Waleed M. MOSLEM
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Curriculum Vitae

and

Research Statement

Last update: 23 March 2022

Curriculum Vitae

Waleed M. MOSLEM,
Full Professor at PSU & BUE Egypt

1. PERSONAL DATA

Full Name: Waleed Moslem Moslem Amin Elshamy
Citizenship: Egyptian (Egypt)
Born: 1st of November 1972 in Mansoura, El-Dakahlia, Egypt

Permanent address (Permanent Position – Egypt):
Department of Physics,
Faculty of Science,
Port Said University (PSU),
Port Said 42521, Egypt
Tel: +20 1092529985 (mobile)
Fax: +20 (66) 3657601

Also at (Visiting Professor – Egypt):
Centre for Theoretical Physics,
The British University in Egypt (BUE),
El-Shorouk City, Cairo, Egypt

Previous address (Egypt):
Department of Physics,
Faculty of Science – Port Said,
Suez Canal University, Port Said, Egypt

Previous address (Visiting Professor – Germany):
From October 2011 till January 2013
International Centre for Advanced Studies in Physical Sciences,
Faculty of Physics and Astronomy,
Ruhr University Bochum (RUB),
D-44780 Bochum, Germany

Previous address (AvH Fellowship at RUB Germany)
2006 – 2008 & 2011, 2012, 2018:
Institute for Theoretical Physics IV,
Faculty of Physics and Astronomy,
Ruhr-University Bochum (RUB),
D-44780 Bochum, Germany

Emails: wmmoslem@hotmail.com (preferred) & wmmoslem@sci.psu.edu.eg (academic ONLY)
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Web of Science ResearcherID: AAI-8580-2020
Google Scholar Profile: https://scholar.google.com.eg/citations?user=3nYp_3QAAAAJ&hl=en
Researchgate profile: https://www.researchgate.net/profile/Waleed_Moslem

2. STUDIES

(in reverse chronological order)

– PhD in Theoretical Physics.
Awarded in September 2002, Faculty of Science – Damietta, Mansoura University, Egypt.
Field: Theoretical Plasma Physics.
Thesis: "*Study of the propagation of the dust acoustic waves in a dusty plasma*".
Thesis supervision: S. K. El-Labany & S. Mustafa

– M.Sc. in Theoretical Physics.
Awarded in August 1998, Faculty of Science – Damietta, Mansoura University, Egypt.
Field: Theoretical Plasma Physics.
Thesis: "*Study of the propagation of the cylindrical ion acoustic waves in plasma*".
Thesis supervision: S. K. El-Labany & S. A. El-Warraki

– B.Sc. in Chemistry and Physics
Awarded in May 1994, Faculty of Science, Mansoura University, Egypt.

3. SKILLS

§3.1. Language Skills

– Arabic: mother language
– English: Very Good (read/spoken/written)
– German: Basic knowledge (A2 Level)

§3.2. Computer Skills

– Operating environment: Windows & Linux.
– Symbolic and numerical computation: Mathematica.
– Word/text processing software, e.g. MS Word.
– MS Office Tools

4. PROFESSIONAL EXPERIENCE / EMPLOYMENT

(in reverse chronological order)

– August 2019 till now: Head of the Department of Physics, Faculty of Science, Port Said University, Egypt.

– October 2015 till October 2018: Vice-Dean for Postgraduate Studies and Research, Faculty of Science, Port Said University, Egypt.

– August – October 2015: Vice-Dean for Environmental Affairs and Community Service, Faculty of Science, Port Said University, Egypt.

– June 2013 till August 2015: Head of the Department of Physics, Faculty of Science, Port Said University, Egypt.

– April 2013 till now: (*current occupation/permanent position*) Professor of Theoretical Physics, Department of Physics, Faculty of Science, Port Said University, Egypt.

– April 2010 till March 2013: Associate Professor of Theoretical Physics, Department of Physics, Faculty of Science, Port Said University, Egypt.

– March 2008 till March 2010: Associate Professor of Theoretical Physics, Department of Physics, Faculty of Science – Port Said, Suez Canal University, Egypt.

– November 2002 till February 2008: Lecturer of Theoretical Physics, Department of Physics, Faculty of Education – Port Said, Suez Canal University, Egypt.

– January 2000 till October 2002: Assistant Lecturer, Department of Physics, Faculty of Education – Port Said, Suez Canal University, Egypt.

– November 1994 till December 1999: Assistant Researcher, Department of Physics, Faculty of Science – Damietta, Mansoura University, Egypt.

5. SUPERVISIONS

§5.1 Completed theses

1– 2003: Partial supervision of the MSc research work of ***Ahmed E. Mowafy***. Official supervision by S. K. El-Labany, Department of Physics, Faculty of Science – Damietta, Mansoura University, Egypt.

2– 2004: Partial supervision of the MSc research work of ***Mona Mahmoud***. Official supervision by S. K. El-Labany and W. M. Moslem. Department of Physics, Faculty of Science – Damietta, Mansoura University, Egypt.

3– 2007: Partial supervision of the PhD research work of ***Faisal M. Safi***. Official supervision by S. K. El-Labany and W. M. Moslem. Department of Physics, Faculty of Science – Damietta, Mansoura University, Egypt.

4– 2009: Partial supervision of the PhD research work of ***Ahmed E. Mowafy***. Official supervision by S. A. El-Wakil, Department of Physics, Faculty of Science, Mansoura University, Egypt.

5– 2010: Partial supervision of the MSc research work of ***Eman I. El-Awady***. Official supervision by S. K. El-Labany and W. M. Moslem. Department of Physics, Faculty of Science – Damietta, Mansoura University, Egypt.

6– 2012: Partial supervision of the PhD research work of ***Mona Mahmoud***. Official supervision by S. K. El-Labany and W. M. Moslem. Department of Physics, Faculty of Science – Damietta, Mansoura University, Egypt.

7– 2012: Partial supervision of the PhD research work of ***Hossam N. Abd El-Razek***. Official supervision by S. K. El-Labany, W. M. Moslem and N. A. El-Bedwehy. Department of Physics, Faculty of Science – Damietta, Mansoura University, Egypt.

8– 2012: Partial supervision of the MSc. research work of ***Samir A. El-Tantawy***. Official supervision by S. K. El-Labany, W. M. Moslem**,** and K. Shenashen. Department of Physics, Faculty of Science, Port Said University, Egypt.

9– 2013: Partial supervision of the PhD research work of ***Mohamed E. Yahia***. Official supervision by W. M. Moslem and I. M. Azzouz. International Laser Institute, Cairo University, Egypt.

10– 2014: Partial supervision of the PhD research work of ***Faycal Bencheriet***. Official supervision by M. Djebli and W. M. Moslem. Theoretical Physics Laboratory, Faculty of Physics, USTHB, Algeria.

11– 2014: Partial supervision of the PhD research work of ***Eman I. El-Awady***. Official supervision by S. K. El-Labany, A. A. Mansour, W. M. Moslem, and M. Djebli. Department of Physics, Faculty of Science, Port Said University, Port Said, Egypt.

12– 2014: Partial supervision of the PhD research work of ***Samir A. El-Tantawy***. Official supervision by S. K. El-Labany, W. M. Moslem, and M. El-Metwally. Department of Physics, Faculty of Science, Port Said University, Egypt.

13– 2015: Partial supervision of the PhD research work of ***Reda Eid***. Official supervision by S. K. El-Labany, W. M. Moslem, and N. B. El-Bedwehy. Department of Mathematics, Faculty of Science, Damietta University, Egypt.

14– 2016: Partial supervision of the MSc research work of ***Samar Mohamed***. Official supervision by W. M. Moslem, Samy Abd El-Hafez, and Mohamed Saleh. Department of Mathematics, Faculty of Science, Suez University, Egypt.

15– 2016: Partial supervision of the MSc research work of ***Asmaa Abd El-Ghany***. Official supervision by S. K. El-Labany, W. M. Moslem, and H. N. Abd El-Razek. Department of Physics, Faculty of Science, Damietta University, Egypt.

16– 2016: Partial supervision of the MSc research work of ***Fatma Mohamed***. Official supervision by W. M. Moslem, Soad Fares, and Abd Elelah Altaweel. Department of Physics, Faculty of Science, Port Said University, Egypt.

17– 2017: Partial supervision of the PhD research work of ***Ebtihal A. Elghmaz***. Official supervision by S. K. El-Labany and W. M. Moslem. Department of Physics, Faculty of Science, Damietta University, Egypt.

18– 2017: Partial supervision of the MSc research work of ***Samy Salem***. Official supervision by W. M. Moslem and Amr Radi. Department of Physics, Faculty of Science, Port Said University, Egypt.

19– 2020: Partial supervision of the MSc research work of ***Amira Shalouf***. Official supervision by S. K. El-Labany and W. M. Moslem. Department of Physics, Faculty of Science, Port Said University, Egypt.

20– 2020: Partial supervision of the PhD research work of ***Mahmoud Saad Afifi***. Official supervision by M. Ali, W. M. Moslem, M. Abd El-Gelil and M. Abd Alhalim. Department of Physics, Faculty of Science, Benha University, Egypt.

21– 2020: Partial supervision of the MSc research work of ***Sara Morsi***. Official supervision by W. M. Moslem and S. K. El-Labany. Department of Physics, Faculty of Science, Port Said University, Egypt.

22– 2020: Partial supervision of the PhD research work of ***Nahed Kesba***. Official supervision by W. M. Moslem and S. K. El-Labany. Department of Physics, Faculty of Science, Damietta University, Egypt.

23– 2021: Partial supervision of the MSc research work of ***Samia Rezk***. Official supervision by S. K. El-Labany and W. M. Moslem. Department of Physics, Faculty of Science, Port Said University, Egypt.

24– 2021: Partial supervision of the MSc research work of ***Amany Almaz***. Official supervision by W. M. Moslem and M. El-Metwally. Department of Physics, Faculty of Science, Port Said University, Egypt.

25– 2021: Partial supervision of the PhD research work of ***Samar Mohamed***. Official supervision by W. M. Moslem, U. M. Abdelsalam, et al. Department of Mathematics, Faculty of Science, Suez University, Egypt.

26– 2021: Partial supervision of the PhD research work of ***Samy Salem***. Official supervision by S. K. El-Labany, W. M. Moslem, and R. E. Tolba. Department of Physics, Faculty of Science, Port Said University, Egypt.

27– 2021: Partial supervision of the MSc research work of ***Faisal Sayed*** supervision by W. M. Moslem, A. A. Turky, and R. A. Koramy. Department of Physics, Faculty of Science, Assiut University, Egypt.

28– 2022: Partial supervision of the MSc research work of ***Ibraheem Elsheikh***. Official supervision by W. M. Moslem, and M. El-Metwally, and A. El-Zant. Department of Physics, Faculty of Science, Port Said University, Egypt.

§5.2 Under Preparation theses

1– MSc thesis under preparation: Partial supervision of the MSc research work of ***Yasser Abdelsalam***. Official supervision by W. M. Moslem and M. El-Metwally. Department of Physics, Faculty of Science, Port Said University, Egypt.

2– MSc thesis under preparation: Partial supervision of the MSc research work of ***Aya Elmandoh***. Official supervision by W. M. Moslem and M. Al-Ashry. Department of Physics, Faculty of Science, Suez Canal University, Egypt.

3– MSc thesis under preparation: Partial supervision of the MSc research work of ***Alaa Fayad***. Official supervision by W. M. Moslem and S. K. El-Labany. Department of Physics, Faculty of Science, Port Said University, Egypt.

4– PhD thesis under preparation: Partial supervision of the PhD research work of ***Amany Elgarawany***. Official supervision by W. M. Moslem, Yosr E. E.-D. Gamal, and Samy A. El-Hafeez. Department of Mathematics, Faculty of Science, Port Said University, Egypt.

5– MSc thesis under preparation: Partial supervision of the MSc research work of ***Hala Elgohary***. Official supervision by W. M. Moslem and Omar Farag. Department of Physics, Faculty of Science, Zagazig University, Egypt.

6– MSc thesis under preparation: Partial supervision of the MSc research work of ***Ahmed Abd-Elkader***. Official supervision by W. M. Moslem, M. El-Metwally, and M. Elgarhy. Department of Physics, Faculty of Science, Port Said University, Egypt.

7– MSc thesis under preparation: Partial supervision of the MSc research work of ***Eslam Sultan***. Official supervision by W. M. Moslem, M. El-Metwally, and M. Elgarhy. Department of Physics, Faculty of Science, Port Said University, Egypt.

8– MSc thesis under preparation: Partial supervision of the MSc research work of ***Alaa Abd-Elsalam***. Official supervision by W. M. Moslem and E. I. El-Awady. Department of Physics, Faculty of Science, Port Said University, Egypt.

6. FELLOWSHIPS / INVITATIONS

(in reverse chronological order)

– 2018: *Post-doctoral Fellowship funded by* Alexander von Humboldt Foundation, Bonn-Germany.
1 July 2018 – 30 September 2018
Title: "Solar Wind Impact at Venus: Nonlinear Wave Creation & Ions Escaping"
Host Professor: Prof. Dr. Reinhard Schlickeiser
Institute of Physics IV, Faculty of Physics and Astronomy, Ruhr-University Bochum, D-44780 Bochum, Germany

– 2012: *Post-doctoral Fellowship funded by* Alexander von Humboldt Foundation, Bonn-Germany.
1 June 2012 – 31 August 2012
Title: "Rogue waves in dense plasmas"
Host Professor: Prof. Dr. Padma Kant Shukla
International Centre for Advanced Studies in Physical Sciences, Faculty of Physics and Astronomy, Ruhr University Bochum, D-44780 Bochum, Germany

– 2011-2012 *Post-doctoral Fellowship funded by* Arab Fund for Economic and Social Development (Kuwait) under the Arab Fund Fellowship Program.
1 June 2011 – 31 May 2012
Title: "Plasmonics: The Promise of the Future Nanoelectronics"
Host Professor: Prof. Dr. Padma Kant Shukla
International Centre for Advanced Studies in Physical Sciences, Faculty of Physics and Astronomy, Ruhr University Bochum, D-44780 Bochum, Germany

– 2008: *Post-doctoral Fellowship funded by* the Framework of the HGF Impulse and Networking Fund/ FZ-Jülich, Germany.
1 August 2008 – 30 September 2008
Host Professor: Prof. Dr. Reinhard Schlickeiser
Institute of Physics IV, Faculty of Physics and Astronomy, Ruhr-University Bochum, D-44780 Bochum, Germany

– 2006-2008: *Post-doctoral Fellowship funded by* Alexander von Humboldt Foundation, Bonn-Germany.
1 August 2006 – 31 July 2008
Host Professor: Prof. Dr. Reinhard Schlickeiser
Title: "Investigation of Active Galactic Nuclei using Electron-Positron plasma model"
Institute of Physics IV, Faculty of Physics and Astronomy, Ruhr-University Bochum, D-44780 Bochum, Germany

7. PRIZES / CREDITS

§7.1 Part A

(*in reverse chronological order*)

2022: *Editorial Board of Physica Scripta* endorsed by The Royal Swedish Academy of Sciences, Institute of Physics (IOP), UK. Starting on January 2022.

– 2020: *Editorial Board in Scientific African* endorsed by Elsevier Starting on April 2020 till April 2021.

– 2019: *Editorial Board in Alfarama Journal of Basic & Applied Sciences* endorsed by Port Said University, Starting on April 2019.

– 2019: *Advisory Panel of Physica Scripta* endorsed by The Royal Swedish Academy of Sciences, Institute of Physics (IOP), UK. Starting on May 2019 – December 2021.

– 2015: *Dr. Fayza Elkhrafy Award in Physics for the year 2014.* Egyptian Academy of Scientific Research and Technology, Egypt.

– 2015: *Member in Natural Science Publishing* (USA).

– 2014: *Award of Scientific Publications "The most reference Researcher in Egypt for the year 2013".* Misr El-Kheir Foundation, Egypt.

– 2014: *Award of Scientific Publications "One of the Best Papers Published in International Journal that has high Impact Factor in Natural Science in the year 2013".* Misr El-Kheir Foundation, Egypt. My paper number 83.

–2013: Member of the *Port-Said International Cooperation Office* (*PICO*) at Port Said University, Egypt.

–2013: *Evaluator of the DAAD* in Egypt for GERSS and GERLS scholarship programs and postdoctoral fellowships.

–2012: *Award for Excellence in Scientific Publishing* for the year 2012 of a continuous development program and rehabilitation for adoption, Projects Management Unit - Ministry of Higher Education, Egypt

–2012: *the Annual Meeting of the Alexander von Humboldt Foundation*, Berlin 19-21 June 2012, Germany.

–2011: *Visiting Professor* at the International Centre for Advanced Studies in Physical Sciences, Faculty of Physics and Astronomy, Ruhr University Bochum, D-44780 Bochum, Germany.

–2010: *Visiting Researcher Fellow* at the International Centre for Advanced Studies in Physical Sciences, Faculty of Physics and Astronomy, Ruhr University Bochum, D-44780 Bochum, Germany.

– 2010: *Award of Scientific Publications "One of the Best Papers Published in International Journal that has high Impact Factor in Natural Science".* Misr El-Kheir Foundation, Egypt. My paper number 55.

– 2008: *Participated in the 58th Meeting of Nobel Laureates*, Council for the Lindau – Nobel Laureate Meetings, Lindau, Germany. 29th June – 4th July.

–2007: *the Annual Meeting of the Alexander von Humboldt Foundation*, Berlin 4-6 June 2007, Germany.

– 2005: *Egyptian Incentive/Encouragement Award in Basic Sciences (Physics).* Egyptian Academy of Scientific Research and Technology, Egypt.

– 1994: *El-Dakahlia State Award and Honoring Certificate*, El-Dakahlia, Egypt.

– 1994: *Honoring Certificate* from Scientists Syndicate, Mansoura, El-Dakahlia, Egypt.

§7.2 Part B

– Regular Peer-Reviewer (publication referee) assignments for the following international scientific journals:

1. *Physics of Plasmas* (AIP, USA),
2. *Journal of Plasma Physics* (Cambridge University Press, UK)
3. *Physica Scripta* (IOP, UK)
4. *Astrophysics and Space Science* (Springer, Germany)
5. *The European Journal of Physics D* (Springer, Germany)
6. *Physics Letters A* (Elsevier, Holland)
7. *Advances in Space Research* (Elsevier, Holland)
8. *Planetary and Space Science* (Elsevier, Holland)
9. *IEEE Transactions on Plasma Science* (Elsevier, Holland)
10. *Communications in Nonlinear Science and Numerical Simulation* (Elsevier, Holland)
11. *Canadian Journal of Physics* (NRC Research Press, Canada)
12. *Journal of Geophysical Research - Space Physics* (AGU, USA)
13. *Chinese Journal of Physics* (The Physical Society of Republic of China, China)
14. *Chaos* (AIP, USA)
15. *Plasma Physics and Controlled Fusion* (IOP, UK)
16. *Europhysics Letters* (IOP, UK)
17. *The Astrophysical Journal* (IOP, UK)
18. *Journal of Astrophysics* (Hindawi Publishing, Egypt)
19. *Zeitschrift für Naturforschung A* (Verlag der Zeitschrift für Naturforschung, Germany)
20. *Turkish Journal of Physics* (The Scientific & Technological Research Counsil of Turkey)
21. *New Journal of Physics* (IOP, UK)
22. *The Arabian Journal for Science and Engineering* (Springer, Germany)
23. *Journal of Physics D: Applied Physics* (IOP, UK)
24. *Egyptian Journal of Basic and Applied Sciences* (Elsevier, Holland)
25. *Indian Journal of Physics* (Springer, Germany)
26. *Plasma Science and Technology* (IOP, UK)
27. *Plasma Research Express* (IOP, UK)
28. *The European Journal Physics Plus* (Springer, Germany)
29. *Journal of Atmospheric and Solar-Terrestrial Physics* (Elsevier, Holland)
30. *Journal of Ocean Engineering and Science* (Elsevier, Holland)
31. *Chaos, Solitons and Fractals* (Elsevier, Holland)
32. *Applied Mathematics and Computation* (Elsevier, Holland)
33. *The Egyptian Journal of Remote Sensing and Space Sciences* (Elsevier, Holland)
34. *Annals of Physics* (Elsevier, Holland)

35. *Ain Shams Engineering Journal* (Elsevier, Holland)
36. *Alfarama Journal of Basic & Applied Sciences* (Port Said University)
37. *Journal of Taibah University for Science* (Taibah University)
38. *Waves in Random and Complex Media* (Taylor & Francis)
39. *Mansoura Journal of Physics* (Mansoura University)
40. Delta Journal of Sciences (Tanta University)
41. Monthly Notices of the Royal Astronomical Society (Oxford University Press)

8. CONFERENCES / WORKSHOPS / SCHOOLS / COURSES

(*in reverse chronological order*)

–2022: Co-organizer of the *7th* Spring Plasma School at Port Said (6-8 March), Port Said, Egypt.

–2021: Co-organizer of the *6th* Spring Plasma School at Port Said (3-5 April), Port Said, Egypt.

–2020: Co-organizer of the *5th* Spring Plasma School at Port Said (1-5 March), Port Said, Egypt.

–2019: Invited speaker in the one day symposium held at Faculty of Science, Tanta University (17 October). Presented a talk entitled "Plasma & Nanotechnology".

–2019: Co-organizer of the *4th* Spring Plasma School at Port Said (10-13 March), Port Said, Egypt.

–2019: Co-organizer of the *1st* International Conference on Mathematics, Computer Science, and Biotechnology and their Applications, Port Said University (24-25 February).

–2019: Invited speaker in the one day symposium held at Faculty of Science, Tanta University (20 February). Presented a talk entitled "Nonlineartiy: from nature to plasma".

–2018: Participated in the *Workshop on Mathematical Modeling in Biological Sciences* (3 April), Faculty of Science, Port Said University, Egypt.

–2018: Co-organizer of the *3rd* Spring Plasma School at Port Said (11-14 March), Port Said, Egypt.

–2017: Co-organizer of the *2nd* Spring Plasma School at Port Said (3-6 April), Port Said, Egypt.

–2017: Organizer of the *3rd* Student Conference in Physics (20 April), Port Said, Egypt.

–2016: Organizer of the *2nd Student Conference in Physics* (31 July), Port Said, Egypt.

–2016: Co-organizer of the *1st* Spring Plasma School at Port Said (27-29 April), Port Said, Egypt.

–2016: Participated in the *Scientific Forum of Challenging in Physics and Energy* (13-15 April), Mansoura University, Egypt.

–2015: Organizer of the *1st Student Conference in Physics* (4 May), Port Said, Egypt.

–2015: Participated in the *4th International Conference in Mathematics and Information Science* (5-7 February), Zewail City, Egypt.

–2014: Organizer of the *2nd Workshop in Plasma Physics: Theory and Application* (11-14 October), Port Said, Egypt.

–2013: Organizer of the *1st Workshop in Plasma Physics: Theory and Application* (23-26 June), Port Said, Egypt.

–2013: Participated in and completed the workshop entitled "*Interview Training*" on 24 March 2013, DAAD, Cairo, Egypt.

– 2010: Participated in and completed the *2010 International Advanced Workshop on the Frontiers of Plasma Physics* (5-16 July 2010). International Center for Theoretical Physics (ICTP), Trieste, Italy.

– 2009: Participated in and completed the *2009 Summer College on Plasma Physics* (10-29 August 2009). International Center for Theoretical Physics (ICTP), Trieste, Italy.

– 2009: Attended the First Symposium on: *Environmental Pollutant Impacts in the Western Area of Port Said*, Held in the Faculty of Science, Port Said, Egypt.

– 2008: Participated in *the North African Conference on Computational Physics and Chemistry* (23-25 November 2008), Oran, Algeria.

– 2008: Participated in and completed the *2008 International Workshop on the Frontiers of Modern Plasma Physics* (14-25 July 2008). International Center for Theoretical Physics (ICTP), Trieste, Italy.

– 2007: Participated in and completed the *2007 Summer College on Plasma Physics* (30 July – 24 August 2007). International Center for Theoretical Physics (ICTP), Trieste, Italy.

– 2007: Participated in and completed the course about *Numerical Methods and Simulations* at the 2007 Summer College on Plasma Physics (30 July – 24 August 2007). International Center for Theoretical Physics (ICTP), Trieste, Italy.

9. PROFESSIONAL EXPERIENCE: CURRENT ACADEMIC ACTIVITY (TEACHING, ADMINISTRATION)

§9.1 Teaching Activity

My teaching activities include(d):

- *Plasma Physics*: Physics (Port Said University).
- *Numerical Analysis*: Physics (Port Said University)
- *Mathematical Physics*: Physics (Port Said University).
- *Statistical Physics*: Physics (Port Said University).
- *Thermodynamics*: Physics (Port Said University).
- *Electricity, Magnetism, and Optics*: Physics (Port Said University).
- *Electrodynamics*: Physics (Port Said University).
- *Properties of Matter*: Physics (Port Said University).

- *Nonlinear Physics*: Physics (Port Said University).
- *Quantum Mechanics*: Physics (Port Said University).
- *Fluid Mechanics*: Physics (Port Said University).
- *Quantum Mechanics*: Physics (Damietta University).
- *Electrodynamics*: Physics (Damietta University).

§9.2 Administration & Achievements

1. Vice-Dean for Postgraduate Studies and Research October 2015 till October 2018.
   Achievements: Refine some parts in the faculty registration rules, Organize postgraduate schools for plasma physics.

2. Vice-Dean for Environmental Affairs and Community Service August-October 2015.
   Achievements: Initiate cooperation agreement between Faculty of Science at Port Said and Egyptian Customs.

3. Head of the Department of Physics from June 2013 till August 2015.
   Achievements: Organize series of lectures for under- and post-graduate students, Organize undergraduate students conferences, Developed the undergraduate students laboratories, Organize two workshops, Organize one day workshop with Ain Shams University & Port Said University.

4. Member of Postgraduate Committee Faculty of Science, Port Said University. October 2013 - July 2015

5. Adviser of Studies: student enrollment, supervision, advising to undergraduate and post graduate students at Faculty of Science, Port Said University.

10. RESEARCH ACTIVITY SUPERVISION, COLLABORATIONS, FUNDING PROJECTS

§10.1 Team leadership & supervision

– *Overview*: Currently supervising a team at Port Said University, consisting of two (2) Lecturers, four (4) PhD students, ten (10) MSc students on linear and nonlinear plasma dynamics; Past collaborators include: 9 PhD student (2003-2016), 7 MSc students (2003-2016).

– Scientific collaborations with different teams at Egypt like the British University in Egypt, Ain Shams University, Mansoura University, Damietta University, Fayoum University, Alexandria University, Tanta University, and outside Egypt University of Sciences and Technology HOUARI BOUMEDIENE (Algeria), King Fahd University of Petroleum and Minerals University (KSA), Princess Nourah Bint Abdulrahman University (KSA), Faculty of Physics and Astronomy, Ruhr University Bochum, Germany, Center for Plasma Astrophysics, KU Leuven, Belgium.

– I have hosted a number of researchers visits by external collaborators to Port Said University, one month-long or shorter-term; visitors include(d): Prof Dr. Mourad Djebli, Dr. Faycal Bencheriet, and

Dr. Mohamed Mahboub from Faculty of Physics, University of Sciences and Technology HOUARI BOUMEDIENE, Algeria.

– Permanent collaboration and joint work with a number of scientists from 25+ co-authors in 10+ countries (both in Egypt and abroad).

§10.2 Research short visits *(in reverse chronological order)*

– February 2016: One week visit to USTHB University, Algeria, hosted by Faculty of Physics and Professor Dr. Mourad Dejebli.

– April 2015: One week visit to Umm Al-Qura University, KSA, hosted by Faculty of Faculty of Applied Sciences and Dr. Faiza Allehiany.

– November 2014: One week visit to Ruhr University Bochum, Germany hosted by Institute of Theoretical Physics IV and Professor Dr. Reinhard Schlickeiser.

– June 2014: One month visit to Ruhr University Bochum, Germany hosted by Institute of Theoretical Physics IV and Professor Dr. Reinhard Schlickeiser.

– February 2014: One week visit to KFUPM University, KSA, hosted by Faculty of Science and Professor Dr. Hocine Bahlouli.

– January 2014: One week visit to USTHB University, Algeria, hosted by Faculty of Physics and Professor Dr. Mourad Dejebli.

– March/April 2010: One month visit to University of Innsbruck, Austria, hosted by Institute for Theoretical Physics and Professor Dr. Siegbert Kuhn.

§10.3 Contract and Research Projects: participation and/or proposal preparation
(*in reverse chronological order*)

–2020-2022: Academy of Scientific Research and Technology & Port Said University
Project Number: 6659
Project Title: Electrostatic waves in plasma around Venus ionosphere
P.I.: Prof. Dr. Waleed Moslem Moslem
Co-P.I: Prof. Dr. Salah K. El-Labany & Alaa A. Fayad

–2020-2022: King Fahd University of Petroleum & Minerals, KSA
Project Number: DF191053.
Project Title: Materials Modifications Using Ion Beam Technology
P.I.: Prof. Dr. Ayman Sherif El-Said
Co-P.I: Prof. Dr. Hocine Bahlouli
Consultant: Prof. Dr. Waleed Moslem Moslem

–2020-2022: Alexander von Humboldt Foundation, Germany

Project Title: Solar Wind Impact, Ion Escape, and Waves Characteristics of the High Altitude Plasma Layers of Venus
P.I.: Prof. Dr. Waleed Moslem Moslem & PD Dr. Horst Fichtner

–2017-2020: King Fahd University of Petroleum & Minerals, KSA
Project Number: RG161004.
Project Title: Surface Nanostructuring by High Density Electronic Excitations
P.I.: Prof. Dr. Ayman Sherif El-Said
Co-P.I: Prof. Dr. Hocine Bahlouli
Consultant: Prof. Dr. Waleed Moslem Moslem
Consultant: Dr. Stefan Facsko

–2014-2016: King Fahd University of Petroleum & Minerals, KSA
Project Number: RG1326-1&2
Project Title: Non-Linear Mechanism for Nanostructures Creation by Slow Highly Charged Ions and Fast Heavy Ions
P.I.: Prof Dr. Ayman Sherif
Co-P.I: Prof. Dr. Hocine Bahlouli
Consultant: Prof. Dr. Waleed Moslem Moslem

–2014-2015: Umm Al-Qura University, KSA
Project Number: 43405081
Project Title: Nonlinear Waves in Quantum Plasmas and its Applications in Semiconductors and Astrophysics
P.I.: Asso. Prof. Usama M. Abdelsalam & Dr. Fayza Allehiany
Consultant: Prof. Dr. Waleed Moslem Moslem

–2012-2014: Alexander von Humboldt Foundation, Germany
Project Title: Nonlinear Excitations in Quantum Pair Plasmas: Application to Semiconductors
P.I.: Prof Dr. Waleed Moslem Moslem & Prof. Dr. Rehinhard Schlickeiser

11. BRIEF STATEMENT OF RESEARCH INTERESTS

My research interests are located in the fields of Theoretical Plasma Physics, with emphasis on Nonlinear Dynamics, Waves and Instabilities in Classical and Quantum Plasmas, Plasmonics, Drift Waves, Wake Potential, Soliton Collision, Plasma Expansion, as well as Nanostructures in Surface Materials.

The main focus points are summarized in the following:

§11.1 *Mathematical Modeling & Nonlinear Dynamics:*

– Modeling of nonlinear wave propagation in dispersive media: nonlinearity & dispersion laws, forcing & dissipative effects.

– Soliton Theory: stability, effect of perturbations, Korteweg de Vries (KdV) equation, Kadomtsev-Petviashvili (KP) equation, Zakharov-Kuznetsov (ZK) equation, nonlinear Schrödinger (NLS) equation, and associated partial differential equations.

– Higher order perturbations: Higher-order KdV and ZK equations.

– Renormalization method: removing secular term from the higher-order KdV and ZK equations.

– Direct k-expansion method: instability of ZK equation. Head-on collision of ion-acoustic solitary waves.

– Different geometries: Cartesian, Spherical and Cylindrical geometries.

– Extended Poincare-Lighthill-Kuo (PLK) method: collision of solitary waves.

– Self-similar expansion problem.

§11.2 *Linear and Nonlinear Waves Propagating in Plasmas:*

– Nonlinear excitations: solitons, double layers (shocklike soliton), shocks, blowup/explosive, vortices, modulated envelope wave packets, instabilities, ponderomotive coupling effects.

– Electrostatic and electromagnetic excitations in: pair-ion plasma, electron-positron-ion plasmas, two-electron temperature plasma, two-ion temperature plasma, nonthermal plasma, electron-hole plasma.

– Plasma waves: ion-acoustic waves, dust-ion-acoustic waves, dust-acoustic waves, Alfven waves, whistler waves, drift waves.

– Beam-plasma interactions: beam-plasma properties.

– Surface waves (surface plasmon polaritons or plasmonics): electrostatic and electromagnetic excitations, ponderomotive coupling effect, envelope solitons, and counterstreaming plasmas.

– Rotating magnetized plasma: linear and nonlinear excitations in astrophysical objects.

– Inhomogeneous (non-uniform) plasma: ingredient of density, velocity, magnetic field, and temperature in classical and quantum plasma.

– Wake potential: test charge properties in multi-component plasma.

– Rogue or Freak waves in astrophysics, surface plasma waves, plasmonics, and semiconductors.

– Plasma expansion: self-similar/plume expansion.

– Quantum semiconductor plasma: Two-stream instability, solitary nonlinear waves.

– Ultrarelativistic quantum plasmas: applications to white dwarfs and magnetars.

– Ultracold neutral plasma: shock waves, soliton collision.

– Nonlinear waves in planets and moons: ion escape, shocklike waves.

§11.3 *Dusty Plasmas (Complex plasmas):*

– Basic properties: charging effect, dispersion properties, external magnetic field, two-ion temperature, ion beam, ion streaming, and dust-size distribution.

– Electrostatic excitations: dust-acoustic solitary waves, dust-ion-acoustic solitary waves and shocks, instabilities.

– Electromagnetic excitations: self-gravitational, rotational, opposite polarity dust particles, instabilities.

– Charging of dust grains: ionization source model.

– Strongly coupled effect in dusty plasma, polarization effect.

– Solar wind interactions with planets.

§11.4 Surface Nanostructures:

– Surface nanostructures by highly charged ions on SiO_2, ZnO, and YIG crystals.
– Plasma expansion approach, acoustic waves.

§11.5 Keywords

–*Mathematical Physics*: Dynamical systems, nonlinear partial differential equations, reductive perturbation technique, renormalization method, direct *k*-expansion method, KdV, KP, ZK, and NLS equations.

– *Nonlinear Dynamics*: Coherent structures (solitons), shocks (double layers), vortices, explosive (blowup), envelope solitons, surface waves, and rogue waves.

– *Plasma Physics (Classical and/or Quantum)*: Linear and nonlinear waves, electrostatic and electromagnetic excitations, instabilities, uniform and nonuniform plasmas, ponderomotive coupling effects, laser plasmas, beam-plasma interactions, and wake-potential/test charge, semiconductors.

– *Dusty Plasmas (Complex Plasmas)*: Basic properties, waves, solitons, shocks, stability, dust size distribution, charging of dust grains, strongly coupled effect, and polarization effect.

– *Surface Waves / Plasmonics*: Surface plasmon-polaritons, electrostatic and electromagnetic waves, ponderomotive coupling effect, envelope solitons, and counterstreaming plasmas.

– *Laser Plasma*: Plasma plume expansion, self-similar expansion.

– *Space & Astrophysics*: Electron-positron-ion classical/quantum plasma, Active Galactic Nuclei (AGN), white dwarfs, neutron stars, magnetars, interstellar clouds, Titan, Venus, and solar wind.

– *Quantum Semiconductor Plasma*: Electron-hole plasma, exchange-correlation potential, recoil effect (Bohm potential).

– *Ultracold neutral plasma*: Shock waves, soliton collision.

– *Surface Nanostructures*: Surface nanostructures by highly charged ions

– *Solar wind interactions with planets*: shocklike soliton & nonlinear structures.

12. ACADEMIC REFERENCES

§12.1 Non-Egyptian references

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§12.2 Egyptian references

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13. CITATIONS OF THE PUBLISHED WORK

§13.1 Citations & H-index

Search key: MOSLEM WM

Database	Clarivate Web of Science	Scopus	Google Scholar
Total Citation	3829	3886	4679
H-index	37	36	41
i10-index	---	---	97

§13.2 Statistics

No	Journal Title	No. of Papers Published in Journal	Impact Factor for Journal	Sum of Impact Factor
1	Journal of Plasma Physics	7	0.739	5.173
2	Physica Scripta	4	1.2	8.8
3	Physics of Plasmas	48	2.249	107.952
4	Chaos, Solitons and Fractals	6	1.503	9
5	Physics Letters A	15	1.626	24.39
6	Planetary and Space Science	1	1.63	1.63
7	New Journal of Physics	3	3.673	11.019
8	The European Physical Journal D	2	1.398	2.796
9	Physical Review E	3	2.326	6.978
10	Astrophysics and Space Science	12	2.401	28.812
11	Europhysics Letters	2	2.27	4.54
12	Plasma Physics and Controlled Fusion	1	2.386	2.386
13	The Astrophysical Journal	1	6.28	6.28
14	Applied Physics Letters	3	3.515	10.545
15	Journal of Geophysical Research – Space Science	1	3.44	3.44
16	Journal of King Saud University – Science	1	0.317	0.317
17	Scientific Reports	1	5.578	5.578
18	Pramana Journal of Physics	1	0.69	0.69
19	Acta Physica Polonica A	1	0.43	0.43
20	IEEE Transactions on Plasma Science	2	1.052	2.052
21	Advances in Space Research	3	1.63	4.89
2	Results in Physics	1	3.042	3.042
Total Impact Factors for All Journals				**247.532**

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§14.1 REFEREED INTERNATIONAL JOURNALS

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Top 20 Most Downloaded Articles in March 2011
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One of the Most Cited Articles in 2012 Published in Physics of Plasmas

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Under Preparation Work:

1- R. E. Tolba, M. E. Yahia **W. M. MOSLEM** (GL equation)
2- Amany Elgarawany, Yosr, S. Abdelhafiz, **W. M. MOSLEM** (Laser&semiconductor I)
3- Amany Elgarawany, Yosr, S. Abdelhafiz, **W. M. MOSLEM** (Laser&semiconductor II)
4- Amany Elgarawany, Yosr, S. Abdelhafiz, **W. M. MOSLEM** (e-h semiconductor)
5- Ayaa Elmandoh, R. E. Tolba, **W. M. MOSLEM** (KP Venus)
6- **W. M. MOSLEM**, S. Ali, and R. E. Tolba (Dark Surface soliton)
7- A. A. Fayad, F. S. H. Sayed, **W. M. MOSLEM** (Alfven wave Venus)
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§14.2 REFEREED LOCAL JOURNALS

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