|  |  |
| --- | --- |
| **Thermophysical and Mechanical properties laboratory,** **Physics Department, Faculty of Science, Assiut University** | **صغيرصغير** |

***Curriculum Vitae of***

***Dr. Essam Fadl Abo Zeid***

**Personal Data**

|  |  |  |
| --- | --- | --- |
| **Name**  | **:**Essam Fadl Abo Zeid Moussa | **Essam-image** |
| **Gender**  | **:**Male |
| **Nationality**  | **:**Egyptian |
| **Date of Birth**  | **:**May 3, 1975. |
| **Place of Birth**  | **:**El-Fayoum / Egypt. |
| **Marital Status**  | **:**Married |
| **Occupation**  | **:**Assistant Prof. Of physics |
| **Office Tel.**  | **:**+20 882 42308 |
| **Office Fax**  | **:**+20 882 34 27 08 |
| **Home Tel.**  | **:**+20 884 77 29 91 |
| **Mobile**  | **:**+20 1126586634,+996 0553693837 |
| **E-mail**  | :esabozaid@yahoo.com:eabozaid@aun.edu.eg |

**Contact Address:**

**Home:** Thermophysical and Mechanical properties laboratory, Physics Department, Faculty of Science, Assiut University, Assiut 71516, Egypt.

**Present:** Physics Department Faculty of Science & Arts, Al Baha University, El Mandq

**Academic Qualifications**

**1. University Degrees**

* **B. Sc. in physics (1996), Grade: Very Good (Accumulative 76.41%)**

♥ Place of Graduation: Physics Dept. Faculty of Science, Assiut

University, Assiut, Egypt.

* **Pre-Master courses in physics** "Solid state Physics **" (Excellent) (1998)**

♥ Place of Graduation: Physics Dept. Faculty of Science, Assiut University,

 Assiut, Egypt.

* **M. Sc. in Solid State Physics “Thermal and Electrical properties” (2001)**

♥ Thesis Title: “Study of Electrical and Thermophysical properties of Some Basalt and Granite Rock Samples”.

|  |  |
| --- | --- |
| **Thermophysical and Mechanical properties laboratory,** **Physics Department, Faculty of Science, Assiut University** | **صغيرصغير** |

♥ Place of Graduation: Physics Dept. Faculty of Science, Assiut University, Assiut 71516, Egypt.

* **Ph. D. in Solid State Physics “Thermal, Electrical and Mechanical properties of Composite Materials” (2007);**

♥ Thesis Title: “Investigation of the Effect of Addition of Si and Cu on the Precipitation Sequence in Al-Mg-Si Alloy”.

♥ Place of Graduation: Physics Dept. Faculty of Science, Assiut University, Assiut 71516, Egypt.

**Employment History**

* Demonstrator at Physics Department, Assiut University (Oct. 1996 to December, 2001).
* Assistant Lecturer at Physics Department, Assiut University (December, 2001 to January, 2007).
* Lecturer of Solid State Physics, Physics Department, Assiut University (January, 2007 to 23 Jun 2013).
* Assistant Prof. at Physics Department, Faculty of Science, Assiut University (Feb. 2013 till now).
* Assistant Prof. at Physics Department, Faculty of Science and Arts, El Baha University El Mandq, KSA (October. 2009 to July 2013).
* Associate Prof. at Physics Department, Faculty of Science and Arts, El Baha University El Mandq, KSA (September. 2013 till now).

**Research Interest**

My research interests are mainly in the following items:

1. Mechanisms of nanostructure and texture evolution during solidification.
2. Solid-state phase transformation and deformation & annealing with particular emphasis on the light metals and their composites Aluminium, Magnesium and Silicon alloys and its automotive applications.
3. Electro catalytic activity of Platinum and non-platinum Nano-alloys for fuel cell industrial applications.
4. Investigation of Oxygen Reduction Reaction (ORR) and catalytic activity (CV) of Pd –M (transition metals) alloys for Proton exchange membrane fuel cells (PEMFC) and Direct Methanol Fuel Cell (DMFC) applications.
5. Recently, my research interests are also mainly in the area Corrosion-induced hydrogen embrittlement in aluminum alloy•
* Development of new Al alloys and Quantitative analysis of nanostructure by high performance TEM.
* Characterization of **CdSIn** Nanoparticles for its industrial applications in photo catalysis and biological sensors.

|  |  |
| --- | --- |
| **Thermophysical and Mechanical properties laboratory,** **Physics Department, Faculty of Science, Assiut University** | **صغيرصغير** |

 **Research Experiences**

* Good theoretical background in General Physics “Solid State Physics”.
* X-ray diffraction (XRD & WAX) using the powder technique.
* Thermal Analyses TGA, DTG, DTA and DSC.
* Scanning Electron Microscopy (SEM) and Transmission Electron Microscopy TEM techniques
* Mechanical Properties (Tensile, Micro hardness, HV) techniques.
* High and Low Resistance Measurement.
* High and Ultra high vacuum Techniques.
* High and Low Temperature Techniques

**Further Experiences**

**Computer Experiences:**

- Professional computer user in teaching and research.

- Self learning from the long use of the computer.

- Academic computer course in designing power point presentations.

- Excellent experiences in the programming with computer software’s as, Excel, Origin Draw and also excellent experience with all Windows XP, Windows 7 Ultimate programs and all MS windows family.

**Teaching Experiences:**

* **Under Graduates:**

Teaching for undergraduate students most basic Solid State Physics such as: Geometrical Optics, Properties of Superconducting materials, Modern Physics, Introduction to Solid State physics 1 and 2, Properties of Mater, Thermodynamics, General Physics 1, 2. Renewable and modern materials,. Etc.

* **Postgraduates:**

Supervising for graduate students (Masters and Ph. D). Teaching Special Topics for graduate students such as: Recrystallization mechanisms in deformed single-phase and two-phase alloys. Thermal Stability of lightweight alloys. Physical Properties of Materials. Thermomechanical Processing. Phase transformation, Micromechanisms of deformation. Etc.

**Language Experiences:**

* Native language Arabic.
* Fluent spoken and written in the English Language.
* Fair Command of German Language.

 **Fellowship**

* Postdoctoral fellowship from Pusan National University, Advanced Power Source Lab, School of Mechanical Engineering, Pusan National University, Pusan, South Korea Research Grant from September 2008 to March 2009.

|  |  |
| --- | --- |
| **Thermophysical and Mechanical properties laboratory,** **Physics Department, Faculty of Science, Assiut University** | **صغيرصغير** |

**Conferences & Workshops**

Participated in the organization Committee of national & international conferences and workshops on Material Science, Nano materials and their Application those are:

* + 2nd spring school on Current Activities of Materials Science (Assiut, Assiut

University, Egypt, 22, April 2000).

* + The 2nd International Conference on Basic Sciences and Advanced Technology –BSAT- (Assiut University, Egypt, Oct. 2001)
* The First Annual Conference for Young Scientists (Basic Science & Technology)

(Assiut, Faculty of Science, Assiut University, Egypt, May 5, 2007).

* + The Second Annual Conference for Young Scientists (Basic Science &Technology)

(Assiut, Faculty of Science, Assiut University, Egypt, Oct. 18, 2008).

Attended several international conferences and workshops on Material Science and Its Application those are:

* + 1st Spring school on Current Activities of Materials Science (Assiut University, Egypt, 24, April 1999)
	+ 2nd international spring school on Current Activities of Materials Science (Assiut, Assiut University, Egypt, 22, April 2000).
* The First Annual Conference for Young Scientists (Basic Science & Technology)

(Assiut, Faculty of Science, Assiut University, Egypt, May 5, 2007).

* The second Arab international conference in Physics and Materials Science (Physics Department, Faculty of Science, Alexandria University, Egypt, 27-29 October 2007)
* Third international Conference Modern Trends In Physics Research

 (Physics Department, Faculty of Science, Cairo University, Egypt, 6-10 April, 2008)

* Proposal Writing for International Workshop (Assiut, Assiut University, Egypt, 26-27 March 2008)
* The International Conference For Nanotechnology Industries

 (King Abdullah Institute for Nanotechnology (KAIN), King Saud University, Riyadh, Saudi Arabia, 5-7 April 2009)

* International Conference of Materials Science and Its Applications (ICMSA) 13-15 February, 2012 Taif University, Taif, Saudi Arabia.

|  |  |
| --- | --- |
| **Thermophysical and Mechanical properties laboratory,** **Physics Department, Faculty of Science, Assiut University** | **صغيرصغير** |

**Training**

* ***Training workshop in electron microscopy (Techniques & Interpretations).***

(Electron microscopy unit, Assiut University, Egypt, 1-6 April 2000).

* ***Training workshop in electron microscopy (Techniques & Interpretations).***

(Electron microscopy unit, Assiut University, Egypt, 26-31 March 2005).

**Further Training**

Within the framework of the "Faculty and leadership Development Project – Assiut

University, Egypt" Dr. Abo Zeid attended the following training programs:

* ***Teacher preparation course*** (19-30 March 2000)
* ***The ethics of the profession*** (April, 2-4, 2005).
* ***Thinking skills*** (March, 19-21, 2005).
* ***Lawful of aspects in universities*** (June, 17-19, 2005).
* ***New trends in teaching*** (June, 24-26, 2005).
* ***Preparing the scientific papers and their international publishing*** (December, 27-

28, 2006).

* ***Effective presentation*** (April, 19-21, 2006).
* ***Teaching with Technology*** (January, 22-24, 2006).
* ***How to compete for a research fund*** (November, 10-12, 2006).
* ***International publishing of research*** (November, 24-26, 2006).
* ***Quality standers in teaching process*** (February, 16-18, 2007).
* ***Credit hour system*** (February, 16-18, 2008).
* ***Examination systems and student evaluation*** (February, 26-28, 2008).

**References**

**1- Prof. Dr. A. H. Abo Seahly**

Professor of Experimental solid state physics

Head of the Physics Department, Faculty of Science

Assiut University –Assiut-Egypt

**Tel.:** 0020882411360

**Email:** sehly20002000@yahoo.com

**2- Prof. Dr. Salah A. Makhlouf**
 Professor, Experimental Solid State Physics - Nanoscience
 Currently at Deanship of Scientific Research
 Al-Imam Muhammad Ibn Saud Islamic University, Riyadh 11463, KSA
 **Permanent address**: Physics Department, Faculty of Science,
 Assiut Universitym Assiut 71516, Egypt
 **Email:** smakhlouf@assiut.edu.eg; smakhlouf@gmail.com .

**3- Prof. Dr. Yong-Tae Kim**

|  |  |
| --- | --- |
| **Thermophysical and Mechanical properties laboratory,** **Physics Department, Faculty of Science, Assiut University** | **صغيرصغير** |

 Assistant Professor, Department of Energy System
School of Mechanical Engineering, Pusan National University
Geumjeong, Pusan 609-735, South Korea, **E-mail:** yongtae@pusan.ac.kr

|  |
| --- |
|  |
|  |

**Publications**

1. M. S. Mostafa, A. Gaber, N. Afify and **E. F. Abo Zeid**. “Investigation of thermophysical properties of basalt samples in Egypt***” J. Of Thermal Analysis and Calorimetry, vol. 75, (2004)179-188.***
2. M. S. Mostafa, N. Afify, A. Gaber and **E. F. Abo Zeid,** "Electrical resistivity of some Basalt and Granite Samples from Egypt” ***Egyptian J. of Solids. vol. 26, no. 1(2003)25-32.***
3. A. Gaber, M. A. Gaffar, M. S. Mostafa, **E. F. Abo Zeid**, "Investigation of the developed precipitates in Al-1.1%Mg2Si balanced alloy by DSC and SEM techniques” ***J. Materials Science and Technology, vol. 22, no. 12 (2006) 1483-1488.***
4. A. Gaber, M. A. Gaffar, M. S. Mostafa, **E. F. Abo Zeid**, “Precipitation kinetics of Al-1.12 Mg2Si-0.35 Si and Al-1.07 Mg2Si-0.33 Cu alloys**”, *J. Alloys and Compounds, 429 (2006)167-175.***
5. M. A. Gaffar, A. Gaber, M. S. Mostafa and **E. F. Abo Zeid,** "The Effect of Cu Addition on the Thermo-electric Power and Electrical resistivity in Al-Mg-Si Balanced Alloy, Correlation Study". ***Journal of Materials Science and Engineering A***, ***465 (2007)274-282.***
6. M. A. Gaffar, A. Gaber, M. S. Mostafa**, E. F. Abo Zeid,** "Characterization of the different precipitates developed in supersaturated Al-1.12 Mg2Si-0.35Si (weight %) Alloy

By thermo-electric power and electrical resistivity measurements”, Published as oral presentation in ***the second Arab international conference in Physics and Materials Science*** (Physics Department, Faculty of Science, **Alexandria University, Egypt**, 27-29 October 2007).

1. **E. F. Abo Zeid** and A. Gaber "Investigation of nano- scale precipitates developed in Al-Mg2Si+0. 34%Cu+0.21% Cr alloy ***Materials Science and Technology***, ***vol. 27 no. 2 (2011)487-493.***
2. **E. F. Abo Zeid**, Young Tae-Kim "Investigation of the developed precipitates in AlMgSiCu alloys with and without excess Si", ***Materials Science and Technology, vol. 26, no. 4 (2010)440-444.***

|  |  |
| --- | --- |
| **TThermophysical and Mechanical properties laboratory,** **PPhysics Department, Faculty of Science, Assiut University** | **صغيرصغير** |

1. **E. F. Abo Zeid**, Dae-Suk Kim, Hee Soo Lee and Yong-Tae Kim “Temperature dependence of morphology and oxygen reduction reaction ORR activity for carbon-supported Pd-Co nanoalloy electrtocatalysts” ***J. Applied electrochemistry,******vol., 40, no.11 (2010)1917-1923.***
2. Published as oral presentation in ***the International Conference For Nanotechnology Industries.***

(King Abdullah Institute for Nanotechnology (KAIN), King Saud University**, Riyadh, Saudi Arabia**, 5-7 April 2009)

1. Dae-Suk Kim, **E. F. Abo Zeid** and Yong-Tae Kim “Shape effect of TiO2 as supports for Pt-based electrocatalysts on ORR activity”, ***Electrochimica Acta 55 (2010) 3628–3633.***
2. Dae-Suk Kim, Tae-Jun Kim, Jun-Hyuk Kim, **E. F. Abo Zeid** and Yong-Tae Kim” Fine Structure Effect of PdCo electrocatalyst for Oxygen Reduction

Reaction Activity: Based on X-ray Absorption Spectroscopy Studies with Synchrotron Beam” ***Journal of Electrochemical Science and Technology***, ***Vol. 1, No. 1, 2010, 31-38.***

1. **E. F. Abo Zeid**, A. Gaber, M.A. Gaffer, Lamiaa Galal” NANO-PRECIPITATING SECONDARY PHASE ENHANCING Al-Li (2090) ALLOY HARDENING FOR

DIFFERENT TECHNOLOGICAL APPLICATIONS” ***International Journal of Metallurgical & Materials Science and Engineering (IJMMSE) ISSN 2278-2516***

***Vol. 3, Issue 2, Jun 2013, 69-82.***

1. **E. F. Abo Zeid,** A. Gaber, “Mechanical Properties and Precipitation Behavior as a Function of Heat Treatment of Al–4.4Cu–1.5Mg-0.6Mn-0.25Si (WT %) Alloy” ***International Journal of Metallurgical & Materials Science and Engineering (IJMMSE); ISSN (Print):2278-2516; ISSN (Online): 2278-2524; Impact Factor (JCC): 1.6126.***
2. **E. F. Abo Zeid,** Yong-Tae Kim**”** KINETICS AND MECHANISM OF MORPHOLOGY AND OXYGEN REDUCTION REACTION AT PdCo ELECTROCATALYSTS SYNTHESIZED ON XC72” ***International Journal of Nanotechnology and Application (IJNA) ; ISSN(Print):2277-4777 ; ISSN(Online): 2278-9391 ;Volume : 3 ; Issue : 4 ; Impact Factor(JCC): 1.7629”.***
3. **E. F. Abo Zeid**, A. Gaber, M.A. Gaffer, Lamiaa Galal" Study of the developed Nano- Scale precipitates in AF/C 489 Alloys by using DSC and SEM techniques" ***International Journal of Applied Engineering Research and Development (IJAERD); ISSN(P): 2250-1584; ISSN(E): 2278-9383;Vol. 3, Issue 5, Dec 2013, 7-14.***

|  |  |
| --- | --- |
| **TThermophysical and Mechanical properties laboratory,** **PPhysics Department, Faculty of Science, Assiut University** | **صغيرصغير** |

1. K.I. Aly, N.S. Al-Muaikel, M.A. Hussein and **E.F. Abo Zeid**”New Polymer Syntheses Part: 55#. Novel Conducting Arylidene Polymers and Copolymers Based on Methyl- Cyclohexanone Moiety” ***Journal of Research Updates in Polymer Science, 2014, 3, 97-107.***
2. **E. F. Abo Zeid** and Yong-Tae Kim “The effect of heat treatment on nanoparticle size and ORR activity for carbon-supported Pd–Fe alloy electrocatalysts”, ***American journal of Nano Research and Applications. 2015, 3(4) 71-77.***
3. **E. F. Abo Zeid**, M. A. Gaffar, A. Gaber, M. S. Mostafa " Correlative study of the thermoelectric power, electrical resistivity and different precipitates of Al-1.12 Mg2Si-0.35Si (at %) Alloy”, Accepted for publication in. ***J. Thermal Anal. And Calorim. (2015).DOI 10.1007/s10973-015-4861-0***