



## Nabil Souhair

Nationality: Italian, Moroccan Date of birth: ? Gender: Male

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ResearchGate: <https://www.researchgate.net/profile/Nabil-Souhair>

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Work: Via Fontanelle, 40, 47121 Forlì (Italy)

### WORK EXPERIENCE

#### Adjunct Professor

*Alma Mater Studiorum - Università di Bologna* [ 01/03/2023 - Current ]

City: Forlì

Country: Italy

Teaching activities at the Aerospace Engineering school of at the University of Bologna.

#### Visiting research scientist

*Institute of Space Systems - University of Stuttgart* [ 31/01/2022 - 01/08/2022 ]

City: Stuttgart

Country: Germany

In the framework of the European baked Horizon 2020 project DISCOVERER, I held an experimental test campaign on the air breathing helicon plasma thruster in order to assess its performance, by means of a thrust stand, momentum flux probe and a B-dot probe.

#### Research fellow

*Alma Mater Studiorum - Università di Bologna* [ 31/10/2019 - Current ]

City: Forlì

Country: Italy

Development of a multi-fluid plasma numerical code and coupling with a Particle-In-Cell code for the simulation and optimization of a Helicon Plasma Thruster.

#### Examining commissioner

*Alma Mater Studiorum - Università di Bologna* [ 15/06/2021 - Current ]

City: Forlì

Country: Italy

Examining commissioner for the Italian State Examination for the Industrial Engineering Habilitation (commissario negli esami di stato abilitazione alla professione di Ingegnere Industriale)

#### Race performance engineer

*Alma Automotive S.r.l.* [ 01/07/2020 - 31/12/2022 ]

City: Bologna

Country: Italy

I worked as a consultant with the task of analysing the vehicle and engine performance of race cars in the F1 Championship.

#### Contract professor

*ISAERS Academy Forlì AvioLab* [ 28/02/2021 - Current ]

City: Forlì



Country: Italy

Lectured the Turbine Engines module within the "Aeronautical Maintenance" course  
<https://www.isaers.com/ifts-tecnico-manutentore-aeronautico/>

**R&D engineer**

*T4i Technology for Propulsion and Innovation S.p.a. - CISAS Colombo, University of Padova* [ 01/01/2019 – 31/10/2019 ]

City: Padova

Country: Italy

Performed qualification tests (thermo-vacuum, vibration, life endurance) on the Plasma Thruster REGULUS. Moreover, I have assessed the in-orbit demonstration mission scenario, including the evaluation of different orbital scenarios and in-orbit thrust measurement.

**High-school teacher**

*Technical high-school "Luciano Dal Cero", San Bonifacio (Verona), Italia* [ 01/01/2019 – 01/06/2019 ]

City: Verona

Country: Italy

I taught mathematics courses (enhancement) for five classes.

**Design engineer**

*Cascade Corporation S.p.a.* [ 01/10/2018 – 30/12/2018 ]

City: Verona

Country: Italy

I was involved in the design of a variety of products that enable the conventional lift truck to pull, push, clamp, lift, sideshift and rotate any unit load.

**Research assistant**

*Alma Mater Studiorum - Università di Bologna - AVIO S.p.a.* [ 30/09/2017 – 30/09/2018 ]

City: Forlì

Country: Italy

Researcher assistant in the field of solid rocket propulsion. Development of a gas-dynamics code with stationary mono-dimensional and non-stationary zero-dimensional internal ballistics, along with a 3D surface regression module of the burning surfaces during combustion process and study of the anisotropies in the propellant combustion.

**Solid Rocket Engineer (trainee)**

*AVIO S.p.a.* [ 31/01/2017 – 31/08/2017 ]

City: Colleferro (Rome)

Country: Italy

Testing and validation of the 3D solid rocket internal ballistic simulator code developed in partnership with the University of Bologna.

**Senior race engineer - Telemetry engineer**

*EKS Motorsport* [ 28/02/2017 – 31/10/2017 ]

City: Petaling Jaya

Country: Malaysia

I worked as a Senior Race Engineer during the race weekends of the Blancpain GT Series ASIA Edition - GT4 championship. I was responsible of two Porsche Cayman GT4 and four drivers. The championship was held in Malaysia, Thailand, Japan and China.

**Technical support engineer**

*Space Generation Advisory Council* [ 28/02/2017 – 09/08/2017 ]

City: Torun

Country: Poland





I have been involved as a technical support engineer (ground station) within the Poland Mars Analogue Simulation 2017 (PMAS17) scientific project organized and held by the Space Generation Advisory Council in partnership with the European Space Agency.

**MSc/BSc programme tutor in Aerospace Engineering**

*Alma Mater Studiorum - Università di Bologna* [ 31/10/2015 – 31/10/2016 ]

City: Forlì

Country: Italy

The Tutor acts as an interface between the students and the Degree Programme to offer a tangible reference for the teaching activities, to collect information and comments, as well as to receive any claims or feedbacks about existing critical conditions and has also the function of providing a personalized support to learning.

**Junior Race engineer**

*LEM Racing S.r.l.* [ 28/02/2015 – 31/10/2015 ]

City: Roncello (MB)

Country: Italy

At the Porsche Carrera Cup Italy 2015 I was responsible for the management and maintenance of the car fleet at the home-garage. During the racing events, I assisted the senior engineers with the cars' set-up, and I was responsible for the data acquisition/telemetry.

**Mechanical engineer**

*ICI CALDAIE S.p.a.* [ 28/02/2015 – 30/04/2015 ]

City: Verona

Country: Italy

Mechanical design of pressure vessels and industrial boilers.

**Mechanical engineer (trainee)**

*Profile Automation S.r.l - PRESEZZI GROUP S.p.a.* [ 28/02/2014 – 31/08/2014 ]

City: Mantova

Country: Italy

I was commissioned to design, engineer and draft machines or machine's parts for the aluminum extrusion industry. This internship experience was part of my bachelor thesis, which consisted in the design of an automatic machine for the aluminum industry.

**Football referee**

*FIGC (Italian federation of football)* [ 31/12/2010 – 31/12/2012 ]

Refereeing football and futsal matches.

**EDUCATION AND TRAINING**

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**Doctor of Philosophy (Ph.D)**

*Alma Mater Studiorum - Università di Bologna* [ 31/10/2019 – 31/10/2022 ]

Address: Via Fontanelle, 40, 47121 Forlì

Website: <https://www.unibo.it/sitoweb/nabil.souhair2/en>

Field(s) of study: Aerospace propulsion | Mechanics and Advanced Engineering Sciences

Final grade: Summa Cum Laude

Thesis: Development of a Numerical Tool for the Simulation, Design and Optimization of a Plasma Thruster

**Master of Science (MSc)**

*Alma Mater Studiorum - Università di Bologna* [ 2014 – 2018 ]

Address: Via Fontanelle, 40, 47121 Forlì

Field(s) of study: Aerospace engineering | Aeronautics and Astronautics

Thesis: 0D Unsteady - 1D Quasi-Stationary Internal Ballistic coupling for a solid rocket motor simulator



### Post-graduate Diploma/Master

*MTS Motorsport Technical School of Monza* [ 2013 – 2015 ]

Address: Via Vedano, 5, Monza

Website: <https://mts.school.it/formazione/master-race-engineer/>

Field(s) of study: Race car engineering

### Bachelor of Science (BSc)

*University of Padova* [ 2010 – 2014 ]

Address: Padova

Field(s) of study: Mechanical engineering

Thesis: Design of a hydraulic tipper for extrusion dies

### Highschool diploma

*High-school of applied science G. Galilei, Verona* [ 2005 – 2011 ]

## LANGUAGE SKILLS

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Mother tongue(s): **Italian** | **Arabic**

### Other language(s):

#### English

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C2

#### French

LISTENING B1 READING B1 WRITING A2

SPOKEN PRODUCTION A2 SPOKEN INTERACTION A2

## DIGITAL SKILLS

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### Computer Aided Engineering

Telemetry software for motorsports / Finite Element Analysis with Strand7, Ansys, Comsol / Computational Fluid Dynamics (CFD): ANSYS Fluent, COMSOL Multiphysics, OpenFoam / CAD with Solidworks, SolidEdge, Siemens NX

### Coding and numerical methods

OpenFoam / bash-script / Programming Languages: C, C++, Python, Matlab / high performance computing (HPC) / GIT Hub / FDM/FEM/FVM

### General

Microsoft Office / LaTeX / Linux / Windows

## HONOURS AND AWARDS

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### ASI-SGAC prize

Italian Space Agency [ 15/09/2021 ]

I won the Italian Space Agency prize for participating as a delegate to the 72nd International Astronautical Congress and the Space Generation Congress at Dubai.

### Luigi G. Napolitano Award (SHORTLISTED FINALIST)

International Astronautical Federation and the Napolitano family [ 28/10/2021 ]

The Luigi G. Napolitano Award is presented annually by the Space Education and Outreach Committee (SEOC) of the International Astronautical Federation to a young scientist, below 30 years of age, who has contributed significantly to the advancement of the aerospace science and has given a paper at the International Astronautical Congress on the contribution. I have been shortlisted as finalist.

## NETWORKS AND MEMBERSHIPS

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### Mensa International – The High IQ Society

[ 31/12/2015 – Current ]

Mensa was founded in England in 1946 by Roland Berrill, a barrister, and Dr. Lance Ware, a scientist and lawyer. They had the idea of forming a society for bright people, the only qualification for membership of which was a high IQ. The original aims





were, as they are today, to create a society that is non-political and free from all racial or religious distinctions. The society welcomes people from every walk of life whose IQ is in the top 2% of the population.

**Space Generation Advisory Council – in support of the United Nations Programme on Space Applications (SGAC)**

[ 31/12/2016 – Current ]

SGAC is a non-governmental organization and professional network which "aims to bring the views of students and young space professionals to the United Nations (UN), space industry and other organizations".

**The Planetary Society**

[ 2016 – 2018 ]

Student member

**PROJECTS**

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**ALMA-X - European Rover Challenge**

[ 31/12/2015 – 31/12/2017 ]

I founded and served as project leader of ALMA-X, a student team with the aim of designing the first Martian Rover of the Alma Mater Studiorum University of Bologna in order to participate to the European Rover Challenge.

Link: <https://www.alma-x.it/>

**TEAM Sobyhan Healthcare - Dyson Award**

[ 31/12/2013 – 31/12/2014 ]

I and a group of students of the university of Padova have designed an innovative medical bed/wheelchair in order to join the Dyson Award international competition. The project passed the national phase.

**VOLUNTEERING**

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**Red cross rescuer**

[ Forlì-Cesena, 31/05/2021 – Current ]

**DRIVING LICENCE**

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Driving Licence: A

Driving Licence: B

**HOBBIES AND INTERESTS**

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**AIRCRAFT PILOT LICENSE (VDS - SPORTS FLYING)**

Issued by the Aero Club of Italy.

**RECOMMENDATIONS**

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**Supervisor**

Name: Prof. Fabrizio Ponti

Phone number: (+39) 0543374463

Email: [fabrizio.ponti@unibo.it](mailto:fabrizio.ponti@unibo.it)

Prof. Ponti has been my supervisor both during my Master and PhD.

Link: <https://www.unibo.it/sitoweb/fabrizio.ponti>

**Supervisor**

Name: Prof. Georg Herdrich

Phone number: (+49) 71168562412

Email: [herdrich@irs.uni-stuttgart.de](mailto:herdrich@irs.uni-stuttgart.de)

Prof. Herdrich has been my supervisor during my stay at the University of Stuttgart, Germany.

**Supervisor**

Name: Prof. Daniele Pavarin



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Phone number: (+39) 0498079523

Email: [daniele.pavarin@unipd.it](mailto:daniele.pavarin@unipd.it)

Prof. pavarin has been my supervisor during my stay at the University of Padova; moreover, he was my boss during my stay at the company T4i S.p.a. of which he is the CEO.

Link: <https://www.didattica.unipd.it/off/docente/B3811EC7E191433509BA6BBCA5CA45ED>

#### Supervisor

Name: Dr. Mirko Magarotto

Email: [mirko.magarotto@unipd.it](mailto:mirko.magarotto@unipd.it)

Dr. Magarotto has been co-supervisor for my PhD.

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*Professional references available upon request. I hereby authorize the use of my personal data in accordance to the GDPR 679/16 - "European regulation on the protection of personal data".*

Forlì, Italy, 27/04/2023

Nabil Souhair