

## Prof. Sabbah Ataya

	Full name:	<b>Sabbah</b> Mohamed Selim <b>ATAYA</b>
	Nationality:	Egyptian
	Foreign languages:	English and German
	<b><u>Current contacts:</u></b>	College of Engineering, Department of Mechanical Engineering, Al Imam Muhamed Ibn Saud Islamic University, Riyadh, KSA Tel.: +966 599 881701 & +966 1125 87697 Email: smataya@imamu.edu.sa

### Professions:

Dec. 2017	<b>Full Professor</b>
Since Sept. 2014	<b>Associate Prof.</b> at Department of Mechanical Engineering, Al Imam Mohammad Ibn Saud Islamic University (IMSIU)
2013 - 2014	<b>Department Head</b> of Metallurgy and Materials Engineering
Jan 2013	<b>Associate Prof.:</b> Department of Metallurgy & Materials Engineering, Faculty of Petroleum & Mining Eng.
2007 -2012	<b>Assistant Prof.:</b> Faculty of Petroleum & Mining Eng.
01.2006–10-2007	<b>Post-doctoral:</b> Department of materials science „Lehr- und Forschungsgebiet Werkstoffkunde, LFW“ RWTH - Aachen University, Germany.
01.00 – 12.05	<b>Ph.D. Student:</b> at LFW, RWTH (Aachen University)
02.93 – 06.99	<b>Assistant:</b> Department of Metallurgy, Faculty of Petroleum & Mining Eng., Suez, Egypt.
02.92 – 01.93	<b>Assistant:</b> Central Metallurgical Research and Development Institute (CMRDI), Welding Dept., Cairo.

### University degrees:

Dec. 2005	<b>Dr.Eng.</b>	Aachen University, <b><u>Faculty of Mechanical Engineering.</u></b>
	<b>Thesis:</b>	Mechanical behaviour of short fibers reinforced Mg-Alloys
Dec. 1995	<b>Master:</b>	Mechanical Metallurgy, Suez Canal University, Suez.
Mai 1990	<b>Bachelor:</b>	Metallurgical Eng., Suez Canal University, Suez.

### Scientific fields of interest

- Engineering inspection and failure analysis.
- Alloys and microstructure development.
- Steel processing and roll pass design.
- Composite and advanced materials.
- Finite element simulation
- Creep, wear and fatigue (LCF & HCF) of materials.
- Wind turbine blade inspection and repair.

### Referee & Review Activities:

- Reviewer for many international journal.
- Referee and evaluation of research proposals for many universities.
- Referee the research & scientific production of many candidates for promotion in many universities.
- Technical committee member of the International Engineering Conference and Exhibition IECE 2020, Riyadh

## **Teaching Experience:**

### **(A) In Germany (summer 2003 till summer 2007):**

1. Conducting the exercises, laboratory and consulting hours and holding of the lectures in some cases for different subjects at the Department of Materials Science (LFW), RWTH Aachen University. The courses are dealing with the following subjects:
  - High-temperature materials technology.
  - Materials technology III
  - Mechanical behaviour of composite materials.
  - Optimisation processes of materials applications.

### **(B) In Egypt**

Lecturer at the Faculty of Petroleum & Mining Eng, Dept. of Metallurgy & Materials Science, Suez Canal University in Suez.

Teaching experience as lecturer and formerly lecturer assistance in the following courses:

- 1) Materials testing, 2) Materials Forming, 3) Failure analysis of mechanical structures, 4) Heat transfer, 5) Computer applications & Finite element simulation.

### **(C) In KSA**

- 1) Manufacturing Technology; 2) Science and Engineering Materials; 3) Machines Design I; 4) Dynamics, 5) Special topic in solution methods; and 6) Special topics in materials processing and treatment

## **Grants & Projects**

### **A- In KSA**

1. **PI** "Improvement of pass design for rebar steel produced by slit rolling technology based on finite element simulation method using industrial data", accepted, Imam Uni, 200 K SR.
2. **Co-PI** of the project "Development of Titanium-Hydroxyapatite Composites Strengthened With Alumina Particle for Biomedical Applications" Imam Uni, Dec. 2015 – Jan. 2017, 200 K SR.

### **B- In Egypt**

1. **Co-PI** of the project "Industrial scale production of ultra-fine grained high toughness and ductility steel" STDF 11842, Egypt, Oct. 2015 – Nov. 2016, 0.7 M LE.
2. **Co-PI** of the project "Production of High-Mn stainless steels with extremely attractive combinations of ultrahigh strength and ductility " STDF 10751, Egypt, Oct. 2015 – Nov. 2016, 0.8 M LE.
3. **Co-PI** of the Center of Scientific Excellence of Suez and Sinai Metallurgical and Materials Research, STDF-5304, Jul. 2013 –Aug 2016, 10 M L.E.
4. **Co-PI** of the STDF financed project: Friction Stir Welding of Similar and Dissimilar Metal Alloys: Adopting the New Joining Technology for Industrial Applications in Egypt, May 2012 – Jun 2015, 1 M L.E.
5. **Principal investigator** of the project: "Crack Mitigation in Wind Turbine Blades: Experimental and numerical investigation" STDF-1795, Jan 2011 – Oct. 2013, 1 M L.E.
6. **PI** of a project no. BMBF EGY09-02 financed by Germany (BMBF) for 6 months between Egypt and Germany under the title: Validation of quasi-static and creep test results from a materials testing lab in Suez, 2009

### **C. In Germany (participation in the following research projects)**

7. Characterisation & Modeling of short fibers reinforced Mg-alloys: plastic behaviour, creep, Fatigue (industry contract) 2004.
8. Experimental & numerical investigation of the size effects on the flow behaviour of W/Cu composites and steels (SSP 1138, DFG) 2004-2009.
9. Modelling of heat transition in the motor periphery (AiF, Arbeitsgemeinschaft industrieller Forschungsvereinigungen, 2006-2009.

## **Scholarships & Fellowship**

1. Post-doctor fellowship, at Faculty of Mechanical Engineering, Department of Materials Science (LFW), RWTH-Aachen, Germany, Jun.- Aug. 2009
2. Post-doctor fellowship, at LFW, RWTH-Aachen, 2006-2007

3. Scholarship (researcher) at LFW, RWTH-Aachen, 2004-2005
4. Governmental scholarship for Ph.D., at (LFW), RWTH-Aachen, 2000-2004

### **Additional Information**

- **Scientific supervision** of many graduation projects (Studienarbeit) and Master thesis (Diplomarbeit) in Germany, Egypt and in Al Imam Mohammad Ibn Saud Islamic University (IMSIU), KSA.
- **Residence abroad:** Germany (July 1999 – Sept. 2007)
- **Technical & scientific visits:** Canada, South Korea, Switzerland, Portugal, Poland, France, Belgian, Nederland, Luxemburg, Denmark

## **List of Publications**

### **Journal Papers**

#	Publications	Impact factor
24	Fahamsyah H. Latief, Naser A. Alsaleh, Nashmi Alrasheedi, <b>Sabbah Ataya</b> , Effects of Oxidation and Alumina Addition on the Physical and Mechanical Properties of Ti/Al <sub>2</sub> O <sub>3</sub> Composites Prepared by Semi-powder Metallurgy Method, <i>Oxidation of Metals</i> 92 (2019) 561–572.	<b>1.805</b> <b>Q2</b>
23	Ashraf Bakkar, Mohamed Ahmed, Naser Alsaleh, Mohamed Alnagar, <b>Sabbah Ataya</b> , Microstructure, Wear, and Corrosion Characterization of High TiC Content Inconel 625 Matrix Composites, <i>Journal of Materials Research and Technology</i> 8 (2019) 1102-1110. <a href="https://doi.org/10.1016/j.jmrt.2018.09.001">https://doi.org/10.1016/j.jmrt.2018.09.001</a>	<b>3.398</b> <b>Q1</b>
22	<b>Sabbah Ataya</b> , Naser Alsaleh, Mohamed M. El-Sayed Seleman, Strength and Wear Behavior of Mg Alloy AE42 Reinforced with Carbon Short Fibers, <i>Acta Metallurgica Sinica (English Letters)</i> 32 (2019) 31-40. <a href="https://doi.org/10.1007/s40195-018-0771-z">https://doi.org/10.1007/s40195-018-0771-z</a>	<b>1.341</b> <b>Q2</b>
21	Mohamed M. El-Sayed Seleman, Mohamed M.Z. Ahmed, Sabbah Ataya, Microstructure and Mechanical Properties of Hot Extruded 6016 Aluminum Alloy/Graphite Composites, <i>J. Mate. Sci. and Technol</i> , 34 (2018) 1580-1591. DOI: 10.1016/j.jmst.2018.03.004	<b>2.764</b> <b>Q1</b>
20	M.M.Z. Ahmed, <b>Sabbah Ataya</b> , M.M. El-Sayed Seleman, H.R. Ammar, Essam Ahmed, Friction stir welding of similar and dissimilar AA7075 and AA5083, <i>Journal of Materials Processing Technology</i> 242 (2017) 77-91. DOI: 10.1016/j.jmatprotec.2016.11.024	<b>3.147</b> <b>Q1</b>
19	Adel A. Abdel-Wahab, <b>Sabbah Ataya</b> , Vadim V. Silberschmidt, Temperature-dependent mechanical behaviour of PMMA: Experimental analysis and modelling, <i>Polymer Testing</i> 58 (2017) 86-95. DOI: 10.1016/j.polymertesting.2016.12.016	<b>2.464</b> <b>Q1</b>
18	Ahmed E. Hannora, <b>Sabbah Ataya</b> , Structure and compression strength of hydroxyapatite/titania nanocomposites formed by high energy ball milling, <i>Journal of Alloys and Compounds</i> 658 (2016) 222-233. DOI: 10.1016/j.jmatprotec.2016.11.024	<b>3.133</b> <b>Q1</b>
17	Ashraf Bakkar, <b>Sabbah Ataya</b> , Corrosion behaviour of stainless steel fibre-reinforced copper metal matrix composite with reference to electrochemical response of its constituents, <i>Corrosion Science</i> 85 (2014) 343-351. DOI: <a href="https://doi.org/10.1016/j.corsci.2014.04.037">10.1016/j.corsci.2014.04.037</a>	<b>4.422</b> <b>Q1</b>
16	<b>Sabbah Ataya</b> , Mohamed M.Z. Ahmed, Damages of wind turbine blade trailing edge: Forms, location, and root causes, <i>Engineering Failure Analysis</i> 35 (December 2013) 480-488. DOI: 10.1016/j.engfailanal.2013.05.011	<b>1.13</b> <b>Q1</b>
15	<b>S. Ataya</b> , E. El-Magd: “Quasi-static behavior of Mg-alloys with and without short-fiber reinforcement”, <i>J. Theoretical and Applied Fracture Mechanics</i> , 47 (2007) 102-112. DOI: 10.1016/j.tafmec.2006.11.002	<b>2.097</b> <b>Q1</b>
14	M. Korthäuer, <b>S. Ataya</b> , E. El-Magd: “Effects of the deformed volume, volume fraction, and	<b>2.097</b>

	particle size of the deformation behavior of W/Cu composites”, <u>J. Theoretical and applied fracture mechanics</u> , 46 (2006) 38-45. DOI: 10.1016/j.tafmec.2006.05.002	<b>Q1</b>
13	T. Sadowski, <b>S. Ataya</b> , K. Nakonieczny: Thermal analysis of layered FGM cylindrical plates subjected to sudden cooling process at one side – Comparison of two applied methods for problem solution, <u>J. Computational Materials Science</u> , Vol. 45 (2009) 624-632. DOI: <a href="https://doi.org/10.1016/j.commatsci.2008.07.011">10.1016/j.commatsci.2008.07.011</a>	<b>2.376 Q2</b>
12	<b>S. Ataya</b> , E. El-Magd: “Modeling the creep behavior of Mg alloys with and without short-fiber reinforcement”, <u>J. Computational Materials Science</u> , 39 (2007) 155-159. DOI: 10.1016/j.commatsci.2006.03.020	<b>2.376 Q2</b>
11	M. Korthäuer, <b>S. Ataya</b> , A. Salem, E. El-Magd: “Size effects on the deformation behaviour of W-Cu composites under shear loading”, <u>J. Computational Materials Science</u> , 39 (2007) 219-223.	<b>2.376 Q2</b>
10	<b>S. Ataya</b> , M. Korthäuer, E. El-Magd: Effects of the deformed volume and the volume fraction on the local deformation behavior of W/Cu composites, <u>Key Eng. Mater.</u> 345-346 (2007) pp 1205-1208. DOI: <a href="https://doi.org/10.4028/www.scientific.net/KEM.345-346.1205">10.4028/www.scientific.net/KEM.345-346.1205</a>	<b>0.224 Q3</b>
9	M. Harhash, <b>S. Ataya</b> , M. Abd El Hady, N. El Mahallawy, Microstructural characterization and kinetics of diffusion bonded AZ31/Al by hot press cladding, <u>Materialwissenschaft und Werkstofftechnik</u> 45 (2014) 15-20. <b>DOI:</b> 10.1002/mawe.201400194	<b>0.524 Q4</b>
8	M. Korthäuer, <b>S. Ataya</b> , E. El-Magd: “Scaling effects on the deformation behaviour of W/Cu composite materials under dynamic loading”, <u>J. Phys. IV France</u> 134 (2006) 157-162. DOI: 10.1051/jp4:2006134024	<b>0.35 Q4</b>
7	Mohamed H. Safa, <b>Sabbah Ataya</b> , Rashad M. Ramadan, Samir Ibrahim, Processing and Evaluation of Ferritic-Bainitic Multi-phase Steel, <u>J. Pet. &amp; Min. Eng.</u> 20 (1) (2017).	National journal
6	I. I. Elgammal, <b>S. Ataya</b> , R. M. Ramadan, G. Megahed, Modification of the bar slitting roll pass design using FE simulation, <u>J. Pet. &amp; Min. Eng.</u> 19 (2) (2016)	National journal
5	Ahmed Refaee, <b>Sabbah Ataya</b> , Samir Ibrahim, Effect of Dual Phase Steel Processing Conditions on the Microstructure and Mechanical Properties, <u>J. Pet. &amp; Min. Eng.</u> 17 (1) (2014) 47-53	National journal
4	Ahmed El-Kawas, <b>Sabbah Ataya</b> , Samir Ibrahim, Industrial Production of Fine Grained Ferrite in Low-Carbon Steel, <u>J. Pet. &amp; Min. Eng.</u> 17 (1) (2014) 16-23	National journal
3	<b>Sabbah Ataya</b> , M.M.Z. Ahmed, Essam Ahmed, An Investigation of Damages in Low Power Wind Turbine Blades, <u>Journal of Petroleum and Mining Engineering</u> 16 (2) (2013)	National journal
2	M. Seleman, and <b>S. Ataya</b> "Microstructure and Wear Behavior of Mg-Alloy AE42 Reinforced with 23 VOL. % Carbon Short Fibers" <u>J. Petr. Min. Eng.</u> , 14 (1) (2011) 59-72.	National journal
1	S. Eassa, <b>S. Ataya</b> , R. Ramadan and M. Elzaky, Low Cycle Bending Fatigue Behavior of Aluminum Alloy 5083 in Air and in 3.5% NaCl Solution, <u>J. Petr. Min. Eng.</u> , 13 (1) (2010) 83-99	National journal

## Conference papers

1. Ahmed Elkawas, **Sabbah Ataya**, Samir Ibrahim, Effect of Rolling Conditions on Ferrite Refinement of Low-carbon Steel, The International Conference on Engineering and Technology, Materials Track, 10-11 Oct. 2012, GUC, Cairo, [DOI:10.1109/ICEngTechnol.2012.6396159](https://doi.org/10.1109/ICEngTechnol.2012.6396159)
2. **S. Ataya**, and S. Ibrahim, On the Lüder's Strain of Static Strain Aged Dual Phase Steel, The International Conference on Engineering and Technology, Materials Track, 10-11 Oct. 2012, GUC, Cairo, [DOI: 10.1109/ICEngTechnol.2012.6396125](https://doi.org/10.1109/ICEngTechnol.2012.6396125)
3. **Sabbah Ataya**, Mohamed M. EL-Sayed Seleman, Microstructure Stability of CuZn37 Brass, 14th International Materials Symposium (IMSP'2012) 10-12 October 2012, Pamukkale University – Denizli - Turkey.

4. **S. Ataya**, MMZ Ahmed, Mechanical Evaluation of 20 Years Old Wind Turbine Blades Composites” 14th International Materials Symposium (IMSP’2012) 10-12 October 2012, Pamukkale University – Denizli - Turkey.
5. Sabbah **Ataya** and Mohamed M.Z. Ahmed: Forms of discontinuities in 100 KW and 300 KW Wind Turbine, 10th World Wind Energy Conf. (WWEC10), Cairo, 31 Oct. - 2 Nov. 2011.
6. **S. Ataya**, T. Sadowski: FE-simulation of thermal shock in layered ceramic composites, 11<sup>th</sup> Int. Conf. Mining, Petroleum and Metallurgical Eng. (MPM11), 15-19 March 2009, Sharm El-Shiekh.
7. **S. Ataya**, E. El-Magd: “Modeling and FE Simulation the creep behavior of Mg alloys with and without short-fiber reinforcement”, International Conf. on Mesomechanics, Cairo, January 28-31 (2008).
8. **S. Ataya**, E. El-Magd: Experimental Investigation and Modeling the Quasi-Static Behaviour of Mg-Alloys with and without Short Fiber Reinforcement, proceeding of the first afro asian conf. on adv. mater. sci. & tech., Cairo (2006) 17-29
9. **S. Ataya**, E. El-Magd: “Experimental investigation and FE-simulation of the mechanical behavior of AE42 and AZ91 reinforced by carbon short fibres in: “Materials for Safety and Health”, ed. G. S. Sih and T. Vu-Kahn, Proceedings of the 7<sup>th</sup> International Conference on Mesomechanics, Montreal (2005) 147-155.
10. **S. Ataya**, E. El-Magd: “Ermüdungsverhalten von kurzfaserverstärkten Mg-Legierungen“, in: „Herausforderung neuer Werkstoffe an die Forschung und Werkstoffprüfung“, Ed. W. Grellmann, DVM 2005, ISSN 1861-8154, 2005, Tagungsband Werkstoffprüfung (2005) 227-232
11. E. El-Magd, M. Korthäuer, **S. Ataya**: “Experimental and numerical investigations of the specimen size effects on the flow behaviour of W/Cu composites” in "Multiscaling in applied science and emerging technology", Ed. G. C. Sih, Th. B. Kermanidis and Sp. G. Pantelakis, Proceedings of the 6th international conference for Mesomechanics, Patras (2004) 149-154.
12. **S. Ataya**, S. Mielke, E. El-Magd: Creep behavior of Mg-Alloys AE42 and AZ91 reinforced with carbon short fibers in “Magnesium Alloys and their Applications” Ed. K.U. Kainer, Wiley-VCH Verlag, Weinheim (2003) 384-389.

## **(7) Book and Book chapters**

1. **Sabbah Ataya**, Load Carrying Capacity and Microstructure of Resisitance Spot Welded Dual-Phase (DP600) Steel, Characterization of Minerals, Metals, and Materials, Edit. John S. Carpenter et. al, TMS, The Minerals, Metals and Materials Society (2014) 297-304.
2. **S. Ataya** and T. Emde, Friction Coefficients on Compression Testing of AA6060 and 42CrMo4 with Different Lubrication Conditions, in light metals, Edited by John Grandfield, TMS, The Minerals, Metals and Materials Society,(2014) 377-382.
3. E. El-Magd, M. Korthäuer, **S. Ataya**, S. G. Schulz (2009) "Experimentelle und numerische Untersuchung der Größeneinflüsse auf das Fließverhalten von W/Cu-Teilchenverbundwerkstoffen und Stählen" in Grösseneinflüsse bei Fertigungsprozessen, F. Vollertsen, BIAS Bremen ISBN: 978-3-933762-0-0, 241-266
4. **S. Ataya**: „Mechanisches Verhalten kurzfaserverstärkter Mg-Legierungen“, Dr.-Ing. Dissertation, Mainz-Verlag, Aachen, 2006, ISBN: 3-86130-823-1.

5. M. Korthäuer, **S. Ataya**, E. El-Magd: Experimentelle und numerische Untersuchungen von Größeneinflüssen von W/Cu-Teilchenverbundwerkstoffen in Strahltechnik, ed. F. Vollertsen, BIAS Verlag, Bremen, Vol. 27 (2005) 167-178
6. M. Korthäuer, **S. Ataya**, E. El-Magd: Scaling effects on the deformation behaviour of W/Cu sintered composite materials, BIAS Verlag, Bremen, Vol. 24 (2003) 57-64
7. M. Korthäuer, **S. Ataya**, E. El-Magd: Bestimmung des Fließverhaltens durch Stauch- und Scherversuche an W-Cu Teilchenverbundwerkstoffen unter Berücksichtigung von Größeneinflüssen in „Herausforderung durch den industriellen Fortschritt“, Ed. O. W. Buchholz und S. Geisler, Verlag Stahleisen (2003) 151-157.