

# 5<sup>TH</sup> IAA CONFERENCE ON UNIVERSITY SATELLITE MISSIONS AND CUBESAT WORKSHOP

January 28<sup>th</sup> ~ 31<sup>st</sup>, 2020

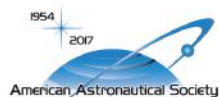
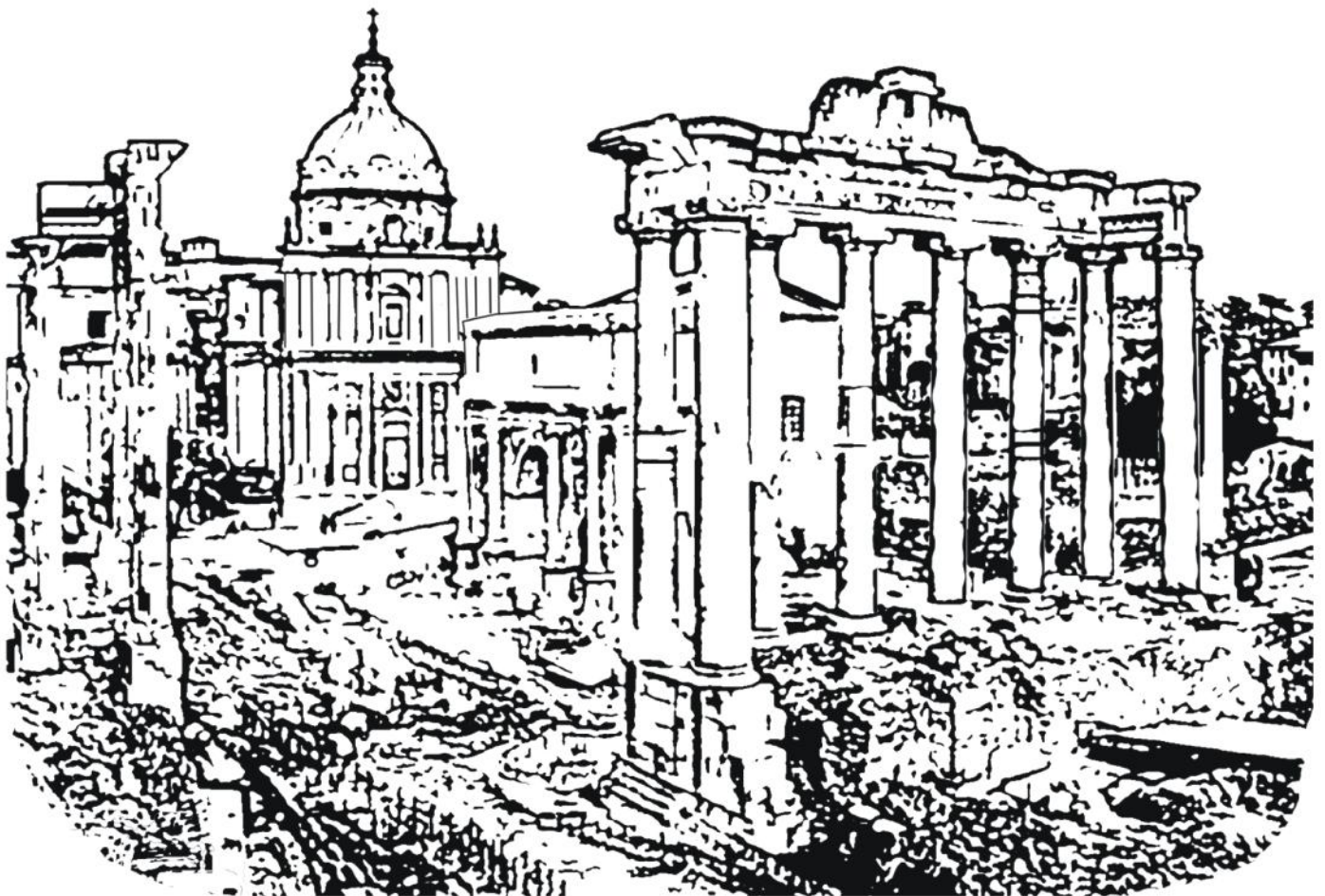
Palazzo Rospigliosi

Roma, Italy

[conference@gaussteam.com](mailto:conference@gaussteam.com)

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“Getting closer to Mars”



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## ***Conference Program***

**Tuesday, January 28, 2020**

**9:00 - 10:00 Registration and Exhibition Opening**

**10:00 - 11:00 Opening Ceremony:** *Welcome Address by Filippo Graziani, Jean-Michel Contant, Vladimir Andreev, Roberto Formaro (on behalf of ASI President), Paolo Teofilatto.*

**11:00 - 11:30 Opening Lecture by Jean-Michel Contant**

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**11:30 - 11:45 Coffee Break offered by DHV Technology**

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**11:45 - 12:45 IAA Award and New Member Induction**

*Chair: Antonio Viviani*

- **2019 Engineering Sciences Award of the International Academy of Astronautics**  
**Chantal Cappelletti** - CubeSat: The Future of a Revolutionary Idea...  
*(University of Nottingham)*
- **New Corresponding Member of the International Academy of Astronautics**  
**Leonardo Mazzini** - Research initiatives inside recent industrial activities.  
*(Thales Alenia Space)*

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**12:45 - 13:45 Lunch**

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**13:45 - 15:45 Invited Lectures**

*Chair: Giovanni Caprara*

**13:45 - 14:05**

**Mikhail Ovchinnikov** - To the Moon and Beyond by CubeSats: Advantage or Adventure?  
*(Keldysh Institute of Applied Mathematics)*

**14:05 - 14:25**

**Leon Alkalai** - An Overview of Recent Earth Science, Planetary, and AstroPhysics Small Missions at JPL.  
*(NASA Jet Propulsion Laboratory)*

**14:25 - 14:45**

**Miguel Bello Mora** - Small Satellite Earth Observation Applications.  
*(Deimos Space)*

**14:45 - 15:05**

**Paolo Teofilatto** - From Linear to Nonlinear Astrodynamics.  
*(School of Aerospace Engineering)*

**15:05 - 15:25**

**Vicente Diaz** - Automatization of Solar Panels for Space Applications.  
(DHV Technology)

**15:25 – 15:45**

**Abe Bonnema** - ISISpace and CubeSats - Growing up Together.  
(ISISpace)

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**15:45 - 16:00 Coffee Break offered by DHV Technology**

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**16:00 - 17:45 Constellations And Formation Flying**

Chair: Giovanni B. Palmerini

16:00\_ IAA-AAS-CU-20-01-01

Attitude Control Algorithms in a Swarm of CubeSats: Kriging Interpolation and Coordinated Data Exchange.

*Anton Afanasev, Anton Ivanov, Ahmed Mahfouz, Dmitry Pritykin*  
(Skolkovo Institute of Science and Technology)

16:15\_ IAA-AAS-CU-20-01-02

Collision Avoidance for CubeSats in Formation Flying.

*Karthick Dharmarajan, Giovanni B. Palmerini, Marco Sabatini*  
(Sapienza Università di Roma)

16:30\_ IAA-AAS-CU-20-01-03

Iterative Learning Control Processes On-Board Cubesats.

*Federica Angeletti, Paolo Iannelli*  
(Sapienza Università di Roma)

16:45\_ IAA-AAS-CU-20-01-04

The HERMES Mission: a CubeSat Constellation for Multi-Messenger Astrophysics.

*Francesca Scala, Michèle Lavagna, Fabrizio Ferrandi, Paolo Lunghi, Giovanni Zanotti, Stefano Silvestrini, Serena Curzel*  
(Politecnico di Milano)

17:00\_ IAA-AAS-CU-20-01-05

Traffic Prediction Model for Broadband Microsatellites Constellations.

*Roman Korobkov, Dmitry Pritykin*  
(Skolkovo Institute of Science and Technology)

17:15\_ IAA-AAS-CU-20-01-06

Methods for Accurate Ballistics Calculations for Multi-Satellite Constellations.

*Natalia A. Zavalova, Egor V. Pliashkov, Vadim Yu. Semaka, Vladimir A. Panov, Ivan N. Zavalov, Sergei S. Negodiaev*  
(Moscow Institute of Physics and Technology)

17:30\_ IAA-AAS-CU-20-01-07

Decentralized Architecture for Space Cloud Service Based on Medium-Size Satellite Constellation.

*Ruslan Konurbayev, Abdelrahman Metwally, Joshit Mohanty*  
(Skolkovo Institute of Science and Technology)

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**18:00 Welcome Cocktail offered by BCC – Banca di Credito Cooperativo di Roma**

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**Wednesday, January 29, 2020**

**9:30 - 10:50 Invited Lectures**

**9:30 - 9:50**

**Fernando Aguado Agelet** - Enabling Technologies for Future Small Satellite Missions: WiPTherm Project.  
(University of Vigo)

**9:50 - 10:10**

**Klaus Schilling** - CloudCT: Design Challenges for a Formation of 10 Nano-Satellites.  
(University of Würzburg)

**10:10 - 10:30**

**Marina Ruggieri** - New Fascinating Challenges for Space Systems: Softwarization, AI-Based Robotization and Sustainability. Which Role for CubeSats?  
(Università di Tor Vergata)

**10:30 - 10:50**

**Massimo Perelli** - Cubesat Equipments.  
(Ingegneria Marketing Tecnologia)

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**10:50 - 11:05 Coffee Break offered by GMV Space**

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**11:05 - 12:50 Space Debris**

Chair: *Sergei Schmaltz*

11:05\_ IAA-AAS-CU-20-02-01

Analysis of Systems for Removal of Space Debris from Low-Earth Orbits.  
*K. Blagodarov, S. Bondarenko*  
(Secondary School N. 8, Dnipro - Honchar Dnipro National University)

11:20\_ IAA-AAS-CU-20-02-02

Laboratory Study of Control Algorithms for Debris Removal Using CubeSat.  
*Danil Ivanov, Filipp Kozin, Mahdi Akhloumadi*  
(Keldysh Institute of Applied Mathematics - Moscow Institute of Physics and Technology)

11:35\_ IAA-AAS-CU-20-02-03

Space Debris Mitigation: Cranfield University's Family of Drag Augmentation Systems.  
*Zaria Serfontein, Jennifer Kingston, Stephen Hobbs, Ian Holbrough*  
(Cranfield University - Belstead Research Ltd)

11:50\_ IAA-AAS-CU-20-02-04

Preliminary Analysis of Double Station Meteors Observation via CubeSat Cluster Flight  
*Hongru Chen, Nicolas Rambaux, Riad Chelil, Robin Matha*  
(IMCCE, Observatoire de Paris, Université PSL, CNRS, Sorbonne Université, Université Lille)

12:05\_ IAA-AAS-CU-20-02-05

Automatic Space Debris Detection on Images.  
*Ilaia Perepechkin, Sergei Negodiaev, Pavel Grishin*  
(Moscow Institute of Physics and Technology)

12:20\_ IAA-AAS-CU-20-02-06

CubeSat with Dual Robotic Manipulators for Debris Mitigation and Remediation.  
*Houman Hakima, Michael C.F. Bazzocchi*  
(Institute for Aerospace Studies, University of Toronto - Department of Mechanical and Industrial Engineering, University of Toronto)

12:35\_ IAA-AAS-CU-20-02-07

Cassini Cycles in Long-term Rotational Dynamics of TOPEX/Poseidon Defunct Satellite.

*Sergey Efimov, Dmitry Pritykin, Vladislav Sidorenko*

*(Moscow Institute of Physics and Technology - Skolkovo Institute of Science and Technology - Keldysh Institute of Applied Mathematics)*

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**12:50 - 13:50 Lunch**

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## **13:50 - 14:40 Invited Lectures**

**13:50 - 14:10**

**Amalia Finzi** - Captured by the Moon.

*(Politecnico di Milano)*

**14:10 - 14:30**

**Mengu Cho** - Introduction of IAA Study Group on CubeSat Interface.

*(Kyushu Institute of Technology)*

## **14:30 - 15:45 Space Science**

*Chair: Anna Guerman*

14:30\_ IAA-AAS-CU-20-03-01

OPHELOS: A Biomedical CubeSat Concept.

*Luis Cormier, Jacek Patora, Manuel Ibarrodo, James Cockayne*

*(University of Nottingham)*

14:45\_ IAA-AAS-CU-20-03-02

Multi-Satellite Project Universat - SOCRAT of Cubesat Grouping, for Spacecraft and Aviation Radiation Hazard Warning System and First Experience of Moscow University Cubesat Missions.

*S.I. Svertilov, V.L. Petrov, M.I. Panasyuk, V.V. Bogomolov, A.F. Iyudin, V.V. Kalegaev, P.A. Klimov, V.I. Osedlo, O.Yu. Peretyat'ko, M.V. Podzolk, Yu.K., Zaiko, I.A. Zolotarev, I.V. Yashin.*

*(M.V. Lomonosov Moscow State University)*

15:00\_ IAA-AAS-CU-20-03-03

Development of a CubeSat Platform for Biomedical and Pharmaceutical LEO Experiments.

*Daniel Robson, Chantal Cappelletti, Joel Segal, Phil Williams, Nathaniel Szewczyk*

*(School of Pharmacy, Faculty of Science, University of Nottingham - Department of Mechanical, Materials and Manufacturing Engineering, Faculty of Engineering, University of Nottingham, Faculty of Medicine & Health Sciences, University of Nottingham)*

15:15\_ IAA-AAS-CU-20-03-04

CC4CC - Feasibility Study of a CubeSat Constellation for Monitoring Sea Level Change.

*Jacek Patora, Chantal Cappelletti*

*(Department of Mechanical, Materials and Manufacturing Engineering, University of Nottingham)*

15:30\_ IAA-AAS-CU-20-03-05

AstroBio CubeSat: a Nanosatellite for Space Environment Astrobiology Experiments.

*Andrea Meneghin, John Robert Brucato, Daniele Paglialunga, Augusto Nascetti, Gianluca Fiacco, Naveen Shiddabasappa Odogoudra, Stefano Carletta, Luigi Schirone, Pierpaolo Granello, Matteo Ferrara, Paolo Teofilatto, Sergio Massaioli, Claudio Paris, Maurizio Parisse, Lorenzo Iannascoli, Domenico Caputo, Giampiero de Cesare, Laura Anfossi, Mara Mirasoli, Martina Zangheri, Liyana Popova, Simone Pirrotta (INAF – Astrophysical Observatory of Arcetri - School of Aerospace Engineering, Sapienza University of Rome - Dept. Inform., Electronics and TLC Eng., Sapienza Università di Roma - Department of Chemistry, Università di Torino - Dept. of Chemistry G. Ciamician, Alma Mater Studiorum – Università di Bologna - Kayser Italia S.r.l. - Agenzia Spaziale Italiana)*

**15:45 - 16:00 COFFEE BREAK offered by GMV Space**

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**16:00 - 17:45 Mission Design**

*Chair: Paolo Teofilatto*

16:00\_ IAA-AAS-CU-20-04-01

An Inside Look at Capacity Building and its Roles towards Space Industry Development in Thailand.

*Kittanart Jusatayanond*

*(AstroBerry Ltd)*

16:15\_ IAA-AAS-CU-20-04-02

Flight Results From a Passively Magnetic Stabilised Single Unit CubeSat.

*Danil Ivanov, Merlin F. Barschke, Mikhail Ovchinnikov, Klaus Brieff*

*(Keldysh Institute of Applied Mathematics - Technische Universität Berlin)*

16:30\_ IAA-AAS-CU-20-04-03

Satellite Laser Ranging to SteccoSat Nanosatellite.

*Claudio Paris, Stefano Carletta*

*(Museo Storico della Fisica e Centro Studi e Ricerche Enrico Fermi - Sapienza Università di Roma)*

16:45\_ IAA-AAS-CU-20-04-03

NANOSTAR, a Collaborative Approach to Nanosatellite Education.

*Jorge Monteiro, Anna Guerman*

*(University of Beira Interior)*

17:00\_ IAA-AAS-CU-20-04-04

An Overview of the Alfa Crux CubeSat Mission for Narrowband Communication.

*Leandro Ribeiro Reis, Renato Alves Borges, João Paulo Leite, Chantal Cappelletti, Simone Battistini*

*(Electrical Engineering Department, University of Brasilia - Department of Mechanical, Materials and Manufacturing Engineering, University of Nottingham - Department of Engineering and Mathematics, Sheffield Hallam University)*

17:15\_ IAA-AAS-CU-20-04-05

Inspire Fly: A University CubeSat Mission Set to Make Space Local by Demonstrating the First External Display Screen in the Space Environment.

*Simran Singh, Ben Strickler, Kevin T. Crofton*

*(Department of Aerospace and Ocean Engineering, Virginia Tech)*

17:30\_ IAA-AAS-CU-20-04-06

Mini Space Elevator Demonstration by CubeSat "STARS".

*Masahiro Nohmi*

*(Shizuoka University)*

**Thursday, January 30, 2020**

**9:30 - 9:50 Invited Lecture**

**Kathleen Howell** - Leveraging the Bicircular Restricted Four-Body Problem for SmallSats in the Sun-Earth-Moon System.

*(Purdue University)*

**9:50 - 12:45 Interplanetary Missions**

*Chair: Chantal Cappelletti*

9:50\_ IAA-AAS-CU-20-05-01

Station-Keeping about Sun-Mars Three-Dimensional Quasi-Periodic Collinear Libration Point Trajectories.

*Stefano Carletta, Mauro Pontani, Paolo Teofilatto*

*(Sapienza Università di Roma)*

10:05\_ IAA-AAS-CU-20-05-02

A Trajectory Design Framework Leveraging Low-Thrust for the Lunar IceCube Mission.

*Robert Pritchett, Kathleen C. Howell, David Folta*

*(Purdue University)*

10:20\_ IAA-AAS-CU-20-05-03

Spacecraft for Remote Sensing of the Moon in the Visible Range of Electromagnetic Wavelengths Based on Components of the CubeSat Class.

*Ihor Stratii*

*(Yuzhnoye SDO)*

10:35\_ IAA-AAS-CU-20-05-04

Mission Analysis in the Braking Effect of a Small Nanosatellite Thruster to Achieve Mars Orbit.

*Renan Santos, Paolo Teofilatto*

*(Sapienza Università di Roma)*

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**10:50 - 11:05 Coffee Break**

11:05\_ IAA-AAS-CU-20-05-05

Enabling Interplanetary Missions with Small Spacecraft by Using High-Energy Pulsed Plasma Thrusters.

*Paolo Gessini, Giancarlo Santilli, Pedro Luiz Kaled da Cás, Rodrigo Intini Marques*

*(University of Brasilia – National Institute for Space Research)*

11:20\_ IAA-AAS-CU-20-05-06

CubeSat Project for Sounding the Atmosphere of Mars.

*Iskander S. Gazizov, Dmitry S. Shaposhnikov, Sergei G. Zenevich, Dmitry V. Churbanov, Rodin A.V*

*(Moscow Institute of Physics and Technology – Space research Institute of the Russian Academy of Sciences)*

11:35\_ IAA-AAS-CU-20-05-07

Cubesat Launch for Mission on Mars Using a Small Dedicated Launcher and Electric Propulsion.

*Artur Gustavo Slongo, Nicolas Winckler Musskopf, Samara Herrmann, André Luís da Silva and João Felipe de Araújo Martos*

*(Federal University of Santa Maria)*



11:50\_ IAA-AAS-CU-20-05-08

Interplanetary Communication Architecture for Future Human Settlements.  
*Joshit Mohanty, AbdelRahman Metwally, Ruslan Konurbayev, Behnoosh Meskoob*  
*(Skolkovo Institute of Science and Technology)*

12:05\_ IAA-AAS-CU-20-05-09

Mothercraft-CubeSat Radio Measurement for Phobos Survey.  
*Hongru Chen, Nicolas Rambaux, Daniel Hestroffer*  
*(IMCCE, Observatoire de Paris, Université PSL, CNRS, Sorbonne Université, Université Lille)*

12:20\_ IAA-AAS-CU-20-05-10

The Context and the Technological Challenges Propulsion System for Mars Exploration and Beyond.  
*Kathiravan Thangavel, Sathish Kannan*  
*(Sapienza Università di Roma)*

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**12:35 - 13:45 Lunch**

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### **13:45 - 14:45 Invited Lectures**

**13:45 - 14:05**

**Giorgio Saccoccia** - Italian Activities in the Field of Small and Micro Satellites.  
*(Italian Space Agency President)*

**14:05 - 14:25**

**Alfred Ng** - Canadian CubeSat Project – Building Space Capacity Across Canada.  
*(Canadian Space Agency)*

**14:25 - 14:45**

**Anna Guerman** - INFANTE Maritime Surveillance Satellite.  
*(University of Beira Interior, Covilha, Portugal)*

### **14:45 - 18:00 LEO Missions**

*Chair: Paolo Gasbarri*

14:45\_ IAA-AAS-CU-20-06-01

Nonlinear Orbit Control for Earth Satellites Using Low-Thrust Propulsion.  
*Marco Pustorino, Mauro Pontani*  
*(Sapienza Università di Roma)*

15:00\_ IAA-AAS-CU-20-06-02

Three-axis Magnetic Control for a Nanosatellite: Practical Limitations due to a Residual Dipole Moment.  
*Dmitry S. Roldugin, Anna Guerman, Danil S. Ivanov, Mikhail Y. Ovchinnikov*  
*(Keldysh Institute of Applied Mathematics – University of Beira Interior).*

15:15\_ IAA-AAS-CU-20-06-03

Spacecraft Attitude Stabilization for Magnetically Actuated Spacecraft using Rotation Matrices.  
*Fabio Celani*  
*(Sapienza Università di Roma)*

15:30\_ IAA-AAS-CU-20-06-04

Flight Experimentation with Magnetic Attitude Control System of SiriusSat1&2 Nanosatellites.  
*Dmitry Roldugin, Danil Ivanov, Stepan Tkachev, Roman Zharkih, and Artem Kudryavtsev*  
*(Keldysh Institute of Applied Mathematics – Sputnix Ltd)*

15:45\_ IAA-AAS-CU-20-06-05

A Multi-Satellite Mission to Illuminate the Earth: Formation Control Based on Impulsive Maneuvers.  
*Shamil Biktimirov, Danil Ivanov, Tagir Sadretdinov and Dmitry Pritykin*  
(Skolkovo Institute of Science and Technology – Keldysh Institute of Applied Mathematics)

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**16:00 – 16:15 Coffee Break**

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16:15\_ IAA-AAS-CU-20-06-06

In-Orbit Performance of TOTEM, an Advanced Multi-Application SDR Payload, in LUME-I Mission.  
*Diego Nodar Lopez, Alberto González Muiño, Diego Hurtado de Mendoza Pombo, Aarón Nercellas Ventas, Bibiano Fernández-Arruti García*  
(Alén Space)

16:30\_ IAA-AAS-CU-20-06-07

Creating CubeSat Image Database for Machine Learning based Onboard Classification for Future Missions.  
*Abhas Maskey, Mengu Cho*  
(Kyushu Institute of Technology)

16:45\_ IAA-AAS-CU-20-06-08

The CUTE CubeSat Mission.  
*A. G. Sreejith, Kevin France, Brian Fleming, Arika Egan, Jean-Michel Desert, Luca Fossati, Tommi Koskinen, Pascal Petit, Aline Vidotto, Carolina Villareal, D'Angelo, Matthew Beasley, Wilson Cauley and S. Ambily.*  
(Space Research Institute, Austrian Academy of Sciences - University of Colorado, University of Amsterdam - University of Arizona - University of Toulouse - Trinity College Dublin - Southwest Research Institute)

17:00\_ IAA-AAS-CU-20-06-09

Prospects for 2030 and Challenges in Exploring Benefits of IAA-GLOCECOHADIM Africa LionSat-1 Project in Cameroon for Sustainable Development of African Countries.  
*Tomukum Chia, Tebeng Lawrence Musi*  
(Global Centre for Compliance, Hazards and Disaster Management)

17:15\_ IAA-AAS-CU-20-06-10

Nanosatc-br3 Concept Design Using Model-Based Systems Engineering (mbse).  
*Artur G. Slongo, Lorenzo Quevedo Mantovani, Nelson Jorge Schuch, Otávio Santos Cupertino Durão, Fátima Mattiello-Francisco, André Luís da Silva, Andrei Piccinini Legg and Eduardo Escobar Bürger*  
(Southern Regional Space Research Center, CRCRS/COCRE/INPE-MCTIC, in collaboration with the Santa Maria Space Science Laboratory, LACESM/CT-UFSM - National Institute for Space Research (INPE/MCTIC) - Federal University of Santa Maria, UFSM, Technology Center)

17:30\_ IAA-AAS-CU-20-06-11

Educational Space Science and Engineering CubeSat Experiment Mission.  
*George Z. H. Zhu*  
(Department of Mechanical Engineering, York University, Canada)

17:45\_ IAA-AAS-CU-20-06-12

ALSAT-2B EGSE in Cleanroom at the Algerian Satellite Development Center, Experience and Lessons Learned.  
*Abdelhak Abderrezague*  
(Center of Satellite Development/Space Algerian Agency)

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**20:00-22:30 IAA Gala Dinner\***

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\*Limited Availability  
Ticket to be booked at the reception (100€/person)

**Friday, January 31, 2020****9:30 – 10:10 Invited Lectures****9:30 – 9:50**

**Igor Molotov** - Participation of the ISON in the Optical Monitoring of Small Objects at High Orbits.  
(*Keldysh Institute of Applied Mathematics*)

**9:50 – 10:10**

**Sergei Schmaltz** - Fast Rotator Photometry with Slow Read-Out CCD.  
(*Keldysh Institute of Applied Mathematics*)

**10:10 – 10:30 Coffee Break****10:30 – 16:00 Systems**Chair: *Mikhail Ovchinnikov*

10:30\_ IAA-AAS-CU-20-07-01

Russian - Azerbaijan Small Satellite Project for Radiation Monitoring and Upper Atmosphere Control.  
*V. Osedlo, M.I. Panasyuk, P. Abdullaev, G. Agaev, V.V. Bogomolov, R. Gasanov, V.V. Kalegaev, T. Mamedzade, V.L. Petrov, M.V. Podzolkov, A. Proskuryakov, R. Rustamov, A.S. ogly Samedov, H. Seyidov, (S.I. Svertilov, M.V. Lomonosov Moscow State University - Azerbaijan National Aviation Academy - Azercosmos)*

10:45\_ IAA-AAS-CU-20-07-02

GMV's Experience with CubeSat and Key Technologies.  
*Angelo Tomassini*  
(*GMV Innovating Solutions*)

11:00\_ IAA-AAS-CU-20-07-03

On-Board Computer Based on SRAM FPGA for PocketQube Missions.  
*Salim M. Farissi, Stefano Carletta, Augusto Nascetti*  
(*Sapienza Università di Roma*)

11:15\_ IAA-AAS-CU-20-07-04

First Results of UV Radiation Measurements Made by AURA Detector Onboard VDNH-80 Cubesat.  
*D. Chernov, E. Glinkin, P. Klimov, A. Murashov*  
(*Skobeltsyn Institute of Nuclear Physics*)

11:30\_ IAA-AAS-CU-20-07-05

Advanced Gamma Detector for Cubesats.  
*Vitaly V. Bogomolov, Yuri N. Dement'ev, A.F. Iyudin, A.A. Novikov, M.I. Panasyuk, S.I. Svertilov, I.V. Yashin.*  
(*M. V. Lomonosov Moscow State University*)

11:45\_ IAA-AAS-CU-20-07-06

The RAAD Detector for Studying Terrestrial Gamma-Ray Flashes.  
*Lolwa Alkindi*  
(*New York University Abu Dhabi*)

12:00\_ IAA-AAS-CU-20-07-07

Experiences in Design and Testing of Reaction Wheels for Microsatellites.  
*Giovanni B. Palmerini, Prakriti Kapilavai*  
(*Sapienza Università di Roma*)

12:15\_ IAA-AAS-CU-20-07-08

Design and Experimental Set-Up of a Paraffin Based Hybrid Rocket Engine to Brake a 24U Microsatellite in a Mars Orbit.  
*Caio Henrique Franco Levi Domingos, Sasi Kiran Palateerdham, Antonella Ingenito, Stefano Vecchio*  
(*Sapienza Università di Roma*)

12:30\_ IAA-AAS-CU-20-07-09

REGULUS In-Orbit Demonstration and Its Potential for New Mission Scenarios.

*Nicolas Bellomo, Elena Toson, M. Manente, F. Trezzolani, A. Selmo, R. Mantellato, D. Scalzi, M. Duzzi, A. Barbato, D. Paulon, M. Magarotto, M. Minute, A. Schiavon, L. Cappelini, D. Pavarin*  
(Technology for Propulsion and Innovation)

12:45\_ IAA-AAS-CU-20-07-10

Organic Polymer Solar Cells for Solar Sail Nanosatellites Missions.

*Mohamed Amine Bensalem*  
(Kocaeli University)

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**13:00 - 14:00 Lunch**

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14:00\_ IAA-AAS-CU-20-07-11

GAUSS Electronics for New Space Systems.

*Riccardo Di Roberto, Rafael Resende Dias, Damiano Balzani*  
(GAUSS Srl)

14:15\_ IAA-AAS-CU-20-07-12

An Innovative Implementation of the TRIAD Ans EKF Algorithms on FPGA Using Systolic Array Architecture for Real-Time Attitude Determination.

*Salim M. Farissi, Stefano Carletta, Augusto Nascetti, Paolo Teofilatto.*  
(Sapienza Università di Roma)

14:30\_ IAA-AAS-CU-20-07-13

Formation-Flying SAR as a Spaceborne Distributed Radar Based on a Microsatellite Cluster.

*A. Renga, M.D. Graziano, G. Fasano, M. Grasso, R. Opromolla, G. Rufino, M. Grassi, A. Moccia*  
(Università di Napoli)

14:45\_ IAA-AAS-CU-20-07-14

Low Thrust Engines System of Lunar Lander-Hopper

*Serhii Asmolovskyi*  
(Yuzhnoye SDO)

15:00\_ IAA-AAS-CU-20-07-15

Ka-Band ISL and Transceiver for Small Satellites.

*Massimo Cuzzola*  
(Antwerp Space, OHB)

15:15\_ IAA-AAS-CU-20-07-16

Development, Qualification and First Flight Data of the Iodine Based Cold Gas Thruster for CubeSats.

*Dmytro Rafalskyi, Javier Martinez Martinez, Elena Zorzoli Rossi, Ane Aanesland*  
(ThrustMe)

15:30\_ IAA-AAS-CU-20-07-17

An FPGA-based RISC-V Computer Architecture Orbital Laboratory on a PocketCube Satellite.

*Luigi Blasi, Abdallah Cheikh, Salim M. Farissi, Antonio Mastrandrea, Francesco Menichelli, Augusto Nascetti, Mauro Olivieri, Francesco Vigli*  
(Sapienza Università di Roma)

**15:45 – 16:45 Poster Session**

**16:45 Conference Closing**

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**16:30– 17:30 Stirrup Cup**

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## **Committees**

### ***Scientific Committee***

Jean-Michel Contant,	<i>IAA General Secretary.</i>
Mikhail Y. Ovchinnikov,	<i>Head of Space Systems Dynamics Department, IAA Member.</i>
Filippo Graziani,	<i>GAUSS Srl President, IAA Member.</i>
Benjamin K. Malphrus,	<i>Professor and Director of Space Science Center at Morehead University, IAA Member.</i>
Fernando Aguado Agelet,	<i>Full Professor at University of Vigo.</i>
Kathleen C. Howell,	<i>Hsu Lo Distinguished Professor at School of Aeronautics and Astronautics, Purdue University, IAA Member.</i>
Anna Guerman,	<i>Associate Professor at University of Beira Interior, IAA Member.</i>
Yury Razoumny,	<i>Professor at RUDN University, IAA Member.</i>
Paolo Teofilatto,	<i>Dean of the School of Aerospace Engineering, IAA Member.</i>
Leon Alkalai,	<i>Manager NASA Jet Propulsion Laboratory, IAA Member.</i>
Arun Misra,	<i>Professor at McGill University.</i>
Giovanni B. Palmerini,	<i>Professor at the School of Aerospace Engineering of Roma, IAA Member.</i>
David Spencer,	<i>Professor at Purdue University, IAA Member.</i>
Antonio Viviani,	<i>Professor at Università degli Studi della Campania Luigi Vanvitelli.</i>
Chantal Cappelletti,	<i>Assistant Professor at University of Nottingham, GAUSS Srl Co-Founder, IAA Member.</i>
Sergei Schmaltz,	<i>KIAM Astronomer.</i>

### ***Local Organizing Committee***

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