Session 1 – SEGMENTED ARCHITECTURES/DISTRIBUTED SYSTEMS

Monday, November 11th, 14:00 - 16:00
Chair: René Laufer, Baylor University

SAR Satellite Mission Analysis and Implementation with Along-Track Formation Flying - IAA-LA2-01-01

14:00 - 14:20
L. Cappuccio; J. Lugo; P. Weder / INVAP

On the Connectivity Optimization of a Potential CONAE's Network of LEO Satellites - IAA-LA2-01-02

14:20 - 14:40
Santiago M. Henn, Denis F. Martinez / UFS, CONAE - Universidad Tecnológica Nacional
Juan A. Fraire / CONICET - Universidad Nacional de Córdoba

CONAE to Address Autonomous Formation Flying and Rendezvous - Preliminary Analysis - IAA-LA2-01-03

14:40 - 15:00
Leonardo Comes, Felipe Pasquevich, Pablo Marino*, Maximiliano Fischer, Leonel Mazal / GGT – CONAE

Commercial Satellite Constellations in China - IAA-LA2-01-04

15:00 - 15:20
James Zheng, Chengyin Xie, Weijia Ren / Spacety

Enabling Distributed Small Satellite system through Modular Open System Architectures - IAA-LA2-01-05

15:20 - 15:40
Stanley O. Kennedy, Jr., **Alexander Dunn** / Oakman Aerospace
Juan Martin Semegone, **Luciano Rizzuto** / ArsUltra, S.A.

Session 2 – GROUND SEGMENT

Monday, November 11th, 16:20 - 18:00
Chair: Giancarlo Santilli, UnB

Application of machine learning techniques for telemetry analysis – IAA – LA2 – 02 – 01

16:20 - 16:40
Denis Fernando Martinez, Santiago Martin Henn, and **Ariel Sosa Visconti** / CONAE - UFS UTN

Experiences and lessons learned developing a next-generation ground segment prototype – IAA – LA2 – 02 – 02

16:40 - 17:00
Pablo Soligo, Jorge Salvador Ierache, UNLaM (Universidad Nacional de La Matanza)

TU Berlin satellite programmatics and multi-ground station concept – IAA – LA2 – 02 – 03

17:00 - 17:20
Martin von der Ohe, **Sascha Weiß**, **Sascha Kapitola** Technische Universität Berlin, Department of Aeronautics & Astronautics
Livio Gratton / Instituto Colomb - Conae

A Data Science approach for Telemetry Analysis on Smallsats Systems – IAA – LA2 – 02 – 04

17:20 - 17:40
Marcio W. Silva Jr, Denise Rotondi, Walter A. Dos Santos / National Space Research Institute – INPE

Real-Time Telemetry for Low Earth Orbit Satellites based on Machine to Machine Communications and Inmarsat Constellation – IAA – LA2 – 02 – 05

17:40 - 18:00
Aguirre, David; **Gomez, Emmanuel**); **Caballero, Ada Luz** / Unidad de Formación Superior - CONAE / UTN-FRM
Bava, José Alberto; **Ciafardini, Juan Pablo** / Departamento de Electrotecnia, Facultad de Ingeniería, Universidad Nacional de La Plata
Rodriguez, Guillermo / Departamento de Electrónica, Facultad de Ciencias Astronómicas y Geofísicas, Universidad Nacional de La Plata

Session 3 – SATELLITE FLIGHT DYNAMICS, SIMULATION AND CONTROL I

Tuesday, November 12th, 09:40 - 11:20
Chair: Alex Da Silva Curiel, SSTL

State Dependent Riccati Equation Attitude Control System for Low Powered, Optimal Large Maneuvers Run on Satellogic LEO Satellites – IAA – LA2 – 03 – 01

09:40 - 10:00

Mariano Sternheim Misuraca / Satellogic S.A.

Fast and Reliable Computation of Mean Orbital Elements for Autonomous Orbit Control – IAA – LA2 – 03 – 02

10:00 - 10:20

Emmanuel Gómez / Instituto de Altos Estudios Espaciales Mario Gulich

Pablo Servidia, Martín España / Comisión Nacional de Actividades Espaciales

Hardware in the Loop Test Bed for Distributed Satellite Platform Navigation and Orbit Control – IAA – LA2 – 03 – 03

10:20 - 10:40

Jose Relloso, Andrés Laudari / INVAP
Juan Lavirgen / Instituto Balseiro
Martín España / CONAE

Framework design for high-fidelity hardware-in-the-loop LEO satellite simulations

IAA – LA2 – 03– 04

10:40 - 11:00

Ignacio S. Husain Cerruti / School of Engineering of the University of Buenos Aires
Martín España / CONAE

An Energy-Based Approach to Satellite Attitude Control in presence of disturbances for a CubeSat Mission – IAA – LA2 – 03 – 05

11:00 - 11:20

Adolfo Chaves Jiménez / Costa Rica Institute of Technology
Mauricio Muñoz Arias / University of Groningen

Session 4 – SATELLITE FLIGHT DYNAMICS, SIMULATION AND CONTROL II

Tuesday, November 12th, 11:40 - 13:00
Chair: Martín España, CONAE

TPredict: A simple and effective satellite tracking and prediction software – IAA – LA2 – 04 – 01

11:40 - 12:00

Tomás Burroni / Universidad Nacional de General San Martín
Manuel Díaz Ramos / Satellogic

Performance evaluation of a low-cost CubeSat compatible GPS receiver through in-orbit simulation – IAA – LA2 – 04 – 02

12:00 - 12:20

Ernesto M. López / Instituto LEICI, Fac. de Ingeniería, Universidad Nacional de la Plata (UNLP)
Javier G. García, Santiago Rodríguez, Germán Scillone, Juan G. Díaz, Gerardo Ramón López La Valle / UIDET Sistemas Electrónicos de Navegación y Telecomunicaciones (SENyT), Fac. de Ingeniería, Universidad Nacional de la Plata (UNLP)

Computational subsystems models for determination of orbit, attitude and thermal behavior of a leo satellite – IAA – LA2 – 04 – 03

12:20 - 12:40

Juan José Saavedra Laureano / La Facultad de Ciencias Exactas, Físicas y Naturales, Universidad Nacional de Córdoba (FCEFyN - UNC)
Marco Alvarez Reyna / Unidad de Formación Superior - CONAE

Orbital maintenance for the INFANTE maritime surveillance satellite – IAA – LA2 – 04 – 04

12:40 - 13:00

A.D. Guerman / University Beira Interior
D.S. Ivanov, D.S. Roldugin / Keldysh Institute of Applied Mathematics

Session 5– LATIN AMERICA SMALL SATELLITES PROJECTS I

Tuesday, November 12th, 14:40 - 16:00
Chair: Rodrigo Leonardi, AEB

Preliminary analysis of a nanosat mission to integrate a lightning flashes detector with a biomass sensor in a CubeSat 3U configuration – IAA – LA2 – 05– 01

14:40 - 15:00

J.O. Murcia, K. Naccarato, M. Cardoso, A. Tikami, A. C. Julio Filho, G.F. Fernandes, L. Camargo, E. S. F Paula, C.A. Dos Santos, C. Batista, W.A. Dos Santos / National Institute for Space Research, INPE

The launch of NANOSATC-BR2 and the making up of the first Brazilian INPE-UFSM CubeSats constellation – IAA – LA2 – 05 – 02

15:00 - 15:20

Nelson Jorge Schuch, Rodrigo Passos Marques, Fernando Sobroza Pedroso, Thales Ramos Mânica, Leonardo Zavareze da Costa, **Jose Valentin Bageston /** Southern Regional Space Research Center – CRCRS/COCRE/INPE-MCTIC, Santa Maria Space Science Laboratory - LACESM/CT-UFSM
Juliano Moro / Southern Regional Space Research Center – CRCRS/COCRE/INPE-MCTIC, Santa Maria Space Science Laboratory - LACESM/CT-UFSM; State Key Laboratory of Space Weather
Otávio Santos Cupertino Durão, Marlos Rokenbach da Silva, Odim Mendes, Fátima Mattiello-Francisco / National Institute for Space Research (INPE/MCTIC)
Andrei Piccinini Legg, **André Luís da Silva**, **João Baptista dos Santos Martins, and Eduardo Escobar Bürger** / Federal University of Santa Maria - UFSM

Glacier monitoring in Antarctica using small satellites – IAA – LA2 – 05 – 03

15:20 - 15:40

Sebastián Marinsek, José Luis Seco / Instituto Antártico Argentino

On the development of an International CubeSat Mission Between Italy and Argentina with Academic Purposes – IAA – LA2 – 05 – 04

15:40 - 16:00

B. Vega, **A. Caballero**, **S. Henn**, **D. Aguirre**, **C. Gómez**, **E. Gómez**, **D. Martínez**, **I. Pintos**, **G. Santos**, **A. Sosa**, **J. Vargas** / UFS, CONAE - Universidad Tecnológica Nacional,
D. Silva Griffouliere / UFS, Instituto Gulich, CONAE

Session 6 – SATELLITE AIT & "SPACEALIZATION" (COTS QUALIFICATION)

Tuesday, November 12th, 16:20 - 18:00
Chair: Charles Norton, NASA

Study of displacement damage degradation using 75MeV Sulfur ions on AlInN-GaN Heterostructure Field-Effect Transistors - IAA-LA2-06-01

16:20 - 16:40

Nahuel A. Vega, Seshagiri R. Challa, Romualdo A. Ferreyra, Christian Kristukat, Nahuel A. Muller, Mario E. Debray, Gordon Schmidt, Hartmut Witte, Jürgen Christen, Armin Dadgar and André Strittmatter / TANDAR accelerator, CNEA, UNSAM, Otto-von-Guericke Universität Magdeburg

Heavy-ion induced single event transients on a CMOS digital output buffer using TANDAR microbeam - IAA-LA2-06-02

16:40 - 17:00

Nahuel A. Vega, Nahuel A. Muller, Mario E. Debray / TANDAR accelerator, CNEA

Development of a new vibro-acoustic qualification philosophy for Argentinian missions - IAA-LA2-06-03

17:00 - 17:20

Ariel Sosa Visconti / CONAE, UFS – UTN
Edgardo L. Roggero / CONAE

Analytical approach in risk assessment applied to space mission - IAA-LA2-06-04

17:20 - 17:40

Ada Luz Caballero / CONAE-UFS, UTN-FRC
Daniel Caruso, Roberto Alonso / CONAE

Silicon Photomultiplier characterization on board a satellite in LEO - IAA-LA2-06-05

17:40 - 18:00

Mariano Barella / Consejo Nacional de Investigaciones Científicas y Técnicas
Tomás Ignacio Burroni, Gabriel Sanca / Escuela de Ciencia y Tecnología - UNSAM
Irina Carsen / Escuela de Ciencia y Tecnología - FIUBA
Mónica Far, Tomás Ferreira Chase, Lucas Finazzi / Escuela de Ciencia y Tecnología - Universidad Nacional de General San Martín - Facultad de Ciencias Exactas y Naturales - UBA
Federico Golmar / Escuela de Ciencia y Tecnología - UNSAM, Consejo Nacional de Investigaciones Científicas y Técnicas
Fernando Gómez Marlasca / Comisión Nacional de Energía Atómica

Federico Izraelevitch / Escuela de Ciencia y Tecnología - UNSAM, Consejo Nacional de Investigaciones Científicas y Técnicas, Comisión Nacional de Energía Atómica,
Pablo Levy / Consejo Nacional de Investigaciones Científicas y Técnicas, Comisión Nacional de Energía Atómica

Session 7 – SMALL SATELLITES WORLDWIDE: ACHIEVEMENTS AND TRENDS

Wednesday, November 13th, 09:40 - 11:20
Chair: Matthias Hetscher, DLR

General considerations on economic evaluation of satellite missions. Application in small satellites project – IAA – LA2 – 07 – 01

09:40 - 10:00
Guillermo A. Tricoci / Conae - Instituto Colomb

The ISS Japanese Demonstration Platform and International Collaboration for Small Satellites Development – IAA – LA2 – 07 – 02

10:00 - 10:20
Masatoshi Nagasaki, Makoto Kanazawa / Space BD Inc

Lessons Learned from BIRDS Program, Satellite Program for Non-Space-Faring Countries – IAA – LA2 – 07 – 03

10:20 - 10:40
Mengu Cho, George Maeda / Kyushu Institute of Technology

Key-enabling factors for a successful SmallSat mission – IAA – LA2 – 07 – 04

10:40 - 11:00
Veronica La Regina / Nanoracks Sapce Outpost – Europe srl

Share Space, Shared Future Satellite Integrated Network Promote International Cooperation – IAA – LA2 – 07 – 05

11:00 - 11:20
Vanessa Han / China Aerospace Academy of Systems Science and Engineering

Session 8 – SATELLITE TECHNOLOGIES: SUBSYSTEMS I

Wednesday, November 13th, 11:40 - 13:00
Chair: Ronnie Nader, EXA

Structural Static Study with Finite Element Analysis of a Screwless CubeSat Design using a Folded Metal Sheet - IAA-LA2-08-01

11:40 - 12:00

Cristhian D. Coronel Arriola, **Mayra L. Mosqueda** / The Nihon Gakko University
Javier Ferrer, **Diego H. Stalder**, **Jorge H. Kurita** / Paraguay Space Agency; Asunción National University

UnB On-Board Computer Prototype for CubeSats - IAA-LA2-08-02

12:00 - 12:20

G. Silva Lionço, G. Santilli, L. Aguayo / Faculdade Gama (FGA), University of Brasília

FlexRay Networks for Critical Real-Time Intra-Spacecraft Communications - IAA-LA2-08-03

12:20 - 12:40

Ignacio R. Pintos Paladea, Marcelo Bisogni, Eduardo Kunysz / Comisión Nacional de Actividades Espaciales (CONAE)
Juan A. Fraire / CONICET - Universidad Nacional de Córdoba

Computational code for the determination of incident environmental fluxes and thermal analysis for CubeSats - IAA-LA2-08-04

12:40 - 13:00

Castello Nahuel M. / Comisión Nacional de Actividades Espaciales (CONAE)
Tomás I. Burroni, Nicolás V. Conde, Matías I. Escobar, Enzo G. Garabito, Luis S. López, Camila Mucanna / Escuela de Ciencia y Tecnología - Universidad Nacional de San Martín

Session 9 – SATELLITE TECHNOLOGIES: SUBSYSTEMS II

Wednesday, November 13th, 14:40 - 16:00
Chair: Pamela Millar, NASA

Low Power Communication System for a PocketQube Satellite Project - IAA-LA2-09-01

14:40 - 15:00
Jorge Arturo Heraud, Jhonnell Fernandez, David Torres, Ricardo Diaz, Rafael Vilchez / INRAS-PUCP

An attitude determination and control system for a PocketQube pico-satellite - IAA-LA2-09-02

15:00 - 15:20
Jorge Arturo Heraud, Neils Vilchez, Daniel Menendez, Rafael Vilchez, Carlos Busquets, Manuel Valenzuela / INRAS-PUCP

ICEPS: Compact, all-purpose, USB 2.0 based small satellite system core - IAA-LA2-09-03

15:20 - 15:40
Cdr. Ronnie Nader, Mr. Jules Nader Drouet, Mr. Gerard Nader Drouet/ Ecuadorian Civilian Space Agency (EXA)

Ultra-lightweight, 200-grams CubeSat Deployer for LEO to Lunar Missions - IAA-LA2-09-04

15:40 - 16:00
Cdr. Ronnie Nader, Mr. Jules Nader Drouet / Ecuadorian Civilian Space Agency (EXA)

Session 10 – SATELLITE TECHNOLOGIES: Payloads

Wednesday, November 13th, 17:00 - 18:00
Chair: Stanley Kennedy, Oakman Aerospace

Spectral and Radiometric Calibration Procedure for a SWIR Hyperspectral - IAA-LA2-10-01

17:00 - 17:20

Christian G. Gomez, Sergio Masuelli and Leandro F. Rocco, / CONAE

The Hyper-angular Imaging Polarimeter (HARP), pushing the limits to fit an Atmospheric Science Polarimetric Imager with "global" coverage in a Cube-Sat Mission - IAA-LA2-10-02

17:20 - 17:40

Roberto Fernandez-Borda, J. Vanderlei Martins, Brent McBride, Anin Phuttukkudy, Richard Xu, Lorraine Remer / Department of Physics - UMBC, Earth and Space Institute - UMBC, Joint Center for Earth Systems Technology - UMBC
Henrique M. J. Barbosa / Department of Physics - UMBC, Earth and Space Institute - UMBC, Joint Center for Earth Systems Technology - UMBC, Instituto de Física - Universidade de São Paulo

Mapping High Temperature Events with a Small Satellite Constellation – Results from DLR's FireBIRD Mission - IAA-LA2-10-03

17:40 - 18:00

Fischer, C., Halle, W., Säuberlich, T. , Terzibaschian, T. / German Aerospace Center: DLR Institute of Optical Sensor Systems
Frauenberger, O. / German Aerospace Center: DLR Earth Observation Center, German Remote Sensing Data Center

Session 11 – UNIVERSITY PROJECTS/EDUCATION

Thursday, November 14th, 09:00 - 11:20
Chair: Walter Abrahao Dos Santos, INPE

Simulation guided design of an air bearing based platform for ground testing of CubeSats attitude determination and control system- IAA-LA2-11-01

09:00 - 09:20
Esteban R. Fretes Ruiz Díaz, Aldo J. Galeano Alfonso, Sergio R. Toledo / Asunción National University
Diego H. Stalder, Jorge H. Kurita / Asunción National University, Paraguay Space Agency

Towards a CanSat Pico-satellite Program - IAA-LA2-11-02

09:20 - 09:40
Lucas D. Moreira, José G. Moreira / Asunción National University
Diego H. Stalder, Jorge H. Kurita / Asunción National University, Paraguay Space Agency

A Flexible Curriculum for Science and Engineering Courses using CanSat - IAA-LA2-11-03

09:40 - 10:00
Mariana Arruabarrena, Luciano Báez, Agustín Fernández, Ricardo Medel and Luciano Mori / Universidad Empresarial Siglo 21

BEESAT-9: A CubeSat's qualification model was launched - IAA-LA2-11-04

10:00 - 10:20
Sascha Weiß, Sascha Kapitola, Sebastian Grau / Technische Universität Berlin

CubeDesign - a competitive approach for introducing smallsats projects in Latin America IAA-LA2-11-05

10:20 - 10:40
Walter A. Dos Santos / INPE

High-Altitude Balloon Launch Program for satellite instruments validation aimed on Effective Student Learning - IAA-LA2-11-06

10:40 - 11:00

Jean Piere Cholán, George Fajardo, Jafet Santivañez, Ramiro Tintaya, Nataly Yauricasa, Fredy Segama / Lab Smart Machines - CTIC-UNI
Nicolas Oudart / Laboratoire Atmosphères - LATMOS, ESTACA

Introducing SmallSat Design Through Evolutive Science Projects – The SENAC-SJC Proposal IAA-LA2-11-07

11:00 - 11:20

Jair G. M. Torres, Marco Mammoli / SENAC-SJC
Auro Tikami, Marcus V. Cisotto, Antonio C. Julio Filho, Walter A. Dos Santos / INPE

Session 12 – SPECIAL SESSION

Thursday, November 14th, 11:40 - 13:00
Chair: Sebastián Marinsek, Instituto Antártico Argentino

SACI-E: Subjectivity, Art & Space Science - A transdisciplinary approach between Visual Arts and Space Science implemented in the context of Satellites, SmallSats and Remote sensing programs in INPE/Brazil - IAA-LA2-12-01

11:40 - 12:00
Fabiane M. Borges / INPE

Pujllay: the first nanosatellite engineering model developed in UNSAM - IAA-LA2-12-02

12:00 - 12:20
Camila Mucanna / Escuela de Ciencia y Tecnología - Universidad Nacional de San Martín, Instituto Colomb (CONAE-UNSAM)
Tomás I. Burroni, Nicolás V. Conde, Matías I. Escobar, Luis S. López, Matías B. Penida / Escuela de Ciencia y Tecnología - Universidad Nacional de San Martín
Claus M. Rosito / Instituto Colomb (CONAE-UNSAM)
Hernán Socolovsky / Escuela de Ciencia y Tecnología - Universidad Nacional de San Martín, Departamento de Energía Solar - Comisión Nacional de Energía Atómica

Innovation in small satellites – recent activities in SSTL - IAA-LA2-12-03

12:20 - 12:40
Clive Oates / SSTL

Session 13P – POSTER SESSION

Wednesday, November 13th, 16:00 - 17:00
Chair: Pablo Servidia, CONAE

Thermo Vacuum Chamber Structure Design for a 1U CubeSat - IAA-LA2-13P-01

Esteban Acosta Mellid / Asunción National University;
Diego H. Stalder; Javier Ferrer; Jorge H. Kurita / Paraguay space Agency, Asunción National University

CanSat Educational Kit - IAA-LA2-13P-02

Michelly Dantas Guedes / Federal Institute of education, science and technology of Rio Grande do Norte

Relationship between the mechanical stability of an antenna and the quality of the radio link - IAA-LA2-13P-03

Gutierrez Emiliano, Marco Alvarez Reyna / UFS - CONAE

Bacteriological Mutation Experiment as a Cubesat Mission Payload - IAA-LA2-13P-04

Brisa Panichelli, Gustavo Santos / UFS, CONAE - UTN

The CanSat project using Commercial-off-the-shelf components - IAA-LA2-13P-05

Ogata, V. O., Contieri, D. P., Lauro Paulo Da Silva Neto / National Institute for Space Research
Piñeros, J. O.M. / National Institute for Space Research

Implementation Of A Ground Station For A Cubesat Nano Satellite - IAA-LA2-13P-06

María Edith Siñanez Vásquez / FCEFyN - UNC
Marco Alvarez Reyna / UFS - CONAE

Multiobjective optimization methodology applied to a satellite system conceptual design - IAA-LA2-13-07

Gustavo J. Santos, Roberto Alonso, Marco Alvarez Reyna / UFS, CONAE - UTN
Sebastian M. Giusti / CONICET, UTN

Dynamic modeling of a CubeSat with three reaction wheels - IAA-LA2-13P-08

H. Mamani, **Pablo Raúl Yanyachi** / IAAPP-UNSA

A beam line to simulate space environment at TANDAR ion accelerator - IAA-LA2-13P-09

María Luján Ibarra, J. García, M. Alurralde / CNEA - UNSAM
M. Barrera / CNEA; Instituto de Nanociencia y Nanotecnología (INN), Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)
I. Prario / CNEA - DIIV-UNIDEF(MinDef/CONICET)

MOCHI, a Hitchhiker optical instrument for satellites - IAA-LA2-13P-10

Patricio Fluxá / CONAE - Instituto Colomb
Camila Mucanna, Norval Chenu / Escuela de ciencia y Tecnología, UNSAM - Instituto Colomb
Luís López, Tomás Burroni, Nicolás Conde, Matías Escobar, Diego Aranda /Escuela de Ciencia y Tecnología, UNSAM

Concept, design and implementation of a 1U cubesat structure - IAA-LA2-13P-11

Nicolas V. Conde, **Tomás I. Burroni** , **Matías I. Escobar**, **Luis S. López**, **Matías B. Penida** / Escuela de Ciencia y Tecnología, UNSAM
Camila Mucanna / Escuela de ciencia y Tecnología, UNSAM - Instituto Colomb

PocketQube SatDuino: First Pico Satellite and Development by Technical Schools of Argentina - IAA-LA2-13P-12

Alejandro Cordero / Escuela de Educación Secundaria Técnica de Mar del Plata

Photogrammetry - IAA-LA2-13P-13

Pedro Riva / VENG

Thermal control coatings - IAA-LA2-13P-14

Pedro Riva / VENG

Thermal vacuum test design for testing satellites electronic boxes - IAA-LA2-13P-15

Castello Nahuel M. / Comisión Nacional de Actividades Espaciales (CONAE), Escuela de Ciencia y Tecnología - Universidad Nacional de San Martín, UTN