

CURRICULUM VITAE

PERSONAL DATA

Name	Hani Nasser Abdelhamid
Nationality	Egyptian
Position	Associate Professor
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EDUCATION

Year	Academic Degree	Institution
2017	PhD	Stockholm University, Sweden
2013	M.Sc	National Sun Yat Sen University, Taiwan (China)
2007	B.Sc	Assiut University, Egypt

WORK EXPERIENCE

Period	Position	Address
2023-2024	Director of Central Lab, Egyptian Russian University	Egyptian Russian University, Badr, Egypt
2021-2023	Assistant Professor	The British University in Egypt
2023-Now	Associate Professor	Department of Chemistry, Assiut University
2020-2022	Postdoc	Department of Materials and Environmental Chemistry, Stockholm University, Sweden

RESEARCH INTERESTS

Hani Abdelhamid focuses broadly on nanoscale science and technology and materials science to push scientific boundaries across polymer science, materials science, chemistry, energy, environmental science, biomedicine, biotechnology, catalysis, and laser-based analytical methods. The main thrusts are below:

- 1) Nanotechnology: Synthesis, characterization, and applications.
- 2) Material Chemistry: Synthesis, characterization, and applications.

- 3) Coordination polymers and Metal-organic frameworks (MOFs): synthesis, characterization, and applications.
- 4) Inorganic and structural chemistry.

PUBLICATIONS

Patents

1. **H.N.Abdelhamid**, Abdelreheem Abdelfatah Saddik, Tetraphenylethene-based Polymers for Supercapacitor, United States Application, US12391800B1
2. **H.N. Abdelhamid**, Faisal Khuwayshan L Algeth, Hussein El-Kashef, Water-soluble Thiazolidine-2,4-diones Salt for Selective Chemosensors of Toxic Metals, United States Application, US12352739B1.
3. H.-F. Wu, Judy Gopal, **H.N. Abdelhamid**, Pei-Yang Hua, Chitosan nanomagnets for effective extraction and sensitive mass spectrometric detection of pathogenic bacterial endotoxin from human urine, Taiwan, ROC, Patent applied, 2013, Mar. TW201512660A.
4. H.-F. Wu, **H.N. Abdelhamid**, Multifunctional graphene magnetic nanosheet decorated with chitosan for highly sensitive detection of pathogenic bacteria, Taiwan patent, approved certification book (School ID 102039TW), Taiwan invention patent, No.102138937 (102/10/28 applied-104/6/17 issued), PK13231. TW201516153A.
5. H.-F. Wu, **H.N. Abdelhamid**, Furoic as a new matrix for matrix-assisted laser desorption/ionization mass spectrometry, Taiwan (ROC) Patent applied 2013, May. No.: TW201530132A.
6. H.-F. Wu, **H.N. Abdelhamid**, Mefenamic acids as a new matrix for matrix-assisted laser desorption/ionization mass spectrometry, Taiwan Patent, 2016, March issued. TWI512290B.
7. H. Zheng, **H.N. Abdelhamid**, L. Liu, W. Wan, P. Guo, X. Zou, One-pot synthesis of metal-organic frameworks with encapsulated target-molecule and their use, SU Holding, 2015, WO2017078609A1.

Books and Chapters

1. **H. N. Abdelhamid***, General Methods for Detection and Evaluation of Nanotoxicity, Elsevier Book titled "Nanotoxicity: Prevention, Fundamentals and Antibacterial Applications of Nanomaterials, **2020**, 195-214, ISBN 978-0-12-819943-5.
2. **H. N. Abdelhamid***, Self-decontaminating Antimicrobial Textiles, book "Antimicrobial Textiles from Natural Resources" Elsevier, **2020**.
3. **H. N. Abdelhamid***, Metals Linked to Alzheimer's Disease, Frontiers in Clinical Drug Research-Alzheimer Disorders, **2020**, 9, 3-00, DOI: 10.2174/97898114109491190901, eISBN: 978-981-14-1094-9, 2019, ISBN: 978-981-14-1093-2, ISSN: 2451-8743 (Print), ISSN: 2214-5168 (Online).
4. **H. N. Abdelhamid***, H.-F. Wu*, Graphene and Its Derivatives as Platform for High-throughput Biosensing, **2019**, Tobias Stauber (Editor), Advanced Materials Series, ISBN: 978-1-119-46959-9
5. **H. N. Abdelhamid***, H.-F. Wu*, Strategies of Nanotechnology in Drug Delivery, Apple Academic Press, **2019**, Nanoparticulate Drug Delivery Systems, ISBN 1351137255, 9781351137256, <http://www.appleacademicpress.com/nanoparticulate-drug-delivery-systems-/9781771886956>.
6. **H. N. Abdelhamid***, Smart materials in Analytical Chemistry, **2019**, 729-755, DOI:10.1002/9781119422587.ch23, Handbook of Smart Materials in Analytical Chemistry, John Wiley & Sons, Ltd.

7. **HN Abdelhamid***, H.-F. Wu*, Frontiers in Clinical Drug Research - Alzheimer Disorders, Chapter 1, Biological Mass Spectrometry for Diagnosis of Alzheimer's Disease, **2017**, Vol.6, 3-22, Bentham ebooks, eBook Reference No: 9781681083391-16-1038.
8. **HN Abdelhamid***, H.-F. Wu*, Ionic Liquid Matrices for Mass Spectrometry: Design, Synthesis, and Applications. In: Reedijk, J. (Ed.) Elsevier Reference Module in Chemistry, Molecular Sciences, and Chemical Engineering. Waltham, MA: Elsevier. 29-Sep-**2014** doi: 10.1016/B978-0-12409547-2.11016-9.
9. **HN Abdelhamid***, Self-decontaminating antimicrobial textiles, Antimicrobial Textiles from Natural Resources, 2021, 259, Antimicrobial Textiles from Natural Resources, Edited by Md. Ibrahim H. Mondal, Elsevier, ISBN: 978-0-12-821485-5 (print) ISBN: 978-0-12-821486-2 (online).
10. **H.N. Abdelhamid***, Chapter 4 - Chitosan-Based Nanocarriers for Gene Delivery, Wiley. Chitosan-Based Nanocarriers for Gene Delivery, DOI: [10.1002/9783527832095.ch4](https://doi.org/10.1002/9783527832095.ch4), In book: Nanoengineering of Biomaterials.
11. **H. N. Abdelhamid***, Book: Advanced Functional Porous Materials. DOI:10.1007/978-3-030-85397-6, Chapter 23, Title: Hierarchical Porous Zeolitic Imidazolate Frameworks: Microporous to Macroporous Regime, 431-447. In: Uthaman, A., Thomas, S., Li, T., Maria, H. (eds) Advanced Functional Porous Materials. Engineering Materials. Springer, Cham. https://doi.org/10.1007/978-3-030-85397-6_14
12. **H.N. Abdelhamid***, Quantum dots hybrid systems for Drug delivery, CH003, Hybrid Nanomaterials for Drug Delivery. 2022 Elsevier Ltd. DOI: <https://doi.org/10.1016/B978-0-323-85754-3.00013-7>.
13. **H.N. Abdelhamid***, Chapter 9- Functionalized Materials for Miniaturized Analytical Devices, Wiley, 2022, DOI: [10.1002/9783527827213.ch9](https://doi.org/10.1002/9783527827213.ch9). Miniaturized Analytical Devices: Materials and Technology; Editor(s): Suresh Kumar Kailasa, Chaudhery Mustansar Hussain.
14. M. Dowaidar, **H. N. Abdelhamid**, and Ü. Langel, Improvement of Transfection with PepFects Using Organic and Inorganic Materials, Ü. Langel (ed.), Cell-Penetrating Peptides: Methods and Protocols, Methods in Molecular Biology, vol. 2383, https://doi.org/10.1007/978-1-0716-1752-6_35, Springer Nature 2022.
15. **H.N. Abdelhamid***, Chapter 24, Polysaccharides for biomedical implants, Elsevier, 2022, Plant Polysaccharides as Pharmaceutical Excipients, 1st Edition - November 20, 2022, Editors: Amit Nayak, Md Saquib Hasnain, Dilipkumar Pal, Paperback ISBN: 9780323907804, eBook ISBN: 9780323907811
16. **H.N. Abdelhamid***, Covalent Organic Frameworks-Based Nanomaterials as Electrode Materials for Supercapacitors, Book Covalent Organic Frameworks, Edited By Tuan Anh Nguyen, Ram K. Gupta, Edition 1st Edition, 2022, CRC Press, eBook ISBN 9781003206507.
17. **H.N. Abdelhamid***, Chapter 7, Carbon dots for electrochemical analytical methods, Book: Carbon Dots in Analytical Chemistry Detection and Imaging, Edited by Suresh Kumar Kailasa, Chaudhery Mustansar Hussain, Elsevier, ISBN: 978-0-323-98350-1. <https://doi.org/10.1016/B978-0-323-98350-1.00023-2>
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19. **H.N. Abdelhamid***, Chapter 12, Nucleic acid based therapeutic delivery system, Book: Novel Formulations and Future Trends, Elsevier, 2022.
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- Sougata Jana and Subrata Jana (Eds): 978-981-19-6936-2, 523837_1_En, (Chapter 14), Springer Nature, 2023. https://link.springer.com/chapter/10.1007/978-981-19-6937-9_14
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 23. **H.N. Abdelhamid***, Chapter 11 - Metal-organic frameworks (MOFs) as unique theranostic nanoplateforms for therapy and imaging, Theranostic Nanosystems, Inorganic Nanosystems, Academic Press, 2023, 2, 323-350, 10.1016/B978-0-323-85784-0.00006-6.
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 30. **H.N. Abdelhamid***, Environmental Impact of Nanoparticles, Book Nanobiotechnology for Sustainable Food Management, Edition 1st Edition, Imprint CRC Press, 2024, eBook ISBN 9781003514039.
 31. **H.N. Abdelhamid***, Chromatography for gas-liquid-solid in separation sciences, Book: Advances in Separation Sciences, Sustainable Processes and Technologies, edit by Pravin G. Ingole, Chaudhery Mustansar Hussain, Elsevier, 2024, ISBN: 978-0-323-95292-7, <https://doi.org/10.1016/B978-0-323-95292-7.00001-3>.
 32. **H.N. Abdelhamid***, Application of Metal-Organic Frameworks (MOFs) Containing Membranes for Metal Ions Uptake From Wastewater, DOI: 10.1016/B978-0-323-95486-0.00133-2, In book: Reference Module in Materials Science and Materials Engineering, 2024.
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 37. **H. N. Abdelhamid***, Advanced Multifunctional Materials: Definition and Main Physical

- Principles, DOI: 10.1021/bk-2025-1513.ch002; American Chemical Society, Advanced Smart and Multifunctional Materials Volume 1: Fundamentals and Types, Chapter 2, pp 19-41; ACS Symposium Series Vol. 1513; eISBN: 9780841296114.
38. **H. N. Abdelhamid***, Green and sustainable nanocellulose production, Cellulose Science and Technology, 2026, 15-27, Cellulose Science and Technology, Recent Findings and Emerging Applications, <https://doi.org/10.1016/B978-0-443-29131-9.00004-9>.
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 40. **H. N. Abdelhamid***, FK Algethami; Semiconductor quantum dots in fluorescence analytical spectroscopy, Fluorescence Spectroscopy in Analytical Chemistry, 2026, 165-179, Fluorescence Spectroscopy in Analytical Chemistry, A Practical Approach, <https://doi.org/10.1016/B978-0-443-30270-1.00022-X>.
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 43. **H. N. Abdelhamid***, Chitosan-Based System in 3D/4D (Bio) Printing for Drug Delivery and Tissue Engineering Applications, In book: Chitosan-Based Drug Delivery Systems, 2026, DOI: [10.1007/978-3-032-08347-0_14](https://doi.org/10.1007/978-3-032-08347-0_14), eBook ISBN, 978-3-032-08347-0; Print ISBN 978-3-032-08346-3.
 44. **H. N. Abdelhamid***, Chapter 18 - Innovative use of waste-based catalysts in energy systems, Waste Derived Catalysts, Sustainable Materials for Energy and Environment, 2026, Pages 359-380, <https://doi.org/10.1016/B978-0-443-32958-6.00013-3>.
 45. **H. N. Abdelhamid***, (2026). Removal of Heavy Metal and Degradation of Organic Compounds in Fungi Waste Water. In: Hussain, C.M., Srivastava, N., Hussain, G. (eds) Fungi in Waste Water Treatment . Springer Water. Springer, Cham. https://doi.org/10.1007/978-3-032-12693-1_4.
 46. **H. N. Abdelhamid***, Book: The Handbook of Paper-Based Sensors and Devices DOI : 10.1007/978-3-032-29540-8, Chapter Title : Nanocellulose-Based Membranes for Air Purification, Springer Nature, 2026.

Publication Lists: (*Corresponding author, §Co-first authors)

2026

1. **H. N. Abdelhamid***, Green and sustainable nanocellulose production, Cellulose Science and Technology, 2026, 15-27, Cellulose Science and Technology, Recent Findings and Emerging Applications, <https://doi.org/10.1016/B978-0-443-29131-9.00004-9>.
2. **H. N. Abdelhamid***, Montmorillonite for drug delivery, Inorganic Biomaterials for Drug Delivery, 2026, 483-498, Inorganic Biomaterials for Drug Delivery, Woodhead Publishing Series in Biomaterials, <https://doi.org/10.1016/B978-0-323-95366-5.00009-X>.
3. **H. N. Abdelhamid***, FK Algethami; Semiconductor quantum dots in fluorescence analytical spectroscopy, Fluorescence Spectroscopy in Analytical Chemistry, 2026, 165-179, Fluorescence Spectroscopy in Analytical Chemistry, A Practical Approach,

<https://doi.org/10.1016/B978-0-443-30270-1.00022-X>.

4. **H. N. Abdelhamid***, Raman spectroscopy for deformation micromechanics of cellulose-based nanocomposites, *Raman Spectroscopy Applied to Polymer Composites and Nanocomposites*, 401-415, Woodhead Publishing Series in Composites Science and Engineering, 2026, Pages 401-415, <https://doi.org/10.1016/B978-0-443-15989-3.00009-2>.
5. **H. N. Abdelhamid***, Designing Electrocatalyst for Integrated HER and OER, In book: *2D Materials for Electrochemical Water Splitting*, 2026, DOI: [10.1007/978-981-95-2003-9_13](https://doi.org/10.1007/978-981-95-2003-9_13)
6. **H. N. Abdelhamid***, Chitosan-Based System in 3D/4D (Bio) Printing for Drug Delivery and Tissue Engineering Applications, In book: *Chitosan-Based Drug Delivery Systems*, 2026, DOI: [10.1007/978-3-032-08347-0_14](https://doi.org/10.1007/978-3-032-08347-0_14).
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10. SSM Ameen, FK Algethami, SS Ahmed, II Ahmed, **HN Abdelhamid**, Khalid M. Omer, Bio-inspired manganese nanoparticle from pine needles with enhanced adsorptive performance, *New Journal of Chemistry* 50 (4), 1880-1891, 2026, <https://doi.org/10.1039/D5NJ04047G>
11. **H. N. Abdelhamid***, (2026). Removal of Heavy Metal and Degradation of Organic Compounds in Fungi Waste Water. In: Hussain, C.M., Srivastava, N., Hussain, G. (eds) *Fungi in Waste Water Treatment*. Springer Water. Springer, Cham. https://doi.org/10.1007/978-3-032-12693-1_4
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14. **H. N. Abdelhamid***, Hui-Fen Wu, Radiation effects on metal-organic frameworks (MOFs) for nuclear environmental chemistry: A review, *Progress in Nuclear Energy*, 2026, 198, 106367.
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16. **H. N. Abdelhamid***, Walid M. Daoush, Copper-loaded carbon fiber for supercapacitors and oxygen evolution reaction, *Diamond and Related Materials*, 2026, 165, 113546.
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25. **H.N. Abdelhamid***, Ayat Badry Aly Abdellatif, Haitham M. El-Bery, Hydrogen Production Using Noble Metal-Free Metal-Organic Frameworks (MOFs)-derived CuO@C/TiO₂, **Chemical Engineering Journal**, **2025**, 514, 163343.
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 39. Alsaiari, R.A., Gomaa, I. & **Abdelhamid, H.N.** Eco-Engineered Co₃O₄/CoO/C Nanohybrid for Supercapacitors and Efficient Water Splitting. *Arab J Sci Eng* **51**, 14435–14448 (2026). <https://doi.org/10.1007/s13369-025-10606-y>
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