signal Processors”, proceeding of International Conference on Signal Processing Applications & Technology (ICSPAT), Boston 1993 pp.1085-1091
- C. Campa: "A Digital Down Converter for Radar Applications", proceeding of International Conference on Signal Processing Applications & Technology (ICSPAT), Boston 1992 pp.811-819
- C. Campa: "A Multi-DSP Architecture for Radar Signal Processing", proceeding of International Conference on DSP Applications & Technology (ICSPAT), Berlin 1991 pp.304-310

© European Union, 2002-2012 | http://europass.cedefop.europa.eu