

# Qais Thanon Najim Algwari

PhD. in Physics (Plasma)  
Assistant Professor

Ninevah University  
College of Electronic Eng.  
Dept. of Electronics  
E-mail: qais.najim@uoninevah.edu.iq

**PERSONAL**    **Date of Birth:** 1970  
**Address:** Mosul-Iraq

## EDUCATION and EMPLOYMENT

**EDUCATION**    **PhD.** 2011, (Atmospheric pressure plasma jets) School of Maths and Physics. Centre of Plasma Physics. The Queen's University of Belfast. Belfast. United Kingdoms.

**M.Sc.** 1997, (Plasma Physics) Dept. of Physics, College of Sciences. University of Mosul. Mosul-Iraq

**B.Sc.** 1992, (Physics) Ranked the first position in the class, Dept. of Physics, College of Sciences. University of Mosul, Mosul, Iraq.

### Employment History:

**April 2014  
To Now**                      **Assistant Professor**  
College of Electronic Engineering, Ninevah University, Mosul, Iraq

**July 2011 to April  
2014**                              **Lecturer**  
College of Electronic Engineering, University of Mosul. Mosul, Iraq.

**September 2008 to  
July 2011**                        **M. Sc Supervisor and Lab. Demonstrator**  
Centre of Plasma Physics. The Queen's University of Belfast. Belfast. United Kingdoms

**December 2004 to  
July 2008**                        **Associate Lecturer**  
College of Electronic Engineering, University of Mosul. Mosul, Iraq.

**November 1997 to  
December 2004**                **Physicist**  
Alkindy Company, Signal process centre.

February 1993 to  
September 1995

Physicist  
Alkindy Company, Laser research centre.

## SKILLS

**Language** – Arabic (mother language) - English

**Computer Skills** – C++, Microsoft Office, Comsol multiphysics

**Scholarly Activities** - Reviewer of literatures in Plasma and Polymer Process, Plasma Source Sciences Technology. IEEE trans. plasma sci., Physics of plasma.

## Teaching and Academic Activities

Series	Courses	Level
1	Plasma diagnostics	M.Sc.
2	Solid state and IC fabrication	M.Sc
3	Opto-electronics Semiconductor	M.Sc
4	Laser and Fiber Communications	B. Sc.
5	Physical Electronics	B.Sc.
6	C++ programming	B.Sc.
7	Computer Science	B.Sc.

Supervised on a Ph D thesis in Power Electronic  
Supervised on a Ph D thesis in Dentist science.  
Supervised on an M Sc thesis in Plasma physics.  
Supervised on an M Sc thesis in Solid state electronic eng.  
External postgraduate examiner.

## Awards and Recognition

1. The Iraqi High Education Prize on the Science for the best Paper in 2013
2. European Plasma Society Prize for the best Paper in EPS conference 2010.

## University and Departmental Community Services

#	Committee Name	Period	Position
1	Departmental council	2004-to now	Member
2	Promotion committee.	2017 to now1997	Member
3	Test and exams college council	2005-2008	Member
4	Test and exams departmental council	2013-2014	Chairman

## (Publications)

1. Temporally, spectrally and 3-d spatially resolved experimental investigations of plasma pulse propagation from an atmospheric pressure helium plasma into ambient air  
(Q. Th. Algwari, D. O'Connell) (*Conference prize*)  
37<sup>th</sup> EPS Conference on Plasma Physics, 21 - 25 June 2010 Dublin, Ireland
2. Plasma dynamics and development of plasma pulses in a kHz generated atmospheric pressure plasma jet.  
Q. Th. Algwari, D. O'Connell  
Bulletin of the American Physical Society, 63rd Annual Gaseous Electronics Conference Volume 55, Number 7, Oct. 2010 Paris, France
3. Optical measurements of reactive oxygen species in atmospheric pressure plasma jets  
J. S. Sousa, V. Puech, Q. T. Algwari, L. J. Cox, K. Niemi, T. Gans, and D. O'Connell

20th ESCAMPIG, 13-17 July 2010, Novi, Sad, Serbia

4. Dynamics of atmospheric pressure plasma jets and Interaction mechanisms between multiple jet plumes

Q. Th. Algwari, D. O'Connell

20th ESCAMPIG, 13-17 July 2010, Novi, Sad, Serbia

\*\*\*\*\*2011\*\*\*\*\*

5. Generation of reactive oxygen species in kHz-driven atmospheric pressure plasma jets for biomedical applications

J.S. Sousa, Q. Th. Algwari, K. Niemi, V. Puech, T. Gans, D. O'Connell

NATO Advanced Research Workshop, March 15-18, 2011, Jasná, Slovakia

6. The role of molecular air species in atmospheric pressure plasma jets

Q. Th. Algwari, D. O'Connell

30<sup>th</sup> ICPIG 2011 Conference, 28th August to 2nd September 2011, Belfast UK

7. Interaction mechanisms between multiple plasma jets

Q. Th. Algwari, C. O'Neill, D. O'Connell

30<sup>th</sup> ICPIG 2011 Conference, 28th August to 2nd September 2011, Belfast UK

8. Reactive oxygen species in kHz-driven atmospheric pressure plasma jets

J. S. Sousa, Q. Algwari, K. Niemi, T. Gans, D. O'Connell

30<sup>th</sup> ICPIG 2011 Conference, 28th August to 2nd September 2011, Belfast UK

9. Interactions of non-thermal atmospheric pressure plasmas with plasmid DNA

A. Gibson, D. O'Connell, L. Cox, Q. Algwari

30<sup>th</sup> ICPIG 2011 Conference, 28th August to 2nd September 2011, Belfast UK

10. Kilohertz-Driven Atmospheric Pressure Plasma Jet for the Decontamination of Bacterial Biofilms

M. Y. Alkawareek, S. P. Gorman, D. O'Connell, Q. Th. Algwari, B. F. Gilmore

30<sup>th</sup> ICPIG 2011 Conference, 28th August to 2nd September 2011, Belfast UK

11. The role of molecular air species in kHz driven atmospheric pressure plasma jets

Q. Th. Algwari, D. O'Connell

Bulletin of the American Physical Society, 64th Annual Gaseous Electronics Conference  
Volume 56, Number 15, Nov. 2011, USA

12. Atmospheric pressure plasma jets as sources of reactive oxygen species for biomedical applications

J. Sousa, Q. Algwari, L. Cox, L. Graham, J. Waskoenig, K. Niemi, D. O'Connell, and T. Gans

6th International Workshop on Microplasmas, Paris, France 2011

13. Eradication of Bacterial Biofilms Using Atmospheric Pressure Non-Thermal Plasmas

M. Alkawareek, B. Gilmore; S. Gorman; Q. Th. Algwari; W. Graham; D.O'Connell.

American Physical Society, 64th Annual Gaseous Electronics Conference, November 14-18, 2011

14. Plasma jet interaction with a dielectric surface

Q. Th. Algwari, D. O'Connell

IEEE Transactions on Plasma Science, Volume: 39, Issue: 11 Page(s): 2368 – 2369 (2011)

15. Cold atmospheric pressure plasma jets as sources of singlet delta oxygen for biomedical applications

J. S. Sousa, K. Niemi, L. J. Cox, Q. Th. Algwari, T. Gans, and D. O'Connell

*Journal of Applied Physics*. Volume 109, page 123302 (2011)

16. Electron dynamics and plasma jet formation in a helium atmospheric pressure dielectric barrier discharge jet  
*Applied Physics Letter. Volume 99*, page 121501 (2011)  
Q. Th. Algwari, D. O'Connell

\*\*\*\*\*2012\*\*\*\*\*

17. Application of atmospheric pressure nonthermal plasma for the in vitro eradication of bacterial biofilms.

M. Alkawareek, Q. Th. Algwari, S. Gorman, W. Graham, D. O'Connell, Deborah, B. Gilmore  
*FEMS Immunology & Medical Microbiology Vol 65 Issue 2, page 381, 2012*

18. Eradication of *Pseudomonas aeruginosa* Biofilms by Atmospheric Pressure Non-Thermal Plasma

M. Alkawareek, Q. Th. Algwari, G. Laverty, S. Gorman, W. Graham, D. O'Connell, Deborah, B. Gilmore  
*PLoS One., Vol 7, Issue 8, e44289, 2012*

19. Cold atmospheric pressure plasma jets as sources of reactive oxygen species for biomedical applications

J.S. Sousa, Q. Th. Algwari, L.J. Cox, L.M. Graham, J. Waskoenig, K. Niemi, D. O'Connell, T. Gans  
*ESCAMPIG XXI, July 10-14 2012, Viana do Castelo, Portugal*

\*\*\*\*\*2013\*\*\*\*\*

20. Reaction kinetics of a kHz-driven atmospheric pressure plasma jet operated in ambient humid air

T. Murakami, Q. Th. Algwari, K. Niemi, T. Gans, D. O'Connell, and W. G. Graham  
*31<sup>st</sup> ICPIG, July 14-19, 2013, Granada, Spain*

\*\*\*\*\*2014\*\*\*\*\*

21. Plasmid DNA Damage Following Exposure to Atmospheric Pressure Nonthermal Plasma: Kinetics and Influence of Oxygen Admixture

Mahmoud Y. Alkawareek, Nid'a H. Alshraiedeh, Sarah Higginbotham, a Padrig B. Flynn, Qais T. Algwari, Sean P. Gorman, William G. Graham, and Brendan F. Gilmore  
*Plasma Medicine 4(1-4): 211-219 (2014)*

\*\*\*\*\*2019\*\*\*\*\*

22. Numerical Simulation of the Trichel-Pulse in SF6 at Atmospheric Pressure

Dawood N. Saleh, Qais Th. Algwari, and Farook Kh. Amoor  
*IEEE TRANSACTIONS ON PLASMA SCIENCE, VOL. 47, NO. 1, JANUARY 2019*

\*\*\*\*\*2020\*\*\*\*\*

23 Modeling the dependence of the negative corona current density on applied voltage rise time

Dawood N. Saleh, Qais Th. Algwari, and Farook Kh. Amoor  
*Phys. Plasmas 27, 073501 (2020)*