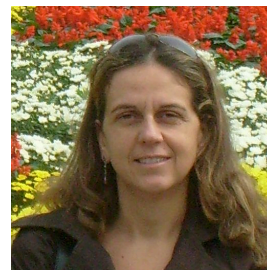




Europass
Curriculum Vitae



Personal information

First name(s) / Surname(s) **Roberta Sparvoli**
Address(es) 1, via della Ricerca Scientifica, I-00133 Rome, Italy
Telephone(s) +39 06 72594289 Mobile: +39 3334465477
Fax(es)
E-mail roberta.sparvoli@roma2.infn.it
Nationality Italian
Date of birth February 7th, 1970
Gender Female

Work experience

Dates Since 4th April 2017
Occupation or position held **Abilitazione Scientifica Nazionale 1 FASCIA, SC 02/A1**
Dates Since 29th January 2015
Occupation or position held **Associate Professor SSD FIS/04, SC 02/A1 at the Rome "Tor Vergata" University, Rome, Italy**
Dates Since 1st January 2017
Occupation or position held **Visiting Professor at the National Research Nuclear University MEPhI, Moscow, Russia**

Main activities and responsibilities

Teaching, Research

- Teacher of the course “**Nuclear and Subnuclear Physics**” for the Physics Master classes.
- Teacher of the course “**Informatics Lab**” for the Material Science Master classes.
- Member of the **PHD Commission** at the University of Rome Tor Vergata.
- **Coordinator of the INFN National Commission** for Astroparticle Physics on behalf of the Rome Tor Vergata INFN Structure.
- National Coordinator of the “**CSES/Limadou**” experiment at the INFN Research Committee.
- Coordination of the “**WiZard**” research group at the University of Rome Tor Vergata.
- Local coordinator of the **GAPS** experiment at the INFN Research Committee.
- Delegate of the University of Rome Tor Vergata at the **CIFS (Consorzio Interuniversitario di Fisica Spaziale) Consortium for Space Physics**.

Name and address of employer Rome “Tor Vergata” University

Type of business or sector Public University

Dates 2004-2015

Occupation or position held **Researcher**

Main activities and responsibilities Research, Assistant to Teaching

Name and address of employer Rome “Tor Vergata” University

Type of business or sector Public University

Dates 2000-2004

Occupation or position held **TD Researcher**

Main activities and responsibilities Data analysis and simulation for the space experiments NINA and PAMELA. Scientific analysis of the galactic and solar data coming from the telescope NINA in space. Simulation of the performance of the space telescope PAMELA. Coordination of the data analysis groups.

Name and address of employer Italian National Institute of Nuclear Physics INFN

Type of business or sector Public Research Institution

Dates 1998-2000

Occupation or position held **Post-Doc**

Main activities and responsibilities Data analysis and simulation for the space experiment NINA. Scientific analysis of the galactic and solar data coming from the telescope NINA in space.

Name and address of employer Italian National Institute of Nuclear Physics INFN

Type of business or sector Public Research Institution

Education and training

Dates 1994-1997
 Title of qualification awarded **Ph.D. in Physics**
 Principal subjects/occupational skills covered Title of thesis: “NINA: a New Instrument for Nuclear Analysis of primary cosmic rays”. Development of a space mission, simulation of the scientific performance, data analysis.
 Name and type of organisation providing education and training Rome “Tor Vergata” University

Dates 1989-1994
 Title of qualification awarded **Physics Degree**
 Principal subjects/occupational skills covered Solid preparation in modern theoretical, experimental and applied physics; deep understanding of the method scientific investigation; thorough knowledge of mathematics and computing; ability to model complex systems in different fields
 Name and type of organisation providing education and training Rome “Tor Vergata” University

Dates 1984-1988
 Title of qualification awarded **Scientific Diploma**
 Principal subjects/occupational skills covered High level preparation in Sciences, Humanities and Art. English preparation up to level B2. Primer in technology and computer science.
 Name and type of organisation providing education and training Liceo Scientifico Pitagora

Personal skills and competences

Mother tongue(s) Italian

Other language(s)

Self-assessment <i>European level (*)</i>	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
German	C2	C2	C2	C2	C1

(*) Common European Framework of Reference for Languages

Organisational skills and competences Experienced teacher for several Physics courses. Participation and Coordination of research groups at national and international levels. Lecturer for the International School of Astrophysics and for the International School of Space Sciences

Technical skills and competences Analysis and interpretation of scientific data, writing of scientific articles, organization and management of research groups.

Computer skills and competences Software management of PC and workstation platforms. Proficient with both Linux OS and Windows OS at SysManager Level. Programming skills in Fortran, C, LaTeX, HTML languages.

Additional information

Nuclear, antimatter and dark matter component in cosmic rays

The scientific activity of Prof. Roberta Sparvoli has been mainly dedicated to the field of Astroparticle Physics, in particular with regard to the study of nuclear and isotopic component of cosmic rays and the antimatter component (positrons and antiprotons, detection of any antinuclei), and search for possible indirect evidence of dark matter. These studies were carried out in space, by stratospheric balloons and on satellites, as part of the experimental program of the WIZARD collaboration. Among the most important missions on balloon of this collaboration we can remember MASS89, MASS91, TS93, CAPRICE94 and CAPRICE98. As for space missions, the WIZARD collaboration sent into space the telescopes NINA, NINA2 and PAMELA. The space mission PAMELA represents a state-of-the-art of the investigation of cosmic radiation, addressing the most compelling issues facing astrophysics and cosmology: the nature of the dark matter that pervades the universe, the apparent absence of cosmological antimatter, the origin and evolution of matter in the galaxy. PAMELA, a particle identifier using a permanent magnet spectrometer with a variety of specialized detectors, is an instrument of extraordinary scientific potential that is measuring with unprecedented precision and sensitivity the abundance and energy spectra of cosmic rays electrons, positrons, antiprotons and light nuclei over a very large range of energy from 50 MeV to hundreds GeV, depending on the species. One of the main scientific objectives of PAMELA is also the detection of SEP events and solar phenomena, in view of the Space Weather. PAMELA has been put in orbit, on board of the Resurs-DK1 Russian satellite by a rocket Soyuz, on the 15th of June 2006. More than 70 outstanding publications have been already produced by PAMELA.

Roberta Sparvoli is member of the CALET collaboration too, who has sent in orbit on board the ISS a sophisticated calorimeter in August 2015. Aim of the CALET experiment is to measure electrons and nuclei in cosmic rays up to the hundreds of TeV energies.

Currently Roberta Sparvoli participates to the experiment GAPS, that is a balloon-borne experiment located in the USA, aimed at searching for anti-deuteron in cosmic rays as signature of dark matter annihilation.

Life science in space

A parallel scientific interest of Roberta Sparvoli is in the field of life science in space, with the missions Si-Eye1 and Si-Eye2 on the Russian MIR space station, respectively, in the periods 1995-1998 and 1998-2000, and the missions

Si-Eye3 (in 2002) and ALTEA (in 2006), on the ISS, the latter still in progress. These experiments performed a continuous monitoring of radiation within the Space Stations and allowed a detailed study of the risks to the astronauts due to ionizing particles.

Monitoring of the seismic activity from space

In the last years, Roberta Sparvoli became part of the collaboration CSES/Limadou. The main scientific objective of the mission CSES (China Seismo-Electromagnetic Satellite) is studying electromagnetic phenomena and their correlation with the geophysics activity, contributing to the monitoring of earthquakes from space.

The satellite CSES was put in space in February 2018. It hosts an Italian payload. The Italian contribution to the mission CSES, in fact, consists of an

innovative instrument to measure energetic particles that precipitate from the Van Allen belts as a result of electromagnetic interference.

The satellite has aboard a wide range of instruments (magnetometers fluxgate and search-coil, high energy particle detectors, LP-RPA and ion drift meter) designed to jointly detect perturbations of different parameters and physical variables. Roberta Sparvoli is coordinating the data analysis of this first mission.

A second version of the CSES satellite will be put in orbit in 2022. The Italian participation to the Chinese mission will imply the construction and test of a particle instrument and a detector for the measurement of the ionospheric electric field.

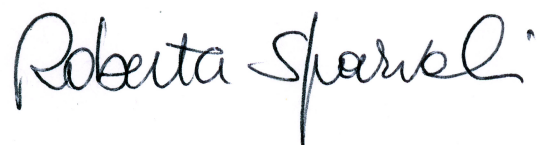
The scientific activity of Roberta Sparvoli is testified by 300 records as refereed articles in the SCOPUS database and by the numerous congress and meeting participations as invited speaker.

Additional information

Affiliations and Committee Memberships:

- INFN (Italian National of Nuclear Physics)
- SIF (Società Italiana di Fisica)
- CIFS (Consorzio Italiano di Fisica Spaziale)
- ISE (Istituto Scientifico Europeo)
- Editor for "Special Issue of Advances in Space Research: Origins of Cosmic Rays"
- Referee for Astrophysical Journal, Astronomy & Astrophysics, Astroparticle Physics, Advances in Space Research, Nuclear Instruments and Methods in Physics Research.

Rome, 13 September 2020



Giuseppe Di Sciascio
Curriculum Vitae – Dec. 2020

Academic Education

- 1995: Specialization Diploma in "Cosmology, General Relativity and Particle Physics" (University of Naples).
- 1993: Ph.D. in Physics (University of Naples).
- 1988: Physics Laurea Degree (University of L'Aquila).

Positions and Fellowships

- 2021: Visiting Professor at IHEP Beijing, Chinese Academy of Sciences President's International Fellowship Initiative, grant No. 113111WGZJTPYJY20200004
- 2020: co-PI of the 4-years National Natural Science Foundation of China grant No.U1931201 for analyses in the LHAASO experiment.
- Jan. 2009 to present: Senior Researcher for the Roma Tor Vergata section of the INFN.
- Oct. 2007-2008: Researcher for the Roma Tor Vergata section of the INFN.
- Jan. 1999 - Sept. 2007: Researcher for the Naples section of the Istituto Nazionale Fisica Nucleare (INFN).
- 1996-1998: PostDoc fellowships at the "Capodimonte Astronomical Observatory", Naples.
- 1995: PostDoc fellowship at the "Citta' della Scienza - Fondazione IDIS, Naples.
- 1995: Specialization Diploma in "Cosmology, General Relativity and Particle Physics" (University of Naples)
- 1991-1993: Ph.D. in Physics (University of Naples).
- 1985: "Summer Student" fellowship at the CERN Laboratory, Geneva, Suisse.

Main Coordinations in Scientific Projects

- 2013 to present: Responsible of the INFN Roma Tor Vergata group in the E989 Experiment (g-2) at Fermilab (USA).
- 2015 – 2018: Responsible of the LHAASO-INFN group.
- Since 2012: Co-Spokesperson and responsible of the INFN Italian group of the ARGO-YBJ Collaboration.

Teaching duties

- 2020: "Introduction to ground-based Cosmic Ray Physics" – Fudan University – Shanghai (China) online course
- 2018: "ISAPP - Baikal Summer School", Bol'shie Koty (Russia).
- 2017: "VII School on Cosmic Rays and Astrophysics", Escuela Politecnica Nacional, Quito (Ecuador).
- 2016: "VI School on Cosmic Rays and Astrophysics" organized by UNESCO and ICTP (The Abdus Salam International Centre for Theoretical Physics) at University of Chiapas, Tuxtla Gutierrez (Mexico).
- Since 2000: Lectures and Seminars in the framework of the "Astroparticle Physics" Ph.D. courses at the University of Naples and at the University of Roma Tor Vergata.
- 1994: "Electronics and Mathematical Methods" at the High School
- 1989-1991: "Mathematics and Physics" at the High School

Review Papers and Book Chapters

1) Towards a solution of the knee problem with high altitude experiments.

G. Di Sciascio and L. Sagge.

Chapter in the book "Frontiers in Cosmic Ray Research", 2007 Nova Science Publishers, New York, Ed. I.N. Martsch, Chapters 3, pp. 83 - 130.

2) On the observation of the Cosmic Ray Anisotropy below 10^{15} eV.

G. Di Sciascio and R. Iuppa.

Chapter in the book "Homage to the Discovery of Cosmic Rays", 2013 Nova Science Publishers, New York, Ed. J. A. Perez-Peraza, Chapter 9, pp. 221 - 257.

3) Main Physics Results of the ARGO-YBJ experiment.

G. Di Sciascio

Invited review on Int. J. of Mod. Phys. D23 (2014) 1430019.

4) The cosmic ray anisotropy below 10^{15} eV.

G. Di Sciascio

Invited review on ASTRA 2 (2015) 27.

Organization of Conferences:

-2020: Chair and Organizer of the online Workshop "Multimessenger high energy astrophysics in the era of LHAASO", Rome.

-2018: Italian representative in the Program Committee of the 26th 'European Cosmic Ray Symposium', ECRS 2018, Barnaul, Russia.

-2018: Chair of the session 'Cosmic Ray Anisotropy' of the 26th 'European Cosmic Ray Symposium', ECRS 2018, Barnaul, Russia.

-2018: Member of the 'International Advisory Committee' of the 'VIII School on Cosmic Rays and Astrophysics', Bariloche, Argentina.

-2018: Member of the 'Scientific Organizing Committee' of the 2018 Workshop "Frontier Objects in Astrophysics and Particle Physics", Vulcano, Italia.

-2018: Member of the 'Local Organizing Committee' of the 'Roma International Conference on Astroparticle Physics', RICAP 2018.

-2018: Member of the 'International Organizing Committee' of the '7th Workshop on Air Shower Detection at High Altitude', WASDHA 2018, Moscow, Russia.

-2017: Member of the 'International Advisory Committee' of the 'VII School on Cosmic Rays and Astrophysics', Quito, Ecuador.

-2016: Chair and Member of the 'Scientific Organizing Committee' of the Workshop 'Towards a Large Field-of-View TeV Experiment in the South', Rome Tor Vergata.

-2016: Member of the 'Local Organizing Committee' of the 'Roma International Conference on Astroparticle Physics', RICAP 2016.

-2016: Member of the 'Scientific Organizing Committee' of the 2016 Workshop "Frontier Objects in Astrophysics and Particle Physics", Vulcano, Italia.

-2015: Member of the 'International Organizing Committee' of the 6th 'Workshop on Air Shower Detection at High Altitude', WASDHA 2015, Chengdu, China.

-2015: Member of the 'Local Organizing Committee' of the 'Incontri di Fisica delle Alte Energie', IFAE 2015", Roma Tor Vergata.

-2014: Member of the 'International Organizing Committee' of the '5th Workshop on Air Shower Detection at High Altitude', WASDHA 2014, Paris, France.

- 2014: Member of the ‘Scientific Organizing Committee’ of the 2014 Workshop "Frontier Objects in Astrophysics and Particle Physics", Vulcano, Italy.
- 2013: Member of the ‘Local Organizing Committee’ of the 'Roma International Conference on Astroparticle Physics', RICAP 2013.
- 2013: Member of the 'International Organizing Committee’ of the '4th Workshop on Air Shower Detection at High Altitude', WASDHA 2014, Napoli, Italia.
- 2011: Member of the ‘Local Organizing Committee’ 'Roma International Conference on Astroparticle Physics', RICAP 2011.

Research

- 1986-1989: I worked in the LVD experiment at the INFN Gran Sasso National Laboratory to study the muon production in the photon-induced air showers.
- Since 1990: I have been working in the EAS-TOP experiment at the INFN Gran Sasso National Laboratory. My scientific contribution was mainly focused on the installation and debugging of the hadronic calorimeter and on the measurement of the hadronic and muonic secondary components.
- Since 1995: I've been one of the promoters of the Italian project ARGO-YBJ for the construction of a full-coverage carpet at extreme altitude mainly devoted to the detection of small energy air showers induced by primary photons (about 100 GeV threshold). I participated writing the proposal and to all studies to evaluate the sensitivity of the proposed detector in the main physics items.
- Since 2000: member of the Italian-Chinese ARGO-YBJ Collaboration. I participated to different shifts in Tibet for installation and debugging of the RPCs. I developed the bulk of the reconstruction algorithms of the experiment. I focused my scientific activity on cosmic ray physics studying the performance of the carpet with the Moon Shadow technique, the search for antiprotons, the cosmic ray anisotropy, the energy spectrum and composition in the knee energy region and the characteristics of horizontal events.
- Since 2002: Convenor of different Italian-Chinese Working Groups: Moon Shadow and detector performance, Cosmic Ray Anisotropy, Cosmic Ray Energy Spectrum.
- Since 2008: Member of the Editorial Board of the ARGO-YBJ experiment
- Since 2012: Co-Spokesperson and Responsible of the INFN group of the ARGO-YBJ experiment.
- Since 2012: Responsible of the Roma Tor Vergata INFN group of the ARGO-YBJ experiment.
- Since 2013: I've been one of the promoters of the Italian participation of the E989 (g-2) experiment at Fermilab for a measurement of the muon magnetic moment.
- Since 2013: Responsible of the Roma Tor Vergata INFN group of the GMINUS2 experiment.
- 2015 - 2017: Responsible of the INFN group of the LHAASO experiment.
- 2016 - 2018: Editor of the "*LHAASO Science Book*". I coordinated the different groups in writing the document.
- 2017: I was interviewed by *NATURE* about the development of new projects in Cosmic Ray Physics and Gamma-Ray Astronomy in China (Nature, Volume 543, Issue 7645, p. 300 (2017)).
- 2013, 2015, 2016: Member of the INFN delegations in the INFN-IHEP Annual Cooperative Meetings (LNGS, Beijing, Rome).
- Since 2019: Member of the Cosmic Ray Working Groups of the SWGO and MATHUSLA projects.

Publications: approximately 160 papers in peer review journals, 40 invited talks (Invited, Highlight, Review and Plenary Talks) in International Conferences and more than 400 publications on Proceedings of International Conferences and Workshops.

Dissemination of science

- Since 2018: Member of the INFN – CC3M (Commissione Coordinamento Terza Missione).
- Since 2018: Scientific coordinator of the Premio Asimov for the Regione Lazio.
- Since 2017: Responsible of the LAB2GO project for “Alternanza Scuola-Lavoro” at the INFN Roma Tor Vergata.
- Since 2016: Coordinator of the activities for the “International Cosmic Day” and “European Researchers’ Night” at the INFN Roma Tor Vergata.

Valerio Formato

Curriculum Vitae

Informazioni personali e contatti

Nome Valerio Formato
Cittadinanza Italiana
Genere Maschile
Ufficio +39 06 7259 7541
e-mail valerio.formato@roma2.infn.it

Istruzione

- 14 Mar 2014 **Dottore di Ricerca in Fisica - XXVI Ciclo**, Università degli studi di Trieste, Via Valerio 12/2, I-34127 Trieste (TS).
Titolo tesi *Measurement of the nuclear and isotopic composition of galactic cosmic rays with the PAMELA experiment*
Relatori Dott. Mirko Boezio, Dott. Anna Gregorio
-
- 27 Set 2010 **Laurea Specialistica in Fisica**, Università degli studi di Roma Tor Vergata, Via della Ricerca Scientifica 1, 00133 Roma, *Votazione: 110/110 cum laude*.
Titolo tesi *Measurements of p and He spectra and isotopic ratios in cosmic rays with the PAMELA experiment*
Relatori Dott. Marco Casolino, Prof. Piergiorgio Picozza
-
- 24 Ott 2008 **Laurea Triennale in Fisica**, Università degli studi di Roma Tor Vergata, Via della Ricerca Scientifica 1, 00133 Roma, *Votazione: 110/110 cum laude*.
Titolo tesi *Gamma Ray Burst search with the PAMELA spectrometer*
Relatore Dott. Marco Casolino

Esperienza professionale

Contratti

- 1 Ott 2019 **Ricercatore di III livello a tempo indeterminato, I.N.F.N. Sezione di Roma Tor**
oggi **Vergata.**
Coordinamento attività analisi dati gruppo AMS-02. Coordinamento e sviluppo software gruppo HERD_DMP. Responsabile per il calcolo presso CNAF per l'esperimento AMS-02.
- 1 Giu 2019 **Ricercatore di III livello a tempo determinato, I.N.F.N. Sezione di Roma Tor**
30 Set 2019 **Vergata.**
Coordinamento attività analisi dati gruppo AMS-02. Coordinamento e sviluppo software gruppo HERD_DMP. Responsabile per il calcolo presso CNAF per l'esperimento AMS-02.
- 1 Giu 2017 **Ricercatore di III livello a tempo determinato, I.N.F.N. Sezione di Perugia.**
31 Mag 2019 Attività di analisi dati AMS-02 (misura di flussi di nuclei leggeri nei raggi cosmici e loro dipendenza temporale). Sviluppo software simulazione per l'esperimento HERD. Partecipazione alle attività di design e di test per il sistema UTTPS (*Upgraded Tracker Thermal Pump System*) presso il SERMS.
- 1 Dic 2016 **Assegno di ricerca, I.N.F.N. Sezione di Perugia.**
31 Mag 2017 Attività di analisi dati nell'ambito dell'esperimento AMS-02, volta alla misura di flussi di nuclei leggeri nei raggi cosmici, attività di monitoring a lungo termine per il tracciatore al silicio dell'esperimento AMS-02.
- 1 Lug 2015 **Cooperation associate, CERN.**
28 Feb 2017 Expert-on-Call per il tracciatore al silicio dell'esperimento AMS-02
- 1 Dic 2014 **Assegno di ricerca, I.N.F.N. Sezione di Perugia.**
30 Nov 2016 Attività di analisi dati nell'ambito dell'esperimento AMS-02 volta alla misura del rapporto tra i flussi di boro e carbonio nei raggi cosmici.

Incarichi istituzionali

- 1 Gen 2021 **Responsabile locale HERD_DMP, I.N.F.N. Sezione di Roma Tor Vergata.**
oggi
- 10 Lug 2018 **Responsabile locale ICD, I.N.F.N. Sezione di Perugia.**
1 Giu 2019 Sigla per attività di terza missione collegate al progetto internazionale *International Cosmic Day*

Didattica

- da 2021 **Co-docenza, Università degli studi di Roma Tor Vergata, Facoltà di Fisica, Roma**
oggi **(Italia).**
Attività di lezione frontale di laboratorio per il corso "Statistical Data Analysis" nel C.d.L.M. in Physics of Fundamental Interactions and Experimental Techniques.
- da 2011 **Didattica Assistita, Università degli studi di Trieste, Facoltà di Ingegneria, Trie-**
a 2014 **ste (Italia).**
Attività di lezione frontale (150 ore all'anno nel corso di tre anni accademici) per il corso "Fisica generale II" (elettromagnetismo) nel C.d.L. in Ingegneria elettronica e nel C.d.L. in Ingegneria navale, tenuto rispettivamente dal Prof. Giovanni Cantatore e dal Prof. Lorenzo Vitale.
- da Jan 2018 **Co-relatore di tesi di dottorato, Università degli studi di Perugia.**
a Apr 2021 Sono stato co-relatore per la tesi di dottorato in Fisica di Jian Tian, presso l'Università degli studi di Perugia, dal titolo "*Precision Measurement of Neon, Magnesium, and Silicon Fluxes in Cosmic Rays Measured by AMS on the International Space Station*"
- da Nov 2015 **Co-relatore di tesi di dottorato, Università degli studi di Perugia.**
a Mar 2018 Sono stato co-relatore per la tesi di dottorato in Fisica di Federico Donnini, presso l'Università degli studi di Perugia, dal titolo "*Flux measurement of light nuclei in Cosmic Rays with the AMS-02 experiment*"

Mar 2012 **Co-relatore di tesi**, *Università degli studi di Trieste*.

Sono stato co-relatore per la tesi di laurea specialistica in Fisica di Riccardo Munini, presso l'Università degli studi di Trieste, dal titolo "*Time dependence of the cosmic-ray electron and positron spectra measured by PAMELA experiment during the last solar minimum*".

Formazione aggiuntiva

2013 **INFN School Of Statistics 2013**, *Vietri sul mare, Salerno, Italia*.

2012 **40th SLAC Summer Institute**, *SLAC National Accelerator Laboratory, Menlo Park, California (U.S.A.)*.

2012 **International School of Cosmic Ray Astrophysics "Maurice M. Shapiro"**, *Erice, Italia*.

2011 **Dublin Summer School on High Energy Astrophysics**, *Dublin, Ireland*.

2011 **ICTP Summer School on Particle Physics**, *Trieste, Italia*.

Competenze personali

Programmazione C++, BASH, Python, JavaScript, HTML3/CSS, FORTRAN 77/90, SQL

Software toolkits ROOT, GEANT4, PYTORCH, KERAS, GALPROP, DRAGON

Sistemi operativi Unix, Linux, Mac OS, MS Windows

Editing L^AT_EX, iWorks, OpenOffice, MS Office

Lingue parlate

Italiano Madrelingua

Inglese Livello post-intermedio *Capacità di comprensione di testi complessi. Buona padronanza della lingua, sia scritta che parlata, in contesti scolastici, accademici e lavorativi.*

Francese Livello base *Conoscenza base della lingua. Capace di comprendere ed elaborare semplici frasi.*