Ahmed Ammar

Curriculum Vitae

Education

2012–2017	**PhD**, *Faculty of Sciences of Tunis, University of Tunis El Manar*, Tunisia. Physics
2010–2012	**Master**, *Faculty of Sciences of Tunis, University of Tunis El Manar*, Tunisia. Physics: Condensed Matter
2008–2010	**Bachelor**, *Faculty of Sciences of Tunis, University of Tunis El Manar*, Tunisia. Fundamental Physics
2005–2008	**Common Core**, *Faculty of Sciences of Tunis, University of Tunis El Manar*, Tunisia. Mathematics & Physics
2005	**High School Diploma**, *Habib Bourgiba's Secondary School at Hammam El Ghezaz*, Tunisia. Experimental Sciences

PhD thesis

Title	*Study of ionospheric disturbances trough VLF waves*
Supervisor	Dr. Hassen Ghalila
Description	We studied Sudden Ionospheric Disturbances (SIDs) occurred on June 2012 and proposed a new classification of these SIDs based on its durations. We also studied the effect of the total solar eclipse of March 20, 2015 on the terrestrial ionosphere D-region and gave an estimation of the changes in its electron density profile and height. Finally, we studied tweek atmospherics on broadband VLF data, recorded by ground VLF-receiver at Tunis/Tunisia, to estimate night-time ionospheric D region electron density and distance of lightning sources to our receiver.

Awards

2018	Certificate by Committee on Space Research (COSPAR) for workshop on "*Coronal and Interplanetary Shocks: Analysis of Data from SOHO, Wind, and e-CALLISTO*".

2017 Certificate by Geophysical Research Group Europe Africa (GIGEA) for workshop on "*The 3rd edition of the IMAO Space Weather School ISWI-MAGHREB-WEST AFRICA (IMAO 2017)*"

Personal Skills

o Quick Learner.
o Able to handle multiple situations at the same time.
o Creating Ideas: Creativity.
o Can manage time effectively
o Very good Computer handling skills.

Area of Interest

o Astronomy & Astrophysics
o Space Physics
o Data Science

Computer Skills

Operating Systems

Windows	Linux (Ubuntu)	Mac OS

Programming Languages

Python	R	Fortran
JavaScript	C	C^{++}

Platform, IDE and API

Additional Softwares

Office LibreOffice® TeX

Languages

Arabic	Mothertongue	
French	Intermediate	*Conversationally fluent*
English	Intermediate	*Conversationally fluent*
Italian	Intermediate	*Can Understand*

Work experience

2018–2019 **Part-Time Instructor**, *Faculty of Sciences of Tunis, University of Tunis El Manar*, Tunisia, Master in Physics of Soft Matter.
Introduction to Scientific Computing

2018–2019 **Part-Time Instructor**, *Preparatory Institute for Scientific and Technical Studies, University of Carthage*, Tunisia, Aggregation in Mathematical and Physical Sciences
.
Introduction to Scientific Computing

2018–2019 **Part-Time Instructor**, *Faculty of Sciences of Tunis, University of Tunis El Manar*, Tunisia, Master in Condensed Matter Physics.
Scientific Programming with Python

2018–2019 **Part-Time Instructor**, *Faculty of Sciences of Tunis, University of Tunis El Manar*, Tunisia, Electrical Engineering.
Python For Electrical Engineers Students

Outreach

Professional associations

- ISWI - The International Space Weather Initiative
- GIRGEA - The Geophysical Research Group Europe Africa
- COSPAR - The Committee on Space Research
- SAT - The Astronomical Society of Tunisia
- STO - The Optical Society of Tunisia
- SPIE - The International Society for Optics and Photonics

Leadership and Teamwork

2012–Present **Member, Steering Committee**, *Optical Society of Tunisia (STO)*.
Co-organizer of numerous scientific events and workshops and participate to international conferences on optics and photonics.

2011–Present **Scientific Director**, *Astronomical Society of Tunisia (SAT)*.
Oversee the scientific activities of the association for its events targeted to students. Coordinate with the various scientific committees of the association to realize a proper programme for each seminar or conference that we organize or co-organize at national and international level. Train the new astronomical animators of the association...

2009–2011 **President**, *Astronomical club (Astro-FST) at the Faculty of Sciences of Tunis*.
Prepare the club's annual activities programme and manage tasks for the members. Organize introductory astronomy workshops for students and hands-on activities for the use of telescopes and the construction of mathematical instruments of ancient astronomy (eg astrolabes and sundials....).

Conference and Workshop

2018 **Coronal and Interplanetary Shocks: Analysis of Data from SOHO, Wind, and e-CALLISTO, Mekelle-Ethiopia**, *Workshop*, Date: May 21 - June 1, 2018, Organised by , ISWI, COSPAR and Mekelle University.

2017 **The 3rd edition of the IMAO Space Weather School ISWI-MAGHREB-WEST AFRICA (IMAO 2017), Abidjan-Ivory Coast** , *Workshop*, Date:October 16-28, 2017, Organised by , ISWI & GIRGEA.

2017 **Workshop on the International Space Weather Initiative: The Decade after the International Heliophysical Year 2007, Boston College-USA**, *Workshop*, Date: July 31 - August 31, 2017, Organised by , UNOOSA & Boston College.
Poster: "*AWESOME and SuperSID Space Weather Monitoring Instruments: Outreach and Research Activities Developed in Tunisia*".

2015 **The 10th Serbian Conference on Spectral Line Shapes in Astrophysics (10th SCSLSA), Srebrno jezero-Serbia**, *Conference*, Date: June 14-19, 2015.
Poster: "*Ionospheric disturbances due to Solar flares recorded by VLF receiver located in Tunis*". (I got third place for the poster competition)

2015 **Training Programme in Astronomy for African Scientists, Pune-India**, *Workshop*, Date: April 20- May 1, 2015, Organised by , Inter-University Center for Astronomy and Astrophysics.

2014 **11th National Colloquium of Research in Physics, Sousse-Tunisia**, *Conference*, Date: December 20-23, 2014, Organised by Physics Society of Tunisia (STP).
Oral Communication: "*Disturbances (SIDs) observed from Tunis-Tunisia*"

Publications

Peer-reviewed scientific publications

o Ammar, A., & Ghalila, H. (2016). *Ranking of Sudden Ionospheric Disturbances by Means of the Duration of Vlf Perturbed Signal in Agreement with Satellite X-Ray Flux Classification*. **Acta Geophysica**, 64(6), 2794-2809.

Not-peer-reviewed scientific publications

o Ahmed Ammar and Hassen Ghalila, *New numerical tool SIDLab to monitor Sudden Ionospheric Disturbances (SID)*, **International Space Weather Initiative (ISWI) newsletter** & **RADIO ASTRONOMY Journal** of the Society of Amateur Radio Astronomers, 57-62, October-November 2013, available at http://newserver.stil.bas.bg/ISWI/PDFsL/ISWI_Tunisia-2013.pdf

Conference proceedings

- Ammar, A., Burman, R., Ghalila, H., BenLakhdhar, Z., Varadharajan, L. S., Lahmar, S., & Lakshminarayanan, V. (2015, June). *Optics simulations with Python: Diffraction*. In **Education and Training in Optics and Photonics** (p. DTE14). Optical Society of America.
- Lakshminarayanan, V., Ghalila, H., Ammar, A., & Varadharajan, S. (2016, September). *Role of simulations in optics education*. In **SPIE Optical Engineering+ Applications** (pp. 99460N-99460N). International Society for Optics and Photonics.
- Ghalila, H., Ammar, A., Majdia, S. V. Y., Zghalb, M., Lahmara, S., & Lakshminarayanan, V. (2016, September). *Optics simulations: a Python workshop*. In **Conference on Optics Education and Outreach**; IV SPIE Paper Number (Vol. 9946, No. 22).
- Hassen Ghalila, Ahmed Ammar, LSAMA Lab. (Tunisia), STO Society (Tunisia); Srinivasa Varadharajan, Brien Holden Vision Institute (India); Youssef Majdi, Souad Lahmar, Zoubeida Dhaouadi, LSAMA Lab. (Tunisia), STO Society (Tunisia); Mourad Zghal, SUP'COM (Tunisia), STO Society (Tunisia); Zohra Ben Lakhdar, LSAMA Lab. (Tunisia), STO Society (Tunisia); Vasudevan Lakshminarayanan, Univ. of Waterloo (United States); (2018, August). *Hands-on practical laboratory courses in optics accompanied by numerical simulation activities*; **V SPIE** Paper Number (10741-13).

Books

- Vasudevan Lakshminarayanan, Hassen Ghalila, Ahmed Ammar, L. Srinivasa Varadharajan (2018, February), *Understanding Optics with Python*, **CRC Press , Series: Multidisciplinary and Applied Optics**, ISBN 9781498755047 - CAT# K27441.

Software

- **PyDAQviewer**: The VLF PyDAQviewer (Python Data Acquisition data viewer) is a Python program designed to make it easier to view and analyze data acquired with your AWESOME receiver. This program is inspired from the matlab DAQviewer developed by Benjamin Cotts at Stanford University and distributed for the use of AWESOME-VLF community at the ISWI network.
  GitHub Page: `https://iswi-tunisia.github.io/PyDAQviewer/`

Declaration

I hereby declare that the above mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above mentioned particular.

Date: May 1, 2019

Place: Tunis-Tunisia

Ahmed Ammar