			A.Y. 2022/23			A.Y. 2023/24			A.Y. 2024/25		
	GENERAL / MULTIDISCIPLINARY	A.Y.*	CONTENT SPECIFIC SEMINAR 1**	CONTENT SPECIFIC SEMINAR 2**	CONTENT SPECIFIC SEMINAR 3**	CONTENT SPECIFIC SEMINAR 1**	CONTENT SPECIFIC SEMINAR 2**	CONTENT SPECIFIC SEMINAR 3**	CONTENT SPECIFIC SEMINAR 1**	CONTENT SPECIFIC SEMINAR 2**	CONTENT SPECIFIC SEMINAR 3**
CURRICULUM 1	**Observations of the Universe through Space PhD Projects, Goals, Methodologies and Links, Carlo Baccigalupi, SISSA, March 1st, 2023, 16:00**	**2022/2023**	**Advances and perspectives in the observations of high energy cosmic radiations, Ivan De Mitri, March 30th, 2023, 4 pm**	**Cosmic Microwave Background & Large Scale Structure Cross-Correlation, Marina Migliaccio Rome Tor Vergata, May 3rd, 2023, 4pm https://rebrand.ly/Seminar-Migliaccio**	**Multi-Messenger Astronomy from Space, Eleonora Troja, May 31st, 2023, 16:00**	**Astroparticle Physics in Space with Cosmic Rays, Speaker Roberto Battiston, March 27th, 16:00, 2024**	**Bursting and cool slowly rotating stellar zombies, Speaker Nanda Rea, April 24th, 2024, 16:00 https://us02web.zoom.us/j/7050444609?pwd=enRnVUtUaTlYMXZLTmtiT2tybXBGZz09**	Constraints on Cosmological Gravitational Waves from Combined Ground and Space Observations, Speaker Susan Clark (Stanford), date and time TBD.	TBD	TBD	TBD
CURRICULUM 2	**Fundamental and exploratory space plasma physics: current and future heliospheric missions, A. Retinò (CNRS - Paris) February 15 11-12 A.M.**	**2022/2023**	**Magnetosphere-Ionosphere coupling during solar active conditions in terms of current systems, M. Piersanti (UNIVAQ) September 18, 2023 3 pm https://univaq.webex.com/meet/mirko.piersanti**	**Fractal and complex network analysis of time series, V. Munoz Universidad de Chile September 22, 2023 4 pm https://unitn.zoom.us/j/87879404346?pwd=SFc4aVZQQTdGLzNFcmw3N0trQ21pZz09 ID: 878 7940 4346**	**Volcanic Giants - what we know, what we still don't know, what we may never know about the largest explosive eruptions on Earth. P. Papale INGV (Pisa) 17 aprile ore 11**	Radiation Belts. G. Reeves (Los Alamos National Laboratory). April-September	Earth: A magnetic planet at risk. A. De Santis (INGV Roma 2), TBD	Space observation fast geophysical phenomena (earthquakes, tsunamis, volcanoes) , Roberto Battiston, TBD	Space Weather and Space Climate, TBD		
CURRICULUM 3	**From Space to Earth and back. Giovanni Pratesi (UniFI), online,14 June 2023 h. 11:00 a.m.**	**2022/2023**	**Chaotic dynamics in galactic billiards, Vivina Barutello (UniTO), May 30th, 2023, 11 am Link Webex: Sala riunioni personale di Vivina Barutello https://unito.webex.com/meet/vivina.barutello | 843669346 Accedi tramite sistema video Chiamare vivina.barutello@unito.webex.com e immettere il PIN organizzatore . Puoi anche chiamare 62.109.219.4 e immettere il numero della riunione. Accedi per telefono +39 0230410 440 Call-in toll number (Italy) Codice di accesso: 843 669 346**	**The Jupiter Icy Moon Explorer (JUICE) mision, Lorenzo Bruzzone, 25/10 alle ore 15:00**	Advanced optics for space applications, Roberto Ragazzoni, 18/04 ore 10 https://unitn.zoom.us/j/88987362284?pwd=VlVKQzJVNXRuK2taM2R5TXNYTzRxdz09 ID riunione: 889 8736 2284 Codice d'accesso: 615392	**Mathematics for Planetary Defense, Prof. Giacomo Tommei (University of Pisa) - Giovedì 16 maggio alle 11. ID riunione 879 9461 4839 Passcode 345592 Link di invito https://unitn.zoom.us/j/87994614839?pwd=cEtlZER1dlZiTnNJWjRCQldpSm03QT09**	**Planetary Geology: open issues and future perspectives. Lucia Marinangeli (UniCH), online, 7 May 2024, 10.30 A.M. https://teams.microsoft.com/l/meetup-join/19%3ameeting_MjI3NWM1NGUtYzA0MS00OTA1LThhNTYtYzc1NjZmMDcwZDcw%40thread.v2/0?context=%7b%22Tid%22%3a%2241f8b7d0-9a21-415c-9c69-a67984f3d0de%22%2c%22Oid%22%3a%22163820d8-8635-474b-ac69-10d2d43cb7a4%22%7d**	**The exploration of the Solar System: current and future plans, Speaker Prof. Roberto Orosei (INAF), 18 april 2024 10:00 a.m. https://unitn.zoom.us/j/88987362284?pwd=VlVKQzJVNXRuK2taM2R5TXNYTzRxdz09 ID riunione: 889 8736 2284 Codice d'accesso: 615392**	Space mission life cycle, Andrea Argan, April 2025	The EnVision mission to Venus (speaker TBD), TBD	The present and future of the characterization of exoplanetary atmospheres, Valerio Nascimbeni, TBD
CURRICULUM 4	Life Science in Space, Speaker TBD, online, period TBD	2023/2024 2nd semester	**Gut microbiota, nutrition and brain plasticity. Paola Tognini, Pisa, 14-17 febbraio 2023 https://teams.microsoft.com/l/team/19%3au8H1LK7DJUmN2xTxaUCxJxUbmi8SNqa_WFejzIsBWUo1%40thread.tacv2/conversations?groupId=355df4cf-d152-4f8c-86b7-13ba774e6933&tenantId=c7456b31-a220-47f5-be52-473828670**	**"Experimental Hardware and Facilities for Space Life Sciences" Dr. Michele Balsamo, Ph.D. Head of Section Life Science Research and Development Kayser Italia S.r.l. 11 May 2023 2 pm https://teams.microsoft.com/l/meetup-join/19%3ameeting_YzhkOWI4NTMtMDg4ZC00ZTc1LTgwNWUtYjJiZDg3OGY0OWNh%40thread.v2/0?context=%7b%22Tid%22%3a%2213b55eef-7018-4674-a3d7-**	**Renal function and orthostatic intolerance in microgravity, Prof.ssa Ivana Valenti, on-line, 18 settembre 2023 ore 9 Zoom link: https://unitn.zoom.us/j/85850983684?pwd=eGpYNml3dE5DZWp5NTdMRTNmLzd6QT09 Meeting ID: 858 5098 3684 Passcode: 898640**	Resolution of inflammation: a game of Lipid networks, Dr. Alessandro Leuti, Università Campus Bio-Medico di Roma, online, Spring 2024	**Multisensory Functioning in Space, Prof. Massimiliano Zampini, CIMeC, Università di Trento May 21, 2024, at 3 p.m. Zoom Link: https://unitn.zoom.us/j/7471889896 Passcode: 19824**	Changes in brain structure and the development of SANS during long-duration spaceflight. Prof. Donna Roberts, MD Medical University of South Carolina Department of Radiology and Radiological Science Charleston, SC, USA , 27 maggio 2024	Impact of long duration spaceflight on the human vestibular system and the brain. Prof. Dr Floris L Wuyts Head of Lab for Equilibrium Investigations and Aerospace (LEIA), University of Antwerp Vertigo expert – European Institute for Otolaryngology HNS	Space Radiation risks and human exploration. Prof. Angela Maria Rizzo. Università degli Studi di Milano	Recent advances on ISRU and ISFR technologies for deep space exploration. Prof. Giacomo Cao. Università degli Studi di Cagliari
CURRICULUM 5	Design of a space mission: the tecnological point of view - Speaker Cristian De Santis - Period TBD Email: cristian.desantis@roma2.infn.it	2024/2025	**Titolo:Optical fiber sensing: technology and applications Speaker:Fabrizio Di Pasquale, SSSA Anno: 2023 Periodo:7 giugno (16:00) Email:fabrizio.dipasquale@santannapisa.it**	**Titolo:The Imaging X-ray Polarimetry Explorer Speaker: Luca Baldini, UniPI e INFN Anno:2023 Data:12 aprile (10:00) Email:luca.baldini@pi.infn.it**	**Titolo: Introduction to Spaceborne Radars for SSA Speaker: Dr. Marco Maffei, TAS-I Anno: 2023 Periodo: 15 settembre, 12:00 - 13:30 Email: marco.maffei@thalesaleniaspace.com https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZmNjMmQ0NTYtNzU0Ni00YmViLWI4MzgtZjhmMzcxNTMyMDE5%40thread.v2/0?context=%7b%22Tid%22%3a%222e10e44d-c7b9-43e3-b020-1292482e504a%22%2c%22Oid%22%3a%22d0940c83-ef2a-**	**Titolo: Low Gain Avalanche Detectors and Their Applications Speaker: Matteo Centis Vignali, FBK Anno: 2024 Periodo: 12 giugno ore 15:00 Email:mcentisvignali@fbk.eu Entra Zoom Riunione https://infn-it.zoom.us/j/94981588544?pwd=S0R1VnEyTmdhREhrV0kzbzRGUEd3Zz09**	**AMS missione - Speaker: G. Ambrosi (INFN) 18 aprile 2024, 11:30 - Email: giovanni.ambrosi@pg.infn.it Entra Zoom Riunione https://infn-it.zoom.us/j/96805620032?pwd=eXk3SVRheUdOYmhvTUo3dU92Q2dMUT09 ID riunione: 968 0562 0032 Passcode: 688945**	**Titolo: Miniaturization of photonic sensing systems on chip Speaker: Claudio Otón, SSSA Anno: 2024 Periodo: 5 febbraio ore 15:00 Email: claudio.oton@santannapisa.it ZOOM LINK: https://infn-it.zoom.us/j/98002606907?pwd=Q2srcldkcUVod3lz**	Titolo: Silicon Photomultipliers (SiPMs) Evolution and Space Applications Speaker: Dr. Fabio Acerbi, FBK Anno: TBD Periodo:TBD Emial: acerbi@fbk.eu	Titolo: X-Ray spectrometry with energy dispersive detectors Speaker: Giancarlo Pepponi, FBK Anno: TBD Periodo:TBD Email: pepponi@fbk.eu	Seminario su elettronica di frontend per applicazioni spaziali
CURRICULUM 6	Titolo: "The sooner, the better!" - State of the art and technical challenges of small satellites and near-space platforms for technology demonstration; Speaker: Salvo Marcuccio (UniPI);	2023/2024	**Titolo: " ESA missions in gravitational wave astronomy: LISA Pathfinder and LISA; Speaker: Stefano Vitale (UniTN); anno:2023; Periodo 27 aprile 2023, 15-16 https://unitn.zoom.us/j/84093944978?pwd=aDR5ZDhkWit3WG1wL0dveUM3WHNOQT09**	**Titolo: Multibeam Antennas: Architectures, Trends & Challenges; Speaker: Giovanni Toso (ESA) 23 giugno 2023 (15:00-16:00 CEST) On-line platform: Microsoft TEAMS Link: https://teams.microsoft.com/l/meetup-**	**The Jupiter Icy Moon Explorer (JUICE) mision, Lorenzo Bruzzone, 25/10 alle ore 15:00**	Titolo: ? Speaker: Prof. Stefano Seriani, Dept. of Engineering and Architecture, University of Trieste 6 giugno 2024, ?			The EnVision mission to Venus (speaker TBD), TBD		
CURRICULUM 7		2024/2025	**Space Diplomacy: Players and Dynamics - Prof. D. Burigana (UNIPD). APril 19, 2023, 10:00 am. Entra nella riunione in Zoom https://unipd.zoom.us/j/89664426756?pwd=QkhZc0w0UlhrVS95ZHJ1Q1huWGhidz09 ID riunione: 896 6442 6756**			Titolo: How to communicate your participation in Space exploration? The Italian case from History to the present Space Economy Speaker: David Burigana, UniPD Anno: 2024 Periodo: 15 maggio ore ?	Titolo: How to communicate your participation in Space exploration? A Space Communication Lab: how to describe your research Speaker: David Burigana, UniPD Anno: 2024 Periodo: 10 giugno ore ?				

*Each curriculum must offer one general seminar in the three-year period for each doctoral cycle. All doctoral students must attend the 7 seminars offered

**Each curriculum must offer three specific seminars for each of the three academic years for each doctoral cycle. Each doctoral student is obliged to attend at least six of the seminars offered by the relevant curriculum during the three-year period.