Hend Elsayed Mohamed Gadow, Ph.D.

Associate Professor of Physical Chemistry

Port Said, Egypt | hendgadow@gmail.com +20 155 553 9060 | +20 100 038 5635

About me

Accomplished Associate Professor of Physical Chemistry with over 20 years of academic and research experience specializing in corrosion inhibition, green chemistry, and materials science. Proven leadership in department administration, curriculum development, and quality assurance. Published extensively in high-impact journals and supervised numerous graduate theses. Certified international trainer in human development and recognized external reviewer for accreditation bodies and international journals.

Education

2020 **Associate Professor of Physical Chemistry**

2003 **PHD Degree In Science from Zagazig University**

1998 **Master Degree in Science from Mansoura University**

1995 **Graduated from Mansoura University College of Science**

Skills & Competencies

Technical & Software

Material Studio | OriginPro | Microsoft Office Suite | Course Lab (E-Learning)

Languages

English (Professional) | Arabic (Native)

Professional Development

Academic Leadership | Certified International Trainer (TOT) | Quality Assurance & Accreditation | Strategic Planning | Research Project Design

Academic & Professional Experience

- **Head of the chemical engineering department**
  2021-present
- **Associate Professor of Physical Chemistry at the Higher Institute of Engineering and Technology in New Damietta**
  2014-present
- **External Reviewer in the National Authority for Educational Quality Assurance and Accreditation in Egypt**
  ongoing
- **External Reviewer in Many International Journals.**
  ongoing
- **College of Applied Sciences at Al Baha University in Kingdom of Saudi Arabia**
  2010-2014
- **Higher Institute of Chemical Engineering in New Damietta**
  2008-2010
- **Assistant Professor & Head of Chemistry Department**

  College of Education, Hotat Sudair, Al Majmaah, Saudi Arabia

  2004–2007

Research Leadership & Supervision

Ph.D. Thesis Supervision

- Environmental waste extracts as corrosion inhibitors for some metals in aqueous solutions (PhD dissertation, Faculty of Engineering, Alexandria University)
- Supervising graduation research at the College of Science, Al Baha University, and currently supervising graduation projects for the Department of Chemical Engineering

Master's Theses Supervision

- The use of some antibiotics as inhibitors of copper corrosion in hydrochloric acid solutions (Faculty of Science, Mansoura University)
- Studies on the inhibitory effect of some plant extracts on the corrosion of carbon steel in sulfuric acid (Faculty of Science, Mansoura University)
- Researching the effect of coffee peels as an inhibitor of corrosion of carbon steel in aqueous solutions (Faculty of Engineering - Department of Chemical Engineering - Alexandria University)
- The use of some plant extracts as agents that prevent the corrosion of copper and aluminum in aqueous environments (Faculty of Engineering, Mansoura University)
- The use of some plant extracts as agents that prevent the corrosion of aluminum in aqueous environments. (Faculty of Engineering, Cairo University)

Graduate Project Supervision

- Ongoing supervision of final-year chemical engineering projects.

Continuing Education & Certifications

1. Special courses to develop the capabilities of faculty members:

- Organizing scientific conferences
- University administration
- Organizing exams and evaluating students
- Effective presentation
- Credit hours system
- Strategic Planning
- Local and international competitive research projects
- Quality standards in the teaching process

2. Courses from the National Authority for Educational Quality Assurance and Accreditation (for classification as an external auditor in the Authority):

- Description of programs and courses and evaluation of learning outcomes for higher education institutions
- Self-evaluation of higher education institutions
- External audit of higher education institutions
- Strategic planning for higher education colleges and institutes
- Effective teaching and learning strategies for colleges and institutes of higher education
- Organizing examinations and evaluating students for colleges and institutes of higher education
- Obtaining a training of trainer's course at the TOT Authority
- Intensive external review

3. Canadian Center for Human Development:

- Certified and professional international trainer at the Canadian Center for Human Development

Participate In Arbitration Committees

- Al-Baha Award for Creativity and Excellence (member of the Scientific Innovations Branch Committee) under the supervision of His Highness Prince Mishari bin Saud, Governor of Al-Baha Region.
- Liquidation of educational areas for the National Olympiad for Scientific Creativity under the supervision of the King Abdulaziz and His Companions Foundation for Giftedness and Creativity.
- Member of the Scientific Review Committee for Scientific Research Projects 1435.
- Reviewer of the Alloys and Compounds magazine, Q1 magazine.

Conferences

- The first annual scientific research meeting at Al Baha University
- Attending a training program (Workshop of the Scientific Review Committee for Scientific Research Projects) at Al Baha University, College of Science
- Skills: The ability to use the Course Lab program and convert courses into electronic programs

Research published

1. **Title:** Chalcones as Corrosion Inhibitors for Nickel in HCl and H_2SO_4 Solutions

   Authors: A.S.Fouda, **H.S.Gadow** and A.A.El-Shafei
   Journal : KORROZIOS FIGYELO, 43(3)(2003)95-99

2. **Title :** The use of Chalcones as Corrosion Inhibitors for Nickel Corrosion in Nitric Acid Solutions

   Authors: A.S.Fouda, A.A.El-Shafie and **H.S.Gadow**
   Journal: portugalliae electrochimica acta,20(2002)13-23

3. **Title:** Corrosion Inhibition of Carbon Steel in HCl by Cyanoacetate and Oxobutanoate Derivatives

   Authors: **H.S.Gadow** and A.S.Fouda
   Journal : Journal of Chemical Science and Technology, 2(3)(2013) 151-160

4. **Title:** Black Tea as Green Corrosion Inhibitor for Carbon Steel in 1 M Hydrochloric Acid Solutions

   Authors: **H. S. Gadow** and A. S. Fouda
   Journal : International Journal of Advanced Research, 2(1) (2014) 233-243

5. **Title:** Streptoquin and Septazole: Antibiotic Drugs as Corrosion Inhibitors for Copper in Aqueous Solutions

   Authors: A. S. Fouda & **H. E. Gadow**
   Journal : Global Journal of Researches in Engineering: C Chemical Engineering,14(2)(2014)20-36

6. **Title:** chemical and electrochemical investigation of coffee as green corrosion inhibitor for aluminium in hydrochloric acid solutions
Authors: A.S.Fouda, **H.S.Gadow**, & K.Shalabi
Journal : International Journal of Research and Reviews in Applied Sciences 23(1)(2015)

7. **Title:** Antibacterial drugs as green corrosion inhibitors for copper in hydrochloric acid solutions: Electrochemical and thermodynamic studies
Authors: A.S.Fouda, **H.S.Gadow** and M.A. Salama
Journal : Elixir Corrosion & Dye 80 (2015) 30883-30890

8. **Title: Coffee** Husk and Ziziphusspina Christi Extracts as Green Corrosion Inhibitors for Aluminum in NaOH Solutions
Authors: A.S.Fouda and **H.S.Gadow**
Journal: Elixir Appl. Chem. 83 (2015) 33047-33053

9. **Title:** Electrochemical Studies on the Inhibition behavior of Aluminum in HCl Solution using Ziziphus Spina Christi Extract
Authors: A.S.Fouda, **H. S. Gadow** and K. Shalabi
Journal: Elixir Corrosion & Dye 84 (2015) 33572-33580

10. **Title:** Electrochemical study on the Effectively of Cyperus Articulates extract as a green Inhibitor for Corrosion of C Steel in 0.5MH2SO4
Authors: A.S.Fouda, **H. Gado**, W.Aboelmaaty and M.Omar
Journal: Elixir Corrosion & Dye 91 (2016) 38519-38526

11. **Title:** Expired Cidamex Drug as Corrosion Inhibitor for Aluminum in Acidic Solutions.
Authors: M.M.Motawea, **H.S.Gadow** & A. S. Fouda
Journal: Global Journal of Researches in Engineering: C Chemical Engineering, 16 (1)(2016) 6-20.

12. **Title:** Investigation of the corrosion inhibition of carbon steel in hydrochloric acid solution by using ginger roots extract
Authors: H.S.Gadow & M.M.Motawea
Journal: RSC Adv., 2017, 7, 24576-24588 , doi: 10.1039/c6ra28636d

13. **Title:** Electrochemical study on the Efficiency of Curcuma extract as a green Inhibitor for Corrosion of α- brass in 1MHCl

Authors: H.S.Gadow & H.M. Elabbasy
Journal: Int. J. Electrochem. Sci., 12 (2017) 5867 – 5887, doi: 10.20964/2017.07.13

14. **Title:** The Corrosion Inhibition Effect of Pyrrole Derivatives on Carbon Steel in 1.0 M HCl
Authors: H.S.Gadow & H. M. Dardeer
Journal: Int. J. Electrochem. Sci., 12 (2017) 6137 – 6155, **doi: 10.20964/2017.07.85**

15. **Title:** Investigation of myrrh extract as a new corrosion inhibitor for a-brass in 3.5% NaCl solution polluted by 16 ppm sulfide
Authors: H. S. Gadow, M. M. Motaweab and H. M. Elabbasy
Journal: RSC Adv., 2017, 7, 29883–29898, **doi: 10.1039/c7ra04271j**

16. **Title:** Experimental and theoretical investigations for some spiropyrazoles derivatives as corrosion inhibitors for copper in 2 M HNO3 solutions
Authors: H.S.Gadow, Thoraya A.Farghaly, A.M.Eldesoky,
Journal: Journal of Molecular Liquids,294(2019) 111614
https://doi.org/10.1016/j.molliq.2019.111614

17. **Title:** Extract of the green corrosion inhibitor for carbon steel in 1&2N HCl (an experimental and theoretical study)
Authors: H.S.Gadow, R.O. Abou Razza
Journal: Journal of applicable chemistry,8(5)2019

18. **Title:** Study the effect of expired tenoxicam on the inhibition of carbon steel corrosion in a solution of hydrochloric acid
Authors: H.M. Elabbasy**, H.S. Gadow**
Journal: Journal of Molecular Liquids,321(2021) 114918
https://doi.org/10.1016/j.molliq.2020.114918

19. **Title:** New promising halogenated cyclic imides derivatives as potential corrosion inhibitors for carbon steel in hydrochloric acid solution
Authors: Arafat Toghan, **H.S. Gadow**, Hemat M. Dardeer, H.M. Elabbasy
Journal: Journal of Molecular Liquids 325 (2021) 115136
https://doi.org/10.1016/j.molliq.2020.115136

20- Title: Corrosion Inhibition of Aluminium by Rice Straw Extract in 2 M Hydrochloric Acid Solution
Authors: A. S. Fouda, **H. S. Gadow,** E. G. Abd Elal,M. I. El-Tantawy

Journal: Journal of Bio- and Tribo-Corrosion, 7(2021)102
https://doi.org/10.1007/s40735-021-00527-2

21 Title: Inhibition of Copper Corrosion by Rice Straw Extract in 2M Solution of Nitric Acid
Authors: Mahmoud I. El-Tantawy1, Hend S. Gadow , Ibrahim G. Rashed, Abd El-Aziz S.Fouda
Journal: Biointerface Research in Applied Chemistry, 12(1) (2022) 83 - 104
https://doi.org/10.33263/BRIAC121.083104

22 Title: In an Acidic Environment, Perimidin-10-one Derivatives were Evaluated as Potential Copper Corrosion Inhibitors (Experimental and Theoretical Examinations)
Authors: H. S. Gadow · Thoraya A. Farghaly· A. M. Eldesoky
Journal: Journal of Bio- and Tribo-Corrosion (2022) 8:51
https://doi.org/10.1007/s40735-022-00650-8

23 Title: Green inhibitor of carbon steel corrosion in 1 M hydrochloric acid: Eruca sativa seed extract (experimental and theoretical studies)
Authors: H. S. Gadow and M. Fakeeh
Journal: RSC Adv., 12(2022) 8953–8986
DOI: 10.1039/d2ra01296k

24 Title: Electrochemical, surface analysis, and theoretical investigation of 3-hydroxy-5-(phenylamino)-4-(p-tolyldiazenyl)thiophen-2-yl)(phenyl)methanone as a corrosion inhibitor for carbon steel in a molar hydrochloric acid solution
Authors: Arafat Toghan, M. Khairy, Minghua Huang, **H.S. Gadow**
Journal: International Journal of Electrochemical Science 18 (2023) 100070
https://doi.org/10.1016/j.ijoes.2023.100070

25 Title: Experimental and theoretical approaches to the inhibition of carbon steel corrosion by thiophene derivative in 1 M HCl
Authors: H.S. Gadow, Ahmed Fawzy, M. Khairy, Moustafa M.S. Sanadf, Arafat Toghan
Journal: International Journal of Electrochemical Science 18 (2023) 100174
https://doi.org/10.1016/j.ijoes.2023.100174

26 Title: Adsorption Mechanism, Kinetics, Thermodynamics, and Anticorrosion Performance of a New Thiophene Derivative for C-Steel in a 1.0 M HCl: Experimental And Computational Approaches

Authors: Arafat Toghan , **H. S. Gadow** , Ahmed Fawzy, Hanan Alhussain and H. Salah
Journal: *Metals* **2023**, *13*, 1565**. https://doi.org/10.3390/met13091565**

27 Title: Use of expired Sulbutiamine drug as anticorrosive agent for carbon steel in hydrochloric acid solution
Authors: R.D. Alghamdi, M.D. Alghamdi and **H.S. Gadow**
Journal: *Int. J. Corros. Scale Inhib., 2023, 12, no. 4, 2282 – 2326*
doi: 10.17675/2305-6894-2023-12-4-45

28 Title: Cysteine as an Eco-Friendly Anticorrosion Inhibitor for Mild Steel in Various Acidic Solutions: Electrochemical, Adsorption, Surface Analysis, and Quantum Chemical Calculations
Authors: Hanaa. M. Elabbasy, Arafat Toghan, and **Hend. S. Gadow**
Journal: *ACS Omega, 2024, 9, 11, 13391–13411*
https://doi.org/10.1021/acsomega.3c10522

29 Title: Electrochemical, gravimetric, quantum chemical and computational investigations on an effective synthetic chlorinated cyclic imide derivative as a corrosion inhibitor for carbon steel in sulfuric acid solution
Authors: Arafat Toghan, Ahmed A. Farag, Omar K. Alduaij, H.M. Elabbasy, Hemat M. Dardeer, Emad M. Masoud, Ahmed Fawzy, **H.S. Gadow**
Journal: *Journal of Molecular Structure 1307 (2024) 138040*
https://doi.org/10.1016/j.molstruc.2024.138040

30 Title: Corrosion inhibition properties of perimidin-10-one derivatives for steel inforcement in acidic environments: Experimental and theoretical insights
Authors:H.S. Gadow a,*, AbdulAziz A. Alayyafi b, Thoraya A. Farghaly c,d, A.M. El desoky
Journal: *International Journal of Electrochemical Science 19 (2024) 100545*
Available **https://doi.org/10.1016/j.ijoes.2024.100545**

31 Title: Experimental and Theoretical Investigations on the Use of Pumpkin Peel as a Sustainable Biomass Anticorrosion Agent for Aluminum in HCl Solutions
Authors: Reem D. Alghamdi , Laila S. Alqarni , Maha D. Alghamdi , N. F. Alotaibi , and **Hend Gadow***
Journal: *Journal of Chemistry ,2024(5696212),* **https://doi.org/10.1155/2024/5696212**

32 **Title:** Experimental and theoretical investigations on the use of Corchorus olitorius stem extract as a safe corrosion inhibitor for carbon steel in hydrochloric acid

Authors: Marzough A Albalawi **, H.S.Gadow***

Journal: *Egypt. J. Chem. Vol. 67, No. 9 pp. 531 - 574 (2024)*

DOI: 10.21608/ejchem.2024.249091.8882

33 **Title** : Reusing expired streptomycin and neomycin drugs as potential corrosion inhibitors for high brass alloys in NaCl solution: quantum, chemical, surface and electrochemical investigations

Authors: Ahmed Fawzy, Arafat Toghan, Areej Al Bahir, Emad M. Masoud, Magdi E. A. Zaki, Minghu Huang, Ahmed A.Farag, and **H.S. Gadow**

Journal: RSC Adv.,2025,15,39123

DOI: 10.1039/d5ra06456b

34 **Title**:Unravelling Adsorption and Interaction of SynthesizedChlorinated CyclicImide Derivativeonthe Corrosion of C-Steel in H_2SO_4 Solution: Experimental Control and Mathematical Calculations

Authors: Arafat Toghan, Ahmed Fawzy, Sami A. Al-Hussain, Emad M. Masoud, and **Hend S. Gadow**

Journal: ACS Omega 2025,10,46593−46611

https://doi.org/10.1021/acsomega.5c03599

35 Title: Identification of interaction, surface species and anticorrosion potency for adsorption of myrrh extract on 330 stainless steel in 1 M HCl solution

Authors: Arafat Toghan, M.Fakeeh, Ahmed Fawzy and **Hend S. Gadow**

Journal: RSC Adv.,2025,15, 42272

DOI: 10.1039/d5ra07138k

36 Title: Use of Swiss chard stems and green pea peel extracts as anticorrosive agents for aluminum in 1 MHCl

Authors: H. S. Gadow, N.M.Abd El-Monemb and R. M. El-Settawya

Journal: RSC Adv.,2026, 16,4959–4992

DOI: 10.1039/d5ra09501h

37 Title: Design and evaluation of a MgO@MnO2@graphite hybrid nanostructure for enhanced acid corrosion protection of carbon steel

Authors: Alhajri, S., Alghamdi, M.D**., Gadow, H.,** Alghamdi, R., Alzharani, A., Alfarsi, A., Goda, M.N. and Alqarni, L

Journal: A*nti-Corrosion Methods and Materials,2026, pp. 1–25,*

https://doi.org/10.1108/acmm-06-2025-3284. Accessed 9 Apr. 2026.

38 **Title**: Biomass extract waste plants as a green inhibitor for carbon steel in hydrochloric acid: integrated experimental, computational analysis, and design-expert optimization study

Authors: H. S. Gadow · A. A. Zaatout · H. A. Farag · R. O. Abo Raza

Journal: Chemical Papers, 2026.

https://doi.org/10.1007/s11696-026-05062-3

39 **Title**: Polymer–nanoparticle hybrid MnO_2@PVA: Characterization and corrosion inhibition performance in acidic media

Authors: Ahmed A. Alzharani, Maha D. Alghamdi, **H.S. Gadow,** Reem D. Alghamdi, Anas Alfarsi, Jawaher K. Aljuaid, Abueliz Modwi, Laila S. Alqarni

Journal: Materials Today Communications 56 (2026) 116031

https://doi.org/10.1016/j.mtcomm.2026.116031