Curriculum Vitae

Gomma A.E. Abdalla, Ph.D., M.Sc. Eng., B.Sc. Eng.

Professor of Metallurgical and New Materials Engineering,
Department of Mining and Metallurgical Engineering,
Branch of Metallurgy and Materials Engineering,
Faculty of Engineering, Assiut University,
Assiut Egypt

1. Personal:

Name:	Gomma Ahmed Elsayed Abdalla
Nationality:	Egyptian
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2. Education:

2001	**PhD.**	**Doctor of Engineering (Dr. Eng.),** Institute of Metallurgy and Materials Engineering,	IEHK-RWTH Aachen University of Technology, Aachen, **Germany**

Thesis title: "Effect of alloying elements additions and powder characteristics on sintering process and the mechanical properties of the partially diffusion alloyed powder Distaloy"

1994	**M. Sc.**	Metallurgical Engineering	Assiut University **Egypt**

Thesis title :"Fluidized bed reduction of iron ores"

1987	**B. Sc.**	Mining and Metallurgical Engineering Department	Assiut University, **Egypt**

3. Faculty Academic Appointments:

Feb. 2021- Present	Professor of Metallurgical and new Materials Engineering, at the Faculty of Engineering, Assiut University, **Egypt**
Sept. 2014- Feb. 2021	Associate Prof. of Metallurgical and new Materials Engineering, at the Faculty of Engineering, Assiut University, **Egypt**
March. 2011- Sept. 2014	Assistant Prof. at the Faculty of Engineering, Assiut University, Egypt
Sept. 2005-March. 2011	Secondment to the Department Materials Science and Engineering, faculty of Engineering, 7 of October University, Misurata, **Libya**
Feb. 2002- Sept. 2005	Assistant Prof. at the Faculty of Engineering, Assiut University, **Egypt**
Jan. 1997- Feb. 2002	Ph.D. student at the Institute of Ferrous Metallurgy, Department of Metallurgy IEHK-RWTH Aachen University of Technology, Aachen, **Germany**
Sept.1994- Jan1997	Assistant Lecturer at the Faculty of Engineering, Assiut University, **Egypt**
October 1987- Sept.1994	Demonstrator at Faculty of Engineering, Assiut University, **Egypt**

4. Expertise and Research Interests

1. Powder metallurgy (Sintered Materials)
2. Nanotechnology (by Mechanical Allying Technique)
3. Composite Materials (Natural fiber composite production and characterization)
4. Biomaterials
5. Metallic Foam Production and Characterization
6. Heat Treatment of Ferrous and non-Ferrous Alloys
7. Grain Refining of Aluminum Alloys
8. Continuous Casting
9. Anodizing of Aluminum
10. Aluminum cell Production

5. Funded Projects

1. Continuous casting of steel (Arcosteel Company- Egypt)
2. Aluminum Cell Production (Egyptlaum Company Nag- Hammadi- Egypt)
3. Fertilizers Industry (Assiut- Egypt)
4. Heat Treatment of Cane Cutters knives (QUS sugar factory- Egypt)

6. Membership Association

1. Member of the Egyptian Welding Society
2. Egyptian Syndicate of Engineers.
3. Member of the Center of Engineering Studies and Consultation of the Faculty.

7. Thesis Supervision and Examination

1. "Enhancement of the Mechanical Properties of Friction Stir Welded Aluminum Alloys 2024 Joints Using Vertical Compensation and Different Heating Techniques" M.Sc. Thesis, Assiut University Faculty of Engineering, Department of Mechanical Design and Production Engineering, 2024 (Examiner)
2. "Finite Element Simulation and Experimental Verification of the Double Wall Pipe Production Process from Copper and Aluminum Materials" M.Sc. Thesis, Assiut University Faculty of Engineering, Department of Mechanical Design and Production Engineering, 2023 (Examiner)
3. "Enhancement of Anode Assembly to Decrease Voltage Drop in Aluminium Reduction Cell" M.Sc. Thesis, Aswan University Faculty of Energy Engineering, Mechanical Power Engineering Dept. 2021 (Examiner)
4. "Study of the Thermal Behavior of Aluminium Reduction Cells during the Early Pot Life Period" M.Sc. Thesis, Assiut University Faculty of Engineering, Egypt, 2020. (Supervisor & Examiner).
5. "Anodizing of Aluminium Wires and their Uses for Preparing Metal Matrix Composite Materials" M.Sc. Thesis, Assiut University Faculty of Engineering, Egypt, 2020, (Supervisor & Examiner).
6. "Preparation of Al-Zr Master Alloy for the Grain Refinement of A1 and its Alloys with Applications" Ph. D Thesis, Assiut University, 2011
7. "Synthesis of Aluminum Ceramic Nano Composition by Mechanical Alloying Method", Ph. D Thesis, Assiut university, 2011, (Supervisor).

8. "Development and characterization of Al-Ti-c master alloy as grain refiner" M.Sc. Thesis, Assiut University Faculty of Engineering, Egypt, 2009, (Supervisor & Examiner).

9. "On the continuous casting process of steel with particular attention to grade transition" M.Sc. Thesis, Assiut University Faculty of Engineering, Egypt, 2004**,** (Supervisor & Examiner).

10. **"**Heat Treatment of Cane Cutters knives" M.Sc. Thesis, Assiut University Faculty of Engineering, Egypt, 2001**,** (Supervisor & Examiner).

8. Personal Skills

1. Scanning Electron Microscope (SEM),
2. Image Analyzer, Digital Optical Microscope,
3. Microhardness Test, Macrohardness Test.
4. High Energy Ball Mill to prepare Nanocomposite Material.
5. Melting and heat treatment furnaces.
6. Preparing samples for microscopic and hardness examination.
7. Carrying out the compression and tensile test.

9. Administrative / Community Service

1. Manger of Alumni Unit for Faculty of Engineering.
2. Co-Coordinator of Accreditation Board for the Mining & Metallurgical Engineering Department.
3. Supervisor of Metallurgical Engineering Laboratory (Metallography and Mechanical Testing)
4. Supervisor of Furnaces Laboratory.
5. Scientific trips supervisor
6. Member of promotion Scientific committee

10.Publications

A - *Publications in peer-reviewed scientific journals*

1. Ali, Mohamed M., Khalid Yuossif, **Gomma A. Abdalla**, and Elsayed A. Elbadry. "Thermal Behavior of the Early Life of an Aluminum Electrolysis Cell." International Journal of Engineering Research in Africa. Trans Tech Publications, Ltd., July 25, 2022. https://doi.org/10.4028/p-v5kt07.

2. **Abdalla, G.A**, Youssif, Kh., Elbadry, E. A.1, Ali, M.M "Thermal Analysis of the Baking and Start-Up Stages for Hall –Heroult Cells at Egyptalum Smelter"Journal of Petroleum and Mining Engineering 22(2)2020

3. M. Aboraia, E. A. Elbadry, **G. A. Abdalla**"Effect of Environmental Exposure on the notch sensitivity of GFRP Composites Used in Construction" 15, Volume 63, Issue 8, August 2020, Page 2965-297563

4. **Abdalla, G**., Elbadry, E., & Aboraia, M. Effect of Glass Fiber Stacking Sequence on the Notch Sensitivity of Glass Fiber Reinforced Epoxy Matrix Composites. Egyptian Journal of Chemistry, 63(8), 2977-2986. doi: 10.21608/ejchem. 2020.19497.2186

5. E.A. Elbadry, **G.A. Abdalla**, M. Aboraia, E.A. Oraby "Effect of Glass Fibers Stacking Sequence on the Mechanical Properties of Glass Fiber/Polyester Composites" Journal of Material Sciences & Engineering 7: 416. Doi: 10.4172/2169-0022.1000416 (2018).

6. E. A. Elbadry, **G. A. Abdalla**, M. Aboraia, and E. A. Oraby "Notch sensitivity of short and 2D plain woven glass fibers reinforced with different polymer matrix composites" Journal of Reinforced Plastics and Composites, 36, No.15, 1092-1098 (2017).

7. M. S. Aboraia, **G. A. Abdalla**, H. S. Wasly, "Synthesis and Characterization of Al-Al_2O_3 and Al/ (Al_2O_3- ZrO_2) Nanocomposite Using High Energy Milling" International Journal of Engineering research and applications (IJERA), 2013, 3(6), pp. 1654- 1663.

8. M. S. Aboraia, H. S. Wasly, M. A. Doheim, **G. A. Abdalla**, A. E. Mahmoud, "Characterization of Al/(10%Al_2O_3-10%ZrO_2) Nanocomposite Powders Fabricated by High Energy Ball Milling" International Journal of Engineering research and applications (IJERA), 2013, 3(3), pp. 474- 482.

9. **G. A. Abdalla**, M. S. Aboraia, H. S. Wasly, M. A. Doheim, A. E. Mahmoud, "Characterization of Al- Al_2O_3 Nanocomposite Powder Synthesized by High Energy Ball Milling", Journal of Engineering Sciences JES, 2012, 40(5), pp. 1475-1486.

10. M.A. Doheim, A. M. Omran, A. Abdel- Gawad, **G. A. Sayed** " Evaluation of Al- Ti- C Master alloys as grain refiner for aluminium and its alloys" Metallurgical and Materials transactions A, vol. 42A, Sep. 2011, pp. 2862- 2867.

11. A. Abouel-Kasem; A. Ezz El-Deen; S.M. Ahmed**; G. A. S. Abdalla**, "Effect of Horn-Tip shape on cavitation erosion of stationary specimen in a vibratory facility" JES, Assiut Univ., Vol.33, No.1, January (2005), pp.185-197.

12. M. A. Doheim; S.A. Elbdary; **G. A. Abdalla**, "Modeling study of intermixing in continuous slab casting during grade transition", JES, Assiut Univ., Vol.32, No.2 April (2004), pp.969-991.

13. S.N. Namasove; **G. Abdalla**; M. Dalgic; H.W. Gudenau; P. Beiss, "Mean stress sensitivity of sintered iron and steel", Zeitschrift fuer Metallkunde. Feb. 94 (2003)6, pp.737-742.

B - *Published proceedings and selected conference presentations (Refereed Papers)*

1. MSA A. A. Abdel-Hamid, S. A. Farrag, **G. A. Abdalla** "Anodizing of electrical grade Al wires in H2SO4 electrolyte" The 3th International Conference on Mining, Petroleum and Metallurgical Engineering, 2019.

2. M. A. Doheim; S.A. Elbdary; **G. A. Abdalla**, "Computational Parametric Study of Continuous Casting during Grade Transition with Intermixing", Proc. 9th Intern. MPM Eng. Conf., Cairo Univ., Feb. 2005, pp.29

3. M. A. Doheim; **G. A. Elsayed Abdalla**, A. A. Abdel-Hamid & A. A. Ghanya "Attrition of fluidized iron ore particles under reducing conditions". The fifth Egyptian Syrian Conf. In Chemical & Petroleum Engineering", Fac. of Eng., Uni. of Suez, Egypt, Vol.III, October 13-16 (2003), pp.761-775.

4. **G. A. Elsayed Abdalla**; H.W. Gudenau; P. Beiss, "Effect of phosphors additions to Distaloy AE on the pore characteristics and the mechanical properties", Proc. 7th inter. Conf. Min., Pet. & Metal. Eng. Assiut Univ. Feb. Vol.II, (2001), pp124-134.

5. M. A. Doheim; **G. A. Elsayed Abdalla**, A.A. Abdel-Hamid, and A.A. Ghanya, "Correlation of particle attrition in fluidized bed reduction of iron ore" 2nd Eng. Conf. Fac. of Eng., Uni. Of Mansoura, Egypt, April (1997).

C- *Under publication*

"Shaping Tomorrow's of Vertical Bone Augmentation: A Detailed Review of Additive Manufacturing and 3D Biodegradable Scaffolds" Sleem. A. Farag, Refaie Omar, Salman S.A. Ahmed Barhoum, **G.A. Abdalla**, Abdalla ,Abdal-hay

11.Honors and Awards

Scholarship from the Egyptian Ministry of Higher Education, for five years at the Institute of Ferrous Metallurgy, Department of Metallurgy IEHK-RWTH Aachen University of Technology, Aachen, **Germany**

12.Teaching Experience

A. Graduate Courses for Dipl., M.Sc. and Ph.D Students

1. Engineering Advanced Materials
2. Welding Technology
3. Transport Phenomena
4. Manufacturing Processes
5. Material and Energy Balance
6. Materials and Energy Recycling
7. Manufacturing and processing of Metals and Alloys
8. Melting and Solidification Technology
9. Phase Equilibrium for Materials
10. Engineering Alloys
11. Ferrous and Non-ferrous Unit Processes
12. Composite materials
13. Physical metallurgy
14. Ferrous extractive metallurgy
15. Nonferrous extractive metallurgy
16. Continuous Casting

B. Undergraduate Courses

1. Engineering Chemistry
2. Powder metallurgy
3. Manufacturing Processes
4. Biomaterials
5. Chemical Manufacturing Processes
6. Casting and Solidification of Metals and their Alloys
7. Physical Metallurgy
8. Composite Materials
9. Metal Foam Production
10. Heat Treatment

11. Principles of Metallurgical Processes
12. Ferrous Extractive Metallurgy
13. Nonferrous Extractive Metallurgy
14. Continuous casting
15. Metallurgical fuels, furnaces and refractories
16. Cement industry
17. Ceramic Industry
18. Phase Equilibrium in Metals.
19. Transport Phenomena
20. Corrosion and Corrosion Protection

13. Researches Ongoing:

1. Biomaterials (Studies on Biodegradable Zinc for bon tissues Engineering Application)
2. Surface treatment of biomaterials
3. Natural fiber composite production and characterization
4. Aluminum cell production (Thermal Behavior of Aluminium Reduction Cell and studying the effect of Materials Lining and insert Copper on its Performance and Energy consumption- Case Study)
5. Production of Silicon from Egyptian Ores

14. Participation in Conferences, Meetings, Seminars, and Workshops:

1. Inter. Conf., Deformation and fracture in structured PM materials, Eds. L. Parilak and H. Danninger. Piestany, Slovak Republic, Piestany, Slovak Republic, Sep. 19-22 (1999).
2. The 7th inter. Conf. Min., Pet. & Metal. Eng. Assiut Univ. Feb. (2001).
3. The fifth Egyptian Syrian Conf. In Chemical & Petroleum Engineering", Fac. of Eng., Uni. of Suez, Egypt, October 13-16 (2003).
4. 2nd Symposium on Heat Treatment of Metals and Alloys, Egyptian Heat Treatment Society, Cairo, 4-6 Dec.2004.
5. 9th Intern.MPM Eng. Conf., Cairo Univ., Feb (2005).
6. 7th internal Conference for Development and the Environmental in the Arab Word, Assiut Univ., Assiut, Egypt, March 23-25 (2014).
7. The 12th inter. Conf. Min., Pet. & Metal. Eng. Suez Univ. Suez-Egypt, 20-22 October (2014).