

PERSONAL INFORMATION

Michele Frangiamore



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Sex Male | Date of birth 08/02/1989 | Nationality Italian

PROTECTED CATEGORIES

Member of the Protected Categories for civil disability greater than 67%.
Member of the Protected Categories for son of work-related death.

INTRODUCE MYSELF

I am a scientific researcher at INAF OABr in my third year of AdR, I am part of the Research and Development group of optical technologies at the Brera Merate site and I am currently serving as a designer and technologist of dispersive elements for professional astronomical instrumentation.

My duties include in addition to a theoretical study of the design, the manufacture of the devices and the design and implementation of the technologies necessary for their creation and characterization. At the behest of my research manager, I have also worked over the past year on the design and search for technological partners for the creation of a modern laboratory dedicated to the science of VPHGs.

During these last working years, I have also been involved in the coordination of research groups, such as the case of the "HUB Pignoletto" project for in-flight hyperspectral soil analysis. And recently I have been commissioned by the institute director to coordinate the building-project and construction work of the new four PNRR-funded laboratories at the INAF OABr facility.

WORK EXPERIENCE

01/2021 – on going

Researcher at INAF Osservatorio Astronomico di Brera. (AdR determina n.102.)

CUBES @ VLT 2023 - Ongoing

- Responsible for laboratory testing of UV-VIS disperser.
- New strategy formalization to reduce the work time with repeatable robotic procedures.

CUBES, Cassegrain U-Band Efficient Spectrograph, is installed on the Cassegrain focus of the VLT to cover UV band at intermediate resolution R=20K

BIFROST @ 2023 – Ongoing

- Support in the grating design, feasibility and design study;
- VPHGs sample manufacturing and tests.

The BIFROST instrument will be the first VLTI instrument optimized for high spectral resolution up to R=25,000 and operate between 1.05 and 1.7 μm.

MAVIS Low-Res Disperser @VLT 2023

- Support in the grating design, feasibility and design study;
- VPHGs sample manufacturing and tests.

MAVIS is intended to be installed at the Nasmyth focus of the VLT UT4 and is made of two main parts: an Adaptive Optics, an imager and an IFU spectrograph.

HUB PIGNOLETTO 2022 - Ongoing

- Coordinator of the INAF group within the "HUB Pignoletto" project.
- Responsible for the design of the dispersing elements, and design support of the newly developed hyperspectral spectrograph (Compressive sampling recording data).

The "HUB Pignoletto" project gathers proposals for land monitoring for the purpose of precision agriculture, using remotely piloted systems such as rovers, drones.

AFOSC Dual-Ord @ Copernico 2022

- Innovative VPHGs Design, manufacturing, optical procurement, integration and test of manufactured dispersing elements.
- Assembly with AFOSC instrument and on sky calibration and test.

The innovative VPHG mounted on AFOSC at the Copernico Telescope in Asiago is a first-of-its-kind device; it allows observation through multi-order dispersion technology a wide band with high efficiency. Specifically, the innovative VPHG Multiorder @Copernico will allow the VPH6 and VPH7 dispersers to be replaced as they are able to obtain a signal comparable to their sum.

BMUSE @ VLT 2022

- VPHGs sample Design, Manufacturing and Tests; optical procurement.
- Feasibility study of serial reproducibility of 24 identical device with high reproducibility.

The consortium after evaluating the tests ruled in favour of the Design Commission and production of the series of 24 identical VPHGs

BlueMUSE is an optical seeing-limited, blue-optimised, medium spectral resolution, panoramic integral-field-spectrograph, to be installed on one of the telescopes of the VLT on Cerro Paranal (Chile).

FORS-UP @ VLT 2022

- Support in the grating design and feasibility and design study;
- VPHGs sample manufacturing and tests

The FORS Upgrade project (FORS-Up) aims at bringing a new life to FORS, which started regular science operations in 2000. In order to ensure that FORS shall remain operational for at least another 15 years, an upgrade has been planned.

ELVIS @ 2022

- VPHGs Design.

The Exoplanets at LBT with a Visible IFS for SHARK-VIS (ELVIS) is an add-on imaging spectrograph to be integrated in the new LBT high-contrast high-resolution AO-assisted imager SHARK-VIS.

VIS-X @ 2022

- VPHGs Design, Manufacturing and Tests; optical procurement.

Collaboration and support to the proposal "Searching for life on Earth-like planets with the upcoming Giant Magellan Telescope" by S. Y. Haffert.

AFOSC VPH4 @ Copernico 2021

- VPHGs manufacturing and characterization of VPH #4, bringing significant improvement in transmission efficiency over the channel 4 @ AFOSC instrument.

Asiago hosts, at top of Mount Ekar, the Copernico 1.82m telescope that represents the largest optical telescope in Italy and is open to the international community of scientists.

COVID 19 “PHIDOSE” - Patented UV radiation detector 2021

- Writing algorithm pipeline to data reduction
- Laboratory testing and characterization
- Mechanical assembly

PHIDOSE is a patented device that consists of a small photometer that can be mounted on the smartphone camera. A smart and reliable device that monitored the amount of radiation received from illuminated surfaces.

COVID 19 “SATURN” - UV sterilizer lamp 2021

- Laboratory testing and characterization
- Mechanical assembly

New type of sterilizing lamp based on UV radiation in order to sterilize the air of a possible environment with the presence of sick patients. Exhibited at Brera Palace (MI).

2007 - 2020 Professional Experience in Educational Fields

26 years of Judo practice, including 10 years as an instructor in the following Association: Yhama Arashi Association (Usmate-Velate, MB), Polisportiva Aurora (Olgiate Molgora, LC), JitaKyoei (Bevera, LC), Il Cerchio (Milan, MI).

2011 - 2019 Chemical Worker

TENAX s.p.a. Vigano (LC)

- The job involved following the production line of plastic nets for construction and testing their technical specifications.

EDUCATION

2020 Master of science in Astrophysics and Physic of Space

Università degli Studi di Milano Bicocca (MI)

- Thesis titled "Exoplanetary Taxonomy: Beyond Observational Bias" about the classification of extrasolar planet populations and characterization of them in particular way in density space.
- Score 110/110

2016 Bachelor's Degree in Physic

Università degli Studi di Milano Bicocca (MI)

In my studies in physics, I supplemented preparatory courses in astrophysics with various courses in analog and digital electronics.

- Thesis titled "Measurement of the Lorentz Factor of a GRB by photometry with the REM telescope." about lo photometric study of the optical follow up of short gamma ray bursts, GRBs, for the characterization of their bulk velocity.
- Score 87/110

2008 High School diploma

ISS, Istituto Istruzione Superiore, L. Da Vinci, Carate B.za (MI)

- Diploma Scientifico, Progetto Brocca.
- Score 89/100

TEACHING EXPERIENCE

- 2023 - ongoing Compressive and hyperspectral imaging by remote sensing for soil and environment analysis
University: Politecnico di Milano
Master Degree, Alessia del Mastro matr. 970841
- Supervisor: Andrea Bianco
 - Cosupervisor: Michele Frangiamore
Luca Oggioni
Giorgio Pariani
- 2023 - ongoing Photopolymer materials for astronomy: Refractive index and thickness behavior - DRAFT
University: Politecnico di Milano
Bachelor's Student, Alessandro Presicce, Marco Monaco, Ludovica Ruggeri, Matilde Zelano, Nada Shewikh
- Supervisor: Andrea Bianco
 - Cosupervisor: Michele Frangiamore
Andrea Vanella
- 2021-2022 Reticoli olografici di volume per l'astronomia: dalla progettazione alla caratterizzazione
University: Politecnico di Milano
Bachelor's Degree, Erica Benedetti matr. 934794
Bachelor's Degree, Martina Riva matr. 933829
- Supervisor: Ermanno Pinotti
 - Cosupervisor: Michele Frangiamore
Luca Oggioni

CONFERENCE

- Asgard workshop (2023) – Leuven
- Astronomical telescopes and instrumentation (2022) – Montreal
- IV National workshop ADONI Ottica Adattiva (2022) – Teramo
- Workshop attività di contrasto COVID19 (2021) – Milano

OUTREACH

- 2008 - ongoing Since my early university years, I have been giving lectures on physics and astronomy to the general public, on commissions from municipalities or primary and secondary schools.
- Between 2016 and 2019 I participated in MeetMeTonight (MI) activities in the Bicocca Astrophysics group.
- Since 2019 I have been conducting observing evenings at INAF OABr where I also serve as a technician at Ruths telescope.

PERSONAL SKILLS

Mother tongue(s)	Italian				
Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	Good	Excellent	Good	Good	Good
Driving licence and License	<ul style="list-style-type: none"> - B and A3 driver's license - Overhead Crane and Forklift - Black Belt - UISP/AISE 				
Computer skills	<ul style="list-style-type: none"> - Good command of WINDOWS and LINUX systems - Good command of the Python language and MATLAB. - Good command of the Office Suites, LaTeX, Microsoft Office, and Similar. - Sufficient mastery of digital video processing programs - Adobe Premiere. - Basic mastery of Graphics processing programs - Adobe Photoshop. 				
Communication skills	<ul style="list-style-type: none"> - I possess good entertainment and communication skills developed in various outreach settings. - Science outreach in national events Meet Me Tonight 2016/17/18/19 - Non-verbal communication learning during teaching Judo to ADHD and Disabled children 				
Job-related skills	<ul style="list-style-type: none"> - Leadership and co-working skills with good stress tolerance developed in judo and academic settings - I am distinguished by Energy and a natural propensity for Perseverance, learned in 26 years of Judo practice and carried into every other activity 				
Other skills	Creativity and Quality Care, gained through years of artistic experiences such as wood and clay sculpture, video editing, and setting up for workshops of various kinds with kids.				

Merate
01/04/2023

Le informazioni contenute nel presente "curriculum vitae et studiorum" sono rese sotto la personale responsabilità del sottoscritto, ai sensi degli articoli 46 e 47 del Decreto del Presidente della Repubblica 28 dicembre 2000, numero 445, e successive modifiche ed integrazioni, consapevole della responsabilità penale prevista dall'articolo 76 del medesimo Decreto per le ipotesi di falsità in atti e dichiarazioni mendaci.

FIRMA

Frangiamore Michele

