

## **Career of Dr. Ing. Marcos Daniel Actis in Aerospace Issues**

Dr. Ing. Actis has a vast career in the technological development of aerospace components and vehicles, which began in the early 1990s and continues to date. His highlights include design, analysis, testing, construction and integration of components, advising of human resources and management, both at the University's level and beyond. In all activities he shows his strong leadership skills. He is founder of the UIDET GEMA (Research, Development, Extension and Consultancy Unit – Applied Mechanical Testing Group) and, recently, of the CTA (Aerospace Technology Center). During his career he has trained more than 100 people, including students, fellows, interns, young professionals and postgraduate students. His work has always been accompanied by active dissemination, both in scientific fields and in mass media.

The most outstanding milestones in Dr. Ing. Actis' career in Aerospace topics are detailed below:

1992-1993. Analysis of the reflective surface of a radio telescope satellite antenna at request from the IAR (Argentine Institute of Radioastronomy).

1993. Design of a clean chamber for SAC B environmental testing at the request of CONAE (National Committee for Aerospace Activities).

1994-1995. Design, implementation, and execution of mechanical environmental tests on SAC B components through the GitA group of the Aeronautics Department, at the request of CONAE.

1997. Design and construction of a testing bench for SAC C at the request of CONAE.

1997. Creation and coordination of the UID GEMA.

1997. Analysis, design and construction of ad-hoc testing instruments for the determination of SAC A properties, carried out in INVAP at the request of CONAE.

2005. Design, modelling, calculation, simulation, and structural and thermal testing of a Ka-band radiometer for the Aquarius - SAC D satellite at the request of CONAE.

2005 – 2006. Director and Principal Researcher for the Project "Determination and optimization of production techniques and processes for the mass manufacture of components of the BA-5 Gurí light aircraft", PAV Project 2004.

2006-2007. Structural and thermal development, construction, integration, and execution of structural and thermal tests of two radiometers at the frequencies of 23.8 GHz and 36.5 GHz for the Aquarius - SAC D satellite at the request of CONAE.

2006-2007. Mechanical and thermal structural development, construction, integration and execution of structural and thermal tests of a "New Infrared Sensor Technology" unit (NIRST) for the Aquarius - SAC D satellite at the request of CONAE.

2006 – 2010. Project Director, "Experimental and numerical study of the structural and thermal behavior of a Ka-band radiometer for space use in scientific research satellites", UNLP Project 11/1114.

2008. Coordination of situation report of the aeronautical industry in Argentina. This report entitled "Analysis of the Status of the Current Aeronautical Industry at the National, Regional and International Levels", at the request of the Ministry of Defense was used to re-state the current FADEASA.

2008 – 2010. Direction of the development of the helicopter structure, participation in the development of the transmission system of the main rotor and tail rotor, selection of materials, experimental measurements, among other topics, of the CICARE CH-14 helicopter for the Empresa Aeronáutica CICA-S.A..

2008 –2011. Technological Development for the Aquarius - SAC D satellite, covering the design, integration and testing of MWR and NIRST at the protoflight level, at the request of CONAE.

2009. Management of installations at Punta Indio Air Base and its firing range to test and integrate experimental components and vehicles. Management carried out between the Ministry of Defense (Navy) and CONAE.

2009-2016. Project Tronador II: Technological development, engineering provision, qualification, supervision of the manufacture and construction of components and assembly, integration and verification of the primary and secondary structure of the prototype Tronador II multi-stage vehicle. These activities include the engineering developments of the VEx1A, VEx1B, Capetina's launch base, part of VEx5A engineering and Tronador II conceptual engineering at the request of VENGSA-CONAE.

2010 – . Coordinator of a CAPES project between the National University of La Plata (UNLP) (Department of Aeronautical Engineering, Faculty of Engineering) and the Technological Institute of Aeronautics (ITA) Divicao de Engenharia Mecanica Aeronáutica ,Brasil.

2010 – 2012. Coordinator of the ARFITEC Project (ARF-10-10-PA/ARF-10-12) on Aeronautical themes between the following universities: ISAE (Institut Supérieur d'Aéronautique et de l'Espace); ENSMA; ENAC (Ecole Nationale de l'Aviation Civile) ENIT (Ecole Nationale d'Ingénieurs de Tarbes); ENIM (Ecole Nationale d'Ingénieurs du Mans); (Bénédicte ESCUDIER); UNC (NATIONAL UNIVERSITY OF CORDOBA); UNRC (NATIONAL UNIVERSITY OF RIO FOURTH); UNLP (NATIONAL SILVER UNIVERSITY); FRH-UTN (REGIONAL HAEDO FACULTY OF THE NATIONAL TECHNICAL UNIVERSITY); IUA (Aeronautical University Institute).

2010-2013. NCP (National Contact Point) for the 7th European Union Framework Development Research Programme in Transport including Aeronautics by Argentina within MINCyT.

2014. Creation and Direction of the Aerospace Technology Center (CTA) in the School of Engineering at UNLP.

2014. Management for the development of the Punta Indio Space Pole, between the Ministry of Planning, the City of Punta Indio and CONAE.

2010 – 2013. Project Manager. "Conceptual Launcher Vehicle Design", UNLP Project 11/I141.

2015 – 2017. Management, execution and member of the Administrative Councils of the following Projects selected in the frame of FITS 2013 ENERGIA, being part of the Technological

Innovation Program of the National Agency for Scientific and Technological Promotion (ANPCyT).

2014 – 2017. Project Director "Engineering of an Experimental Launcher Vehicle", UNLP Project 11/I198

2016. Member of the Satellite Technology Council (CTSAt - MinCyT).

2018 – 2021. Project Director "Design of a Second Stage for an Electropump Powered Rocket-Launcher," UNLP Project 11/I198

2018. Responsible for the creation of the Aerospace Engineering Career at the School of Engineering, the National University of La Plata

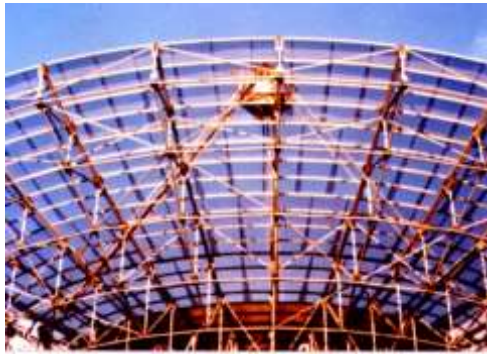
2019. Director of the University Satellite Project of the National University of La Plata

2019. Director of the BRAIA - Belt and Road Aerospace Innovation Alliance – (Alliance Belt and Road Aerospace Innovation) UNLP- Northwestern Polytechnical University (hereafter: NPU), P.R. of China

2020. Board Member of the National Space Activities Commission CoNAE. (Ad-honorem).

2022. Board Member of the Directorate of New Generation Vehicles Veng. SA over the Presidency of this. (Ad-honorem).

1992  
1993  
1997  
2005  
2007  
2009



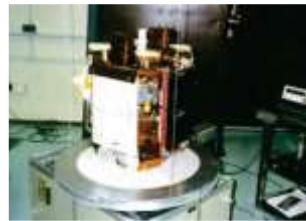
IAR radiotelescopio antenna

SAC B



Creation of the GEMA

SAC A



2005



SAC D



Tronador I Bis

2007



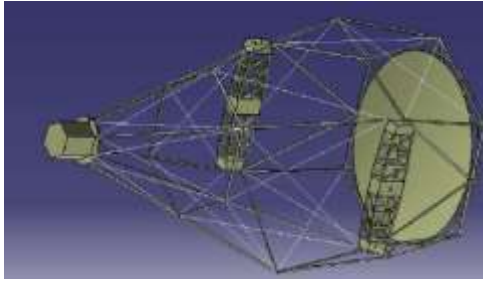
Cicare CH14

2009

SAC D



2010



CHERenkov Array XRay CTA Telescope Project

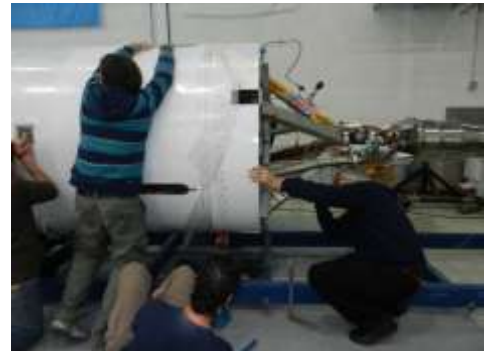


NCP FP7 Transport (incl. Aeronautics)

2011



Lanzamiento SAC D



VEx1 A

2013



Punta Indio Space Polo - H7 BAPI - Capetina Launch Base



2014



VEx1 B



CTA creation

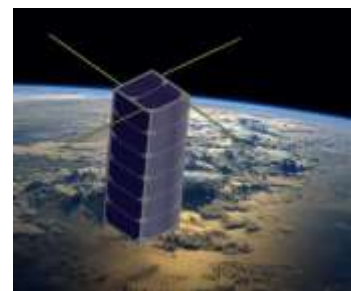
2016

VEx5A at CAPETINA



Braia membership UNLP-NPU RP CHINA

2020



University Satellite (UNLP)

VECTA Development