

Curriculum Vitae

Family Name: SAADEDDIN.

First name: Iyad

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Date of Birth: 20-02-1972.

Place of Birth: Nablus-Palestine.

Nationality: Palestinian.

Marital Status: Married.



Education:

- **Ph.D., Condensed matter Chemical physics** (2007), Bordeaux1 University, ICMCB-CNRS, France. **The thesis title: “PREPARATION AND CHARACTERIZATION OF NEW TRANSPARENT CONDUCTING OXIDES BASED ON SnO₂ AND In₂O₃: CERAMICS AND THIN FILMS”**
The field of the study was **Solid state physics and material science.**
- **Master, Physics** (2002), An-Najah National University, Nablus-Palestine. **Title of thesis: “MODIFICATION OF SEMICONDUCTOR ELECTRODE CHARACTERISTICS BY ANNEALING AND COOLING AT DIFFERENT RATES”**
- **B.Sc., Physics, Minor electronics** (1995), An-Najah National University, Nablus-Palestine.

Last professions:

- 1) Chairman of physics department, Physics department, An-Najah National University (from 21/07/2012 up to now)
- 2) Member in the faculty of physics department, Physics department, An-Najah National University. (1/05/2009 -20/07/2012).
- 3) Chairman of physics department, Physics department, An-Najah National University (from 16/08/2009 up to 30/04/2011).
- 4) Member in the faculty of physics department, Physics department, An-Najah National University. (11/08/2007 -15/08/2009).
- 5) Researcher at ICMCB-CNRS, Bordeaux1 University, France, (from 15-04-2007 to15-07-2007)
- 6) Physics and Electronics labs. Supervisor, Physics Department, An-Najah National University. (2001-2003)
- 7) Physics and Electronics labs. technician, Physics Department, An-Najah National University. (1996-2001).

Professional skills:

- Teaching courses and labs.
- Directing research for graduate students.
- Designing Electronic Circuits.
- Maintenance work for electronic devices.
- Using Computer software.

- Light-to-electricity conversion (Photoelectrochemistry and photovoltaic).
- Thin film deposition.
- Electrochromic system construction.
- Working on high technology devices for research.

Language Proficiency:

- Arabic (native language).
- English- Excellent (written and spoken).
- French-good (spoken and written).

Thesis supervision

- Master thesis, co-supervisor, "CdS Thin Film Photo-Electrochemical Electrodes: Combined Electrochemical and Chemical Bath Depositions" by Sahar Mustafa Asad Khudruj, An-Najah N. University, Nablus, Palestine, 2011.
- Master thesis, Supervisor, "Electrochromic Properties of Sol-gel NiO – based films", by Atheer Abu-Yaqoub, An-Najah N. University, Nablus, Palestine, 2012.

Thesis committee member

- **Master thesis** “Enhancement of Photoelectrochemical Characteristics of CdS Thin Film Electrodes Prepared by Chemical Bath Deposition: Effect of Annealing and Rate of Cooling” by Rania M. A. Ismail, An-Najah N. University, Nablus, Palestine, 16/06/2008.
- **Master thesis** “Modification of the Properties of Cadmium Selenide Thin Films in Photovoltaic Solar Cells” by Huda S. M. Sabri, An-Najah N. University, Nablus, Palestine, 05/07/2009.
- **Master thesis** “Preparation and enhancement of CdS/ZnS thin film for photovoltaic purposes” by Maysa T. M. Atatrih, An-Najah N. University, Nablus, Palestine, 04/03/2010.
- **Master thesis** “Physical characteristics of nano-scale electrodeposited thin films of CdS: effect of annealing and cooling rate” by Israa T. L. Hamdan, An-Najah N. University, Nablus, Palestine, 11/03/2010.

Publications:

- 1) **Modification of n-Si characteristics by annealing and cooling at different rates.** Subhi K. Salih, Hikmat S. Hilal, **Iyad A. Saadeddin** and Guy Campet. *Active and Passive Elec. Comp.*, December 2003, Vol. 26, No. 4, pp. 213–230
- 2) **Effect of annealing and of cooling rates on n-GaAs electrode photoelectrochemical characteristics,** Hikmat S. Hilal, Subhi K. Salih, **Iyad A. Sa'adeddin** and Guy Campet. *Active and Passive Elec. Comp.*, June 2004, vol. 27, no. 2, pages.69-80
- 3) **Enhancement of n-GaAs characteristics by combined heating, cooling rate and metalloporphyrin modification techniques.** Hikmat S. Hilal, Wajdy M. Ateereh, Taleb Al-Tel, Raqi Shubeita, **Iyad Saadeddin** and Guy Campet, *Solid State Sciences, Volume 6, Issue 1, January 2004, Pages 139-146*
- 4) **Thermodynamic correlations and band gap calculations in metal oxides,** J. Portier, H.S. Hilal, **I. Saadeddin**, S.J. Hwang, M.A. Subramanian and G. Campet, *Progress in Solid State Chemistry, Volume 32, Issues 3-4, 2004, Pages 207-217*

- 5) **Simultaneous doping of Zn and Sb in SnO₂ ceramics: Enhancement of electrical conductivity**, I. Saadeddin, H.S. Hilal, B. Pecquenard, J. Marcus, A. Mansouri, C. Labrugere, M.A. Subramanian, G. Campet, *Solid state sciences*, volum8, 2006, pages 7-13.
- 6) **Bridged polystannoxane. A new route towards nanoporous tin dioxide**, T. Toupance, H. El Hamzaoui, B. Jousseume, H. Riague, I. Saadeddin, G. Campet, *Chemistry of materials*, volum 18, 2006, pages 6364-637.
- 7) **Synthesis and characterization of single-doped and co-doped SnO₂ thin films for optoelectronic applications**, I. Saadeddin, B. Pecquenard, J.P. Manaud, R. Decourt, C. Labrugère, T. Buffeteau, G. Campet, *Applied Surface Science*, volum 253 (12), 2007, pages 5240-5249.
- 8) **Effect of cooling rate of pre-annealed CdS thin film electrodes prepared by chemical bath deposition: Enhancement of photoelectrochemical characteristics**, Hikmat S. Hilal, Rania M.A. Ismail, Amer El-Hamouz, Ahed Zyoud, Iyad Saadeddin, *Electrochimica Acta*, volum 54, 2009, pages 3433–3440.
- 9) **Pristine and supported ZnO-based catalysts for phenazopyridine degradation with direct solar light**, Hikmat S. Hilal, Ghazi Y.M. Al-Nour, Ahed Zyoud, Muath H. Helal, Iyad Saadeddin, *Solid State Sciences* 12 (2010) 578–586.
- 10) **CdS-sensitized TiO₂ in phenazopyridine photo-degradation: Catalyst efficiency, stability and feasibility assessment**, Ahed H. Zyoud, Nidal Zaatar, Iyad Saadeddin, Cheknane Ali, DaeHoon Park, Guy Campet, Hikmat S. Hilal, *Journal of Hazardous Materials*, 173 (1-3), 2010, 318-325.
- 11) **Alternative natural dyes in water purification: Anthocyanin as TiO₂-sensitizer in methyl orange photo-degradation**, Ahed Zyoud, Nidal Zaatar, Iyad Saadeddin, Muath H. Helal, Guy Campet, Moulki Hakim, DaeHoon Park and Hikmat S. Hilal*, *Solid State Sciences* 13 (2011) 1268-1275.
- 12) **Electrochromic devices based on *in situ* polymerised EDOT and Prussian Blue: influence of transparent conducting oxide and electrolyte composition—towards up-scaling**, Sandrine Duluard, Ayse Celik-Cochet, Iyad Saadeddin, Anne Labouret, Guy Campet, Gerhard Schottner, Uwe Posset and Marie-Helene Delville, *New J. Chem.*, 35 (2011) 2314-2321. Advance Article. First published on the web 15 Jul 2011.
- 13) **Indium oxide co-doped with tin and zinc: A simple route to highly conducting high density targets for TCO thin-film fabrication**, I. Saadeddin, H.S. Hilal, R. Decourt, G. Campet, B. Pecquenard. *Solid State Sciences* 14 (2012) 914-919.
- 14) **CdS/FTO thin film electrodes deposited by chemical bath deposition and by electrochemical deposition: A comparative assessment of photo-electrochemical characteristics**, Ahed Zyoud, Iyad Saadeddin, Sahar Khudruj, Zafer M. Hawash, DaeHoon Park, Guy Campet, Hikmat S. Hilal, *Solid State Sciences*, 18 (2013) 83–90.
- 15) **Combined electrochemical/chemical bath depositions to prepare CdS film electrodes with enhanced PEC characteristics**, Ahed Zyoud, Iyad Saadeddin, Sahar Khurduj, Mu'men Mari'e, Zafer M. Hawash, Maryam I. Faroun, Guy Campet, DaeHoon Park, Hikmat S. Hilal., *Journal of Electroanalytical Chemistry* 707 (2013) 117–121

- 16) **Enhancement of CdSe film electrode PEC characteristics by metalloporphyrin/polysiloxane matrices**, Huda Sabri, Subhi Saleh, Ahed Zyoud, Nour N. Abdel-Rahman, Iyad Saadeddin, Guy Campet, DaeHoon Park, Mariam Faroun, Hikmat S. Hilal., *Electrochimica Acta* 136 (2014) 138–145.
- 17) DNA Binding Test, X-Ray Crystal Structure, Spectral Studies, TG-DTA, and Electrochemistry of [CoX₂(dmdphphen)] (Dmdphphen Is 2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline, X = Cl, and NCS) Complexes, Mousa Al-Noaimi, Mohammed Suleiman, HanyW. Darwish, Ahmed H. Bakheit, Muneer Abdoh, **Iyad Saadeddin**, Naveen Shivalingegowda, Nartur Krishnappagowda Lokanath, Odey Bsharat, Assem Barakat, and Ismail Warad, *Hindawi Publishing Corporation Bioinorganic Chemistry and Applications Volume 2014*, Article ID 914241, 7 pages
- 18) **Synthesis of Nano-sized Sulfur Nanoparticles and their Antibacterial Activities**, Mohammed Suleiman, Motasem Al-Masri, Anas Al Ali, Diaa Aref, Ayman Hussein **Iyad Saadeddin**, *Ismail Warad, J. Mater. Environ. Sci.* 6 (2) (2015) 513-51.

Patents:

- 1) Patent in Canada no.2 547 091 extended to international demand no. PCT/CA2007/000881 **Titled** « PROCÉDÉ DE PRÉPARATION DE CÉRAMIQUES, CÉRAMIQUES AINSI OBTENUES ET LEURS UTILISATIONS NOTAMMENT COMME CIBLE POUR PULVÉRISATION CATHODIQUE ». **In English** «NEW PROCEDURE FOR CERAMICS PREPARATION, AND THEIR USES AS A TARGET FOR CATHODIC SPUTTERING »

Conferences:

- 1) **Scientific Research First Day - renewable energy and material sciences**, An-Najah N. University, Nablus, Palestine, 30 march 2013, (attending + organizing committee + first session manager).
- 2) **The first international Palestinian conference on nanotechnology for advanced material**, An-Najah N. University, Nablus, Palestine, 26-28 march 2012, (*oral presentation on NiO co-doped with Ti and Sn electrochromic properties*)
- 3) **3rd IAP Young Scientists Conference held in conjunction with the World Economic Forum's Annual Meeting of the New Champions 2010**. Miejiang Convention and Exhibition Center, Tianjin, China, 12-16 September, 2010 (*active session workshops*).
- 4) **Palestinian Conference on Modern Trends in Mathematics and Physics II**, An-Najah N. University, Nablus, Palestine, 2-4 august 2010 (*poster presentation on In₂O₃ ceramic co-doped with Sn and Zn-ITZO*).
- 5) **Second International Workshop on Advanced Materials (IWAM-2010)**, Center of advanced materials (CAM), Ras Al Khaimah, UAE, 21-23 February, 2010 (*poster presentation, solar cell electrodes activities at semiconductor lab at An-Najah University in Palestine*).

- 6) **Palestinian Third Physics Conference**, Al-Quds University, Abudis, Jerusalem, Palestine, 21-22/04/2008 (*Oral presentation, SnO₂ single doped with Sb and co-doped with Sb and Zn: ceramics and thin films*)
- 7) **7th international meeting on electrochromisms**, Kadir Has University, Istanbul, Turkey, 03-07/09/2006 (*Poster Presentation, SnO₂ single doped with Sb and co-doped with Sb and Zn: ceramics and thin films*).
- 8) **The 5th France-Japan workshop on nanomaterials**, ICMCB-CNRS, BORDEAUX, France, 11-13/10/2004 (*attending*).
- 9) **Réunion du Groupe Français d'Etude des Composés d'Insertion: GFECI 2004**, Lacanau, France, 23-25/03/2004 (*attending*).

Seminars and meetings

- 1) Technical international visit and meeting (in the frame of Al-Maqdisi project-French Palestinian project) with French colleagues. ICMCB-CNRS, Bordeaux, France, 18/05/2011-29/05/2011.
- 2) Technical international visit and meeting (in the frame of Al-Maqdisi project-French Palestinian project) with French colleagues. ICMCB-CNRS, Bordeaux, France, 18/05/2010-1/06/2010.
- 3) Technical international visit and meeting (in the frame of Al-Maqdisi project-French Palestinian project) with French colleagues. ICMCB-CNRS, Bordeaux, France, 21/05/2009-1/06/2009.
- 4) 7th NANOEFFECTS (European project on electrochromism) consortium meeting, ICMCB-CNRS, Bordeaux, France, 22-23/03/2007 (Oral presentation on **“New Transparent Conducting Oxide Based on In₂O₃: Ceramics and Thin films”**)
- 5) Students Seminars, ICMCB-CNRS, Bordeaux, France, 18/07/2006 (Oral presentation on **“Simultaneous doping of Zn and Sb in SnO₂ based ceramics and thin films for optoelectronic applications”**).
- 6) Technical meeting visit between ICMCB and SOLEMS, Paris, 2006 on **“Transparent conductive oxide Thin films uses in a-Si solar cells”**.
- 7) 2nd NANOEFFECTS (European project on electrochromism) consortium meeting, ICMCB-CNRS, Bordeaux, France, 16-17/09/2004 (Oral presentation on **“New transparent conducting oxide based on doped tin dioxide”**)
- 8) Group meeting, ICMCB-CNRS, Bordeaux, France, 09/09/2004 (oral presentation on **“New TCOs based on doped-SnO₂”**).
- 9) Students Seminars, ICMCB-CNRS, Bordeaux, France, 08/04/2004 (oral presentation of my Ph.D. thesis topic).
- 10) Two technical meeting visits between ICMCB and CIDETEC, San-Sebastian, Spain, 2003 & 2004 on **“Transparent conductive oxide thin films and electrochromic systems on flexible substrates”**.

Research interest:

- I have an interest in research that is related to solid state physics and material science
- 1- nano- particles (CdS, CdSe, etc.) thin films used for solar cell electrodes.
 - 2- nano-particles (NiO, WO₃, etc.) thin films used in electrochromic systems
 - 3- Transparent Conducting Oxides -TCO (ceramics and thin films).

Current research activities:

I have two master students working on

- 1) nano-particles CdS thin film electrodes prepared by using both Electro-Deposition (ED) and Chemical Bath Deposition (CBD) together.
- 2) Electrochromic properties of modified NiO deposited onto FTO

References:

- 1) Dr. Subhi Kamil Salih, Department of physics, An-Najah N. University, P.O.Box 7, Nablus, West Bank, Palestine.
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- 3) Dr. Brigitte Pecquenard, ICMCB-CNRS. France
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