

Curriculum Vita For Maan Salim
(Associate Professor at Physics Department, Damascus University)

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PROFILE

Ph.D. in Electrical and Electronic Engineering (**Superconductivity**) from **The University of Nottingham (United Kingdom)** with Physics and Chemistry background (The BSc. Degree). **Postdoctoral at the University of L'Aquila, Italy** for six months (Research in the area of Graphene oxide and reduced graphene oxide monolayer). Several years experience including academic research, lecturing and office job. Several journal papers and conference abstracts and books. Some Teaching Qualifications. Key skills and Personnel quality including Creativity & Problem Solving Skills, Communications skills, Adaptability and IT skills.

Academic Qualifications

Postdoctoral at Physics Department, University of L'Aquila, Italy for six months 15 January 2017 to 15 July 2017 (In the framework of Erasmus Mundus program "ASSUR"). The area of the research was **Graphene oxide monolayer**.

Ph.D. in Electrical and Electronic Engineering (**Superconductivity**), **the University of Nottingham, United Kingdom. 1996 – 2002.**

B.Sc. in Physical and Chemical Science, Full time course, Damascus University. **1984-1988.**

Teaching Qualifications:

City & Guild 7407 Certificate in Further Education Teaching, New College Nottingham, UK. **29 April 2003 to 15 July 2003.**

Introduction to teaching skills, New College Nottingham, UK. **17 January 2003 to 28 March 2003.**

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Diploma of Educational Qualification (Teaching Qualification), Full time course, Damascus University. **9 September 1989 to 11 September 1990.**

Work Experience

1 June 2004 to the present time Associate Professor at Physics Department, Damascus University, Syria. Courses taught are:

1. Magnetic and electrical measurements (course for Master Degree in Physics)
2. Thin films (course for Master Degree in Physics).
3. Geometrical Optics (course for Physics students).
4. General Physics (1) (course for Geological students).
5. General Physics (4) (course for Geophysics students).
6. English Language (2) (course for Physics students).
7. English Language (4) (course for Physics students).
8. Practical Physics.
9. Computational Physics.
10. Supervision Projects for Higher study; Diploma and master degrees.

10 December 2005 to present time (part time): Associate Professor at the International University for Science and Technology, Damascus, Syria (Teaching in English). Courses taught are:

- 1- General Physics (1) for Medicine, the textbook used is University Physics, 12th Edition, *Young & Freedman*.
- 2- General Physics (1) and (2) for Engineering the textbook used is Physics for Scientists and Engineers, 8th edition, Jewett / Serway.
- 3- Practical Physics (1) and (2).

13 January 2003 to April 2003: Voluntary work at the Chase Neighbourhood Centre as an IT training support worker, Nottingham, UK.

1997- to May 2002: Part time Lecturer at Department of Chemistry and Physics, Nottingham Trent University. Teaching the following subjects:

- Measurement Techniques and software Skills.
- Key Skills (IT)
- Instrumentation
- Energy and Climate

Demonstrator at the School of Electrical and Electronic Engineering, The University of Nottingham. Teaching second and first year Laboratory courses:

- Introduction to Computational Electromagnetic.
- Characteristics of Transmission Lines.
- Time and Frequency Domain Representation of Signals.
- Digital Circuits
- Electronics

Working in Admission Office. Undergraduate Office, The University of Nottingham.

1993-1995 Full-time assistant lecturer at Physics Department, Damascus University

1991-1993 Full-time job in the Central Statistic bureau, Damascus and Tartous.

Key Skills

Creativity & Problem Solving Skills: During my Ph.D. studies, all of the tools that I used for my research I designed and built myself.

Communications skills

The various teaching jobs that I have undertaken have given me the ability to communicate with a wide range of different people from different cultures, age-groups and backgrounds. Furthermore, by attending conferences and workshops I learned how to present my findings and communicate effectively in an academic context.

Adaptability

During my stay in the UK (for over 8 years) I have adapted the culture, weather, life style there. In the laboratory environment I have adapted to numerous new challenges as they arose.

IT Skills

Experience with a wide variety of commercial packages and programming languages including: Microsoft office, PowerPoint and Excel, Mathcad, Easyplot, Origin, Visio, Multisim, Matlab, and programming in Gw-basic and Basic.

Workshops Participation

Workshop on Superconductivity, Interdisciplinary Research Centre in Superconductivity, **University Of Cambridge**, Cambridge, United Kingdom. **6-10 January 1997.**

Workshop on Superconductivity, Interdisciplinary Research Centre in Superconductivity, **University Of Cambridge**, Cambridge, United Kingdom. **6-10 January 1998.**

Papers published and conference papers and abstracts

Journal papers

1. Priante F, **Salim M**, Ottavian L, Perrozzi F., XPS study of graphene oxide reduction induced by (100) and (111)-oriented Si substrates, *Nanotechnology* 29 (2018) 075704.
2. S. Said kadori, **M. Salim**, Effect of Calcium doping on electrical properties in YBCO, *Damascus University Journal for Basic Sciences*, 2016.
3. **M. Salim**, Simulation of Irreversibility line of thin superconducting disk in perpendicular magnetic fields, *Damascus University Journal for Basic Sciences*, Vol. 32, No. 1, 2016.
4. **M. Salim**, Modelling of AC susceptibility of thin superconducting disk in perpendicular magnetic fields, *Damascus University Journal for Basic Sciences*, Vol. 32, No. 1, 2016.
5. Abo Samra, R, Asaad I, **Salim M**, Structure and optical properties of thermally evaporated ZnS thin films. *The European Physical Journal Applied Physics*, 2010, 52: 30301.

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6. M S Raven and **M Salim**, Design aspects of a Differential Magnetic Susceptometer for High Temperature Superconductors, Meas. Sci. Technol. 12 (2001) p 744.
7. Gueffaf, **M. Salim**, and M.S. Raven, Paraconductivity in epitaxial Yba₂Cu₃O₇ thin films, Journal of Physics, Condensed Matter 13 (2001) p 875.
8. **M. Salim**, A. Gueffaf and M.S. Raven, Magnetic Susceptibility of YBCO films in Perpendicular magnetic field. Physica B 284 part 1 (2000) p 691.
9. A. Gueffaf, **M. Salim**, M.S. Raven and K. Bousbahi, *Paraconductivity in epitaxial Yba₂Cu₃O₇ thin films*. Physica B 284 part 1 (2000) p 985.

Conference abstracts and papers

1. M. Z. Al-Abedeem, M. Salim, K. Al-Shoufi, Fabrications and physical characterizations of nickel oxide (NiO) thin films. Condensed Matter Conference at Baath University, Syria 28-11-2010.
2. M. Salim, A. Gueffaf and M.S. Raven. Magnetic Susceptibility of YBCO films in Perpendicular magnetic field. Lt22 International Conference proceedings on Low Temperature Physics. August 4-11, 1999. Espoo and Helsinki, Finland.
3. A. Gueffaf, M. Salim, M.S. Raven and K. Bousbahi. Paraconductivity in epitaxial Yba₂Cu₃O₇ thin films. Lt22 International Conference proceedings on Low Temperature Physics. August 4-11, 1999. Espoo and Helsinki, Finland.
4. A. Gueffaf, M. Salim, M.S. Raven and K. Bousbahi. Paraconductivity And Excess Hall Effect in Epitaxial YBa₂Cu₃O_x Thin Films. In Condensed Matter and Materials Physics Conference 21-23 December 1998 (CMMP 98) Vol. SC.LP2.23, UMIST, Manchester, UK.
5. M. Salim, A. Gueffaf and M.S. Raven. Magnetic Susceptibility of YBCO and Thermally Assisted Flux Flow. In Condensed Matter and Materials Physics Conference 21-23 December 1998 (CMMP 98) Vol. SC.LP2.22, UMIST, Manchester, UK.
6. A. Gueffaf, M. Salim and M.S. Raven. A Single Coil Technique for Localized Impedance Measurements on Superconducting Thin Films. In Condensed Matter and Materials Physics Conference 17-19 December 1997 (CMMP 97) Vol. SC2P12, p68, University of Exeter, UK.
7. M. Salim, A. Gueffaf and M.S. Raven. A Double Balanced Magnetic Susceptometer Design For Thin Film Superconductors. In Condensed Matter and Materials Physics Conference 17-19 December 1997 (CMMP 97) Vol. SC2P13, p68, University of Exeter, UK.
8. M. Salim, A. Gueffaf and M.S. Raven. Time Dependent Pinning of Flux Vortices Detected by Inductance Measurements. In Condensed Matter and Materials Physics Conference 17-19 December 1997 (CMMP 97) Vol. SC2P11, p67, University of Exeter, UK.
9. M. Salim and M.S. Raven. Vortex Dynamics and The Inductance of YBa₂Cu₃O_x Films. In Condensed Matter and Materials Physics Conference 17-19 December 1996 (CMMP 96), SC.b.P8, p93, University of York, UK.
10. **M. Salim**, and M. S. Raven, *Transition Inductance of Melt Processed YBCO Thick Film*, High Temperature Superconductivity X, University of St Andrews, September 1996.

Published Books:

- 1- **M. Salim**, F. Awad, K. Al Shoufi, K. Kaed, F. Al Feel, Practical Physics (1), for first year students in physics, Damascus University, 2008.
- 2- **M. Salim**, M. Kossa, Geometrical optics, for first year students in physics, Damascus University, 2009 – 2010.

The outline of the Ph.D. Project

The title of my thesis is: **The AC Magnetic Susceptibility of High Temperature Superconductors**. The broad area of my studying was **High Temperature Superconductors** (typically 20-120 K). The experimental side of my Ph.D. consists of the following main objectives:

- (1) **Two new susceptometers were developed, designed and built.**
- (2) **Performing AC magnetic susceptibility measurements** on different sample geometry in parallel and perpendicular magnetic fields. Samples involved were YBCO thin and thick films, YBCO bulk, and BiSCCO Tapes. The susceptibility of these samples was measured as a function of temperature, magnetic field and frequency.
- (3) **Performing the complex impedance** and complex AC susceptibility measurements of YBCO high temperature superconducting thin films using a miniature single coil technique. The measurements were carried out using HP impedance analyser at frequencies up to 1 GHz.
- (4) The AC susceptibility data were then employed to investigate the flux pinning mechanism, critical current density, irreversibility line, pinning force and the AC losses.
- (5) **Performing four terminal impedance measurements** on these films using impedance analyser. The inductance and resistance of these films were measured versus temperature and frequency. The temperature range 20-300K and the frequency range is 50 Hz-13 MHz.
- (6) **Modelling AC susceptibility data for YBCO thin film in perpendicular magnetic field.**
- (7) **Growing YBCO thin films** on different substrates under different conditions using R.F. Sputtering System.
- (8) Films obtained were characterised by **x-ray diffraction**.

Current Research

- Modeling of ac susceptibility of superconducting thin disk in perpendicular magnetic field.
- Graphene Oxide and reduced graphene oxide monolayer.
- Superconducting thin films, fabrications and characterizations and modeling.
- Supervising of several Master students thesis. In the areas of:
 1. Investigation of the effects of Calcium doping on the electrical and magnetic properties of YBCO.
 2. Design ac susceptometer and measuring the ac susceptibility of different material as a function of the material shapes, 2011-2012.
 3. Fabrications and Physical characterizations of Nickel Oxide thin films, 2011.
 4. Fabrications and optical characterisations of zinc sulphide (ZnS) thin films, 2010.
 5. Investigation of natural radiation levels and microwave field strength in schools located nearby mobile base station, 2009.
 6. Calculations of generalized derived limits (GDLs) of ^{131}I discharged to sewage, 2009.