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PROFILE SUMMARY

Analytical chemistry expert with over 20 years of academic, research, and teaching experience. Specialized in spectroscopic, electrochemical, and chromatographic techniques for pharmaceutical analysis. International postdoctoral training and research experience in biosensors, nanomachines, and ion mobility-mass spectrometry. Prolific author with 40+ publications, one patent application and recognized for eco-friendly, innovative analytical and bioanalytical methods.

LinkedIn profile: <https://www.linkedin.com/in/wael-ismail-b6374b160/>

Google scholar: <https://scholar.google.com.eg/citations?user=SJIwIgAAAAJ&hl=en>

Scopus link:

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EDUCATION

- 1) Ph.D. in Analytical Chemistry. November 2012. Faculty of Pharmacy, Mansoura University. Mansoura, Egypt.
- 2) M.Sc. in Analytical Chemistry. August 2007. Faculty of Pharmacy, Mansoura University. Mansoura, Egypt.
- 3) B. Pharm. Sci. May 2001. Faculty of Pharmacy, Mansoura University, Mansoura, Egypt, General grade very good.

EMPLOYMENT

Academic Appointments

- 1) Professor of Analytical Chemistry, Faculty of Pharmacy, Damanhour University from November 2025 till present.
- 2) Associate Professor of Analytical Chemistry, Faculty of Pharmacy, Damanhour University from August 2020 – November 2025.
- 3) Assistant Professor of Analytical Chemistry, Faculty of Pharmacy, Damanhour University from April 2014 to July 2020.
- 4) Supervisor Analyst in Unit of Drug and Pharmaceutical Analysis, Faculty of Pharmacy, Mansoura University, Mansoura, Egypt from December 2008 to June 2014.

- 5) Pharmacist in Mansoura University hospitals from June 2002 to November 2008.

International experience

- 1) Postdoctoral fellow, Department of Chemistry and Biochemistry, Auburn University, Alabama, USA from March 2024 to February 2025.
- 2) Visiting scholar in Department of Nanoengineering (Nanomachine lab). University of California, San Diego. USA from February 2018- July 2018.

PUBLICATIONS

- 1) Maha M Ibrahim, Khadiga M Kelani, Ahmed M Wafaa Nassar, **Wael Talaat**, Osama M Badran; UV-spectrophotometric methods for determination of fampridine (Dalfampridine) in the presence of its oxidative derivative and plasma, environmental assessments and sustainability; Chemical Papers, 2026, <https://doi.org/10.1007/s11696-026-05634-3>
- 2) Mohamed MY Kaddah, Maha Adel El Demellawy, **Wael Talaat**; Comprehensive analytical approaches: The use of LC-MS and IC-MS in modern pharmaceutical and biomedical sciences; **Microchemical Journal**, 2025,114780
- 3) Miranda F Kamal, Rana M Moustafa, **Wael Talaat**, Rasha M Youssef; Environmentally benign carbon nano dots as luminescence probe for quantification of palladium (II) chloride impurity in naproxen; **BMC chemistry**.2025,19,1-9
- 4) Hadil M Elbardisy, Tarek S Belal, Mohsen MT El-Tahawy, **Wael Talaat**, Reda M Keshk; A New Fluorescence Probe for the Quantification of Acetylcysteine and Carbocysteine in Bulk and Spiked Urine: Greenness Appraisal by Exploiting Different GAC-Metric Strategies; **Luminescence**,2025,40, e70077
- 5) Mohamed S. Nasr, Mohamed M.Y. Kaddah, Samir Morshedy, Gamal Omran, **Wael Talaat**; Determination of baloxavir marboxil in pharmaceutical preparations and spiked human plasma using its quenching action on acetoxymurcuric fluorescein reagent: Assessment of greenness and whiteness; **Heliyon**, 2024, 10, e32120
- 6) Sara M Mohyeldin, Hoda G Daabees, **Wael Talaat**, Miranda F Kamal; Efficient integration of analytical quality-by-design and tri-hued HPLC-DAD approach for synchronized assessment of gemigliptin and rosuvastatin in their fixed-dose pills: Application to stability study; **Sustainable Chemistry and Pharmacy**,2024,42, 101777.
- 7) Mohamed S Nasr, **Wael Talaat**, Mohamed MY Kaddah, G Omran, S Morshedy; Eco-Friendly Analytical Approaches for the Quantification of Molnupiravir and Favipiravir Using Capillary Zone Electrophoresis and Derivative Ratio Spectrophotometry; **ChemistrySelect**,2024, 9, e202400508.
- 8) Sara M Mohyeldin, **Wael Talaat**, Miranda F Kamal, Hoda G Daabees, Mohsen MT El-Tahawy, Reda M Keshk; In-lab synthesized turn-off fluorescence sensor

- for estimation of Gemigliptin and Rosuvastatin polypill appraised by Spider diagram, AGREE and whiteness metrics; **Scientific Reports**, 2024,14, 2927.
- 9) Mohamed S Nasr, **Wael Talaat**, Samir Morshedy, Mohamed MY Kaddah, Gamal Omran, Reda M Keshk; A new fluorescence probe for sofosbuvir analysis in dosage form and spiked human plasma; **Luminescence**,2024,39, e4742.
 - 10) Khadiga M. Kelani, Ibrahim A. Naguib, **Wael Talaat**, Ahmed M. Wafaa Nassar; Validated green high performance liquid chromatographic and capillary electrophoretic methods for estimation of dinitolmide in presence of its acid-degradation product; **Sustainable Chemistry and Pharmacy**, 2023, 36, 101231
 - 11) Khadiga M Kelani, Ahmed MW Nassar, Gamal A Omran, Samir Morshedy, Ahmed Elsonbaty, **Wael Talaat**; Chromatographic reversed HPLC and TLC-densitometry methods for simultaneous determination of serdexmethylphenidate and dexamethylphenidate in presence of their degradation products—with computational assessment; **BMC Chemistry**, 2023, 17, 76. <https://doi.org/10.1186/s13065-023-00986-3>
 - 12) Dina Alnohy , Samir Morshedy, Gamal Omran, Mokhtar Mabrouk, **Wael Talaat**; Determination of rivaroxaban by utilizing its quenching effect on acetoxymurcuric fluorescein reagent in pharmaceutical preparations and in spiked biological matrices; **Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy**, 2023, 287, 122125
 - 13) Sara M. Mohyeldin, Hoda G. Daabees, **Wael Talaat**, Miranda F. Kama; AGREE, hexagonal and whiteness assessment approaches for evaluating two novel analytical methods; capillary zone electrophoresis and spectrophotometric assays for simultaneous determination of pantoprazole, chlordiazepoxide, and clidinium bromide ternary mixtures; **Sustainable Chemistry and Pharmacy**,202, 33, 101108l
 - 14) **Wael Talaat**; AbdleBaset Farahat, Reda Keshk; Selective Sensing of Darolutamide and Thalidomide, in Pharmaceutical Preparations and in spiked biofluids; **Biosensors**, 2022, 12(11), 1005; <https://doi.org/10.3390/bios12111005>
 - 15) **Wael Talaat**, Mohamed M.Y. Kaddah, Reda Mohammed Keshk; Selective sensing of the nucleoside analogue, trifluridine and tipiracil in dosage form and biological matrices; **Talanta**, 2022,238,123009, <https://doi.org/10.1016/j.talanta.2021.123009>.
 - 16) Khadiga M. Kelani1, Ahmed M. Wafaa Nassar, Gamal A. Omran, Samir Morshedy, **Wael Talaat**; Comparative study of extension area based methods for spectrophotometric determination of desmopressin acetate in the presence of its acid-induced degradation products; **BMC Chemistry**, 2022, 16,117
 - 17) Ossama Abdullatef, Yasmine Khalifa, Samir Morshedy, **Wael Talaat**; Green Bio Estimation of Co-Administered Non-Steroidal Anti Inflammatory Drug Diclofenac and Leflunomide in Rat Plasma by New HPLC Method; **Egyptian Journal of Chemistry**,2022,65,1307.

- 18) Rana M. Moustafa, **Wael Talaat**, Rasha M. Youssef, Miranda F. Kamal; Carbon dots as fluorescent nanoprobes for assay of some nonfluorophoric nitrogenous compounds of high pharmaceutical interest; **Beni-Suef University Journal of Basic and Applied Sciences**, 2023,12,8
- 19) Khadiga M Kelani, Ahmed M Abdel-Raoof, Ashraf M Ashmawy, Gamal A Omran, Samir Morshedy, Ahmed M Wafaa Nassar, **Wael Talaat**, Elsayed Elgazzar; Electrochemical determination of dinitolmide in poultry product samples using a highly sensitive Mn₂O₃/MCNTs-NPs carbon paste electrode aided by greenness assessment tools; **Food Chemistry**, 2022 382, 131702
- 20) Songsong Tang, Fangyu Zhang, Jing Zhao, **Wael Talaat**, Fernando Soto, Emil KarshalevChuanrui Chen, Zhihan Hu, Xiaolong Lu, Jinxing Li, Zhihua Lin, Haifeng DongXueji Zhang, Amir Nourhani, Joseph Wang ; Structure-Dependent Optical Modulation of Propulsion and Collective Behavior of Acoustic/Light-Driven Hybrid Microbowls; **Advanced Functional Materials** , 2019, 29, 1809003, DOI: 10.1002/adfm.201809003. Impact Factor: **13.325**
- 21) Amira F. El-Yazbi, Nourhan E. Elashkar, Hytham M. Ahmed, **Wael Talaat**, Karim M. Abdel-Hay; Cost-effective green chromatographic method for the simultaneous determination of four commonly used direct-acting antiviral drugs in plasma and various pharmaceutical formulations; **Microchemical Journal**, 2021, 168, 106512
- 22) Mohamed M Y Kaddah, **Wael Talaat**, Maha A El Demellawy; Determination and structural characterization of ravidasvir metabolites by liquid chromatography coupled to triple quadrupole linear ion trap mass spectrometry: Application to pharmacokinetics and phase I metabolism in rats; **Biomedical Chromatography**, 2021, 35 (9), e5146.
- 23) **Wael Talaat**, Sohila ElOnsy, Reda Mohammed Keshk; Fluorescent sensing for some nitric oxide donors in dosage forms and biological matrices; **Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy**, 2021, 257, 119788
- 24) Mohamed Ali, Ahmed Abdelraoof, Hassan Hendawy, **Wael Talaat**, Gamal Omran, Samir Morshedy; An Eco-Friendly Solid-State Electrode Modified With ZnO Nanoparticles Decorated With MWCNT as an Electrochemical Sensor for the Determination of Avanafil in Pure Form, Dosage Form and Human Plasma; **Journal of The Electrochemical Society**,2021, 8, 087510
- 25) Reda Mohammed Keshk, **Wael Talaat**; New fluorescence probe for cilazapril analysis in dosage forms and biological fluids; **Microchemical Journal**, 2021,160,105614
- 26) Ossama Abdullatef, Samir Morshedy, Yasmine Khalifa, **Wael Talaat**; Spectrofluorimetric determination of tianeptine using its quenching effect on Vilazodone; **Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy**, 2021, 251, 119412

- 27) **Wael Talaat**, Asaad Hassan; Optical Nanobiosensing of Stibogluconate in Plasma and Urine Using Green Synthesized Fluorescent Carbon Nanodots; **Journal of Applied Spectroscopy**, 2021, 88, 401–413. <https://doi.org/10.1007/s10812-021-01188-2>
- 28) Amira F. El-Yazbi , Nourhan E. Elashkar, Karim M. Abdel-Hay, Hytham M. Ahmed, **Wael Talaat**; Eco-friendly analytical methods for the determination of compounds with disparate spectral overlapping: application to antiviral formulation of sofosbuvir and velpatasvir; **Journal of Analytical Science and Technology**, 2021, doi.org/10.1186/s40543-021-00257-7
- 29) Sally S. El-Mosallamy, Kholoud Ahmed, Hoda G. Daabees, **Wael Talaat**; A microfabricated potentiometric sensor for metoclopramide determination utilizing a graphene nanocomposite transducer layer; **Analytical and Bioanalytical Chemistry** , 2020, 412, 7505–7514
- 30) Samir Morshedy, Gamal Omran, Ossama Abdullatef, Mariam Omar, **Wael Talaat**; Validated spectrofluorimetric method for determination of mirabegron by utilizing its quenching effect on acetoxymymercuric fluorescein reagent; **Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy**, 2020,239, 118509
- 31) Hadil M. Elbardisy , Eduardo M. Richter , Robert D. Crapnell , Michael P. Down , Peter G. Gough , Tarek S. Belal , **Wael Talaat** , Hoda G. Daabees, Craig E. Banks; Versatile additively manufactured (3D printed) wall-jet flow cell for high performance liquid chromatography-amperometric analysis: application to the detection and quantification of new psychoactive substances (NBOMes); **Analytical Methods**, 2020, 12, 2152-2165
- 32) Alejandro Garcia -Miranda Ferrari, Hadil M. Elbardisy, Valentine Silva, Tarek S. Belal, **Wael Talaat**, Hoda G. Daabees, Craig E. Banks, Dale A. C. Brownson ; The influence of lateral flake size in graphene/graphite paste electrodes: an electroanalytical investigation; **Analytical Methods**, 2020, 12, 2133 - 2142, DOI: 10.1039/d0ay00169d
- 33) Amira El-Yazbi, Nourhan Elashkar, Karim Abdel-Hay, **Wael Talaat**, Hytham Ahmed; Eco-friendly HPTLC method for simultaneous analysis of sofosbuvir and ledipasvir in biological and pharmaceutical samples: Stability indicating study; **Microchemical Journal**,2020, 154, 104584 DOI: 10.1016/j.microc.2019.104584
- 34) Hytham M.Ahmed, Yousef S.Elshamy,**Wael Talaat**, Hala F.Labib, Tarek S.Belal ;Simultaneous analysis of chlorzoxazone, diclofenac sodium and tramadol hydrochloride in presence of three potential impurities using validated HPLC-DAD and HPTLC methods; **Microchemical Journal**,2019, 153, 104505,DOI: 10.1016/j.microc.2019.104505
- 35) **Wael Talaat**; Bioanalytical method for the estimation of co-administered esomeprazole, leflunomide and ibuprofen in human plasma and in pharmaceutical dosage forms using micellar Liquid chromatography; **Biomedical Chromatography**, 2017,31 (5) | DOI: 10.1002/bmc.3865

- 36) Hadil M. Elbardisy, Christopher W. Foster, Jack Marron, Ryan E. Mewis Oliver B. Sutcliffe, Tarek S. Belal, **Wael Talaat**, Hoda G. Daabees, Craig E. Banks; Quick Test for Determination of NBombs (Phenethylamine Derivatives, NBOMe) Using High-Performance Liquid Chromatography: A Comparison between Photodiode Array and Amperometric Detection; **ACS Omega**, 2019, 4, 14439–14450 DOI: 10.1021/acsomega.9b01366
- 37) Hadil M. Elbardisy, Alejandro García-Miranda Ferrari, Christopher W. Foster, Oliver B. Sutcliffe, Dale A. C. Brownson, Tarek S. Belal, **Wael Talaat**, Hoda G. Daabees, Craig E. Banks; Forensic Electrochemistry: The Electroanalytical Sensing of Mephedrone Metabolites; **ACS Omega** 2019, 4, 1947–1954, DOI 10.1021/acsomega.8b02586
- 38) Hadil M. Elbardisy, Christopher W. Foster, Loanda Cumba, Lysbeth H. Antonides, Nicolas Gilbert,ad Christopher J. Schofield,de Tarek S. Belal, **Wael Talaat**, Oliver B. Sutcliffe, Hoda G. Daabeesg , Craig E. Banks; Analytical determination of heroin, fentanyl and fentalogues using high-performance liquid chromatography with diode array and amperometric detection; **Analytical Methods**, 2019, 11, 1053, DOI: 10.1039/C9AY00009G
- 39) **Wael Talaat**, Mohamed M.Y. Kaddah; Validated Analytical Method for the Determination of Sorafenib in Dosage form and Human plasma in presence of it Degradation Products; **International Journal of PharmTech Research**, 2019, 12, 8-21, doi.org/10.20902/IJPTR.2019.120302
- 40) H.G. Daabees, **Wael Talaat**, Manal El-Shal , Kholoud Ahmed ; Highly sensitive voltammetric sensor based on modified gold nanoparticles electrode for determination of Nepafenac in Bulk powder, Pharmaceutical dosage form and Blood Serum; **Analytical & Bioanalytical Electrochemistry**, 2018, 10, 851-872.
- 41) H.G. Daabees, **Wael Talaat**, Manal El-Shal , Kholoud Ahmed; Ion selective membrane sensors for determination of Brimonidine tartarate in bulk powder, pharmaceutical eye drops and biological fluids; **International Journal of Advanced Research**, 2018, 6(5), 120-128
- 42) H.G. Daabees, **Wael Talaat**, Manal El-Shal , Kholoud Ahmed; Highly Sensitive Square Wave Voltammetric Technique for Determination of Nepafenac in Bulk Powder, Pharmaceutical Dosage Form and Blood Serum; **International Journal of Chemical Sciences**, 2018, 16(1):242
- 43) **Wael Talaat**; Micellar liquid chromatographic determination of lamivudine, indinavir and ketoconazole in dosage forms and biological fluids; **Pharmaceutica Analytica Acta**, 2015, 6:327. doi: 10.4172/2153-2435.1000327
- 44) Fathalla Belal, Manal Eid, Amina EL-Brashy, **Wael Talaat**; Micellar Liquid Chromatographic Determination of Idrocilamide in Dosage Form and Biological Fluids: Application to Stability Study; **Pharmaceutica Analytica Acta**, 2015, 6:335. doi: 10.4172/2153-2435.1000335

- 45) Mohie Khalid, Manal Eid, **Wael Talaat**; Liquid chromatographic determination of ribavirin, silybin, interferon α 2a, lamivudine, ursodeoxycholic acid; **Journal of liquid chromatography and related technology**, 2014, 37: 1785-1804
- 46) Amina El-Brashy, Fatma Ali, Manal Eid , **Wael Talaat**; Spectrofluorometric determination of ketorolac tromethamine via its oxidation with cerium(IV) in pharmaceutical preparations and biological fluids; **J. AOAC International** 2007, 90(4):941-7.
- 47) Amina El-Brashy, Manal Eid, **Wael Talaat**; Kinetic Spectrophotometric Method For The Determination of Ketoprofen in Pharmaceuticals and Biological Fluids; **International Journal of Biomedical Science**, 2006 , 2: 405-41

PATENT

- 1) Ismail, Wael Talaat Abd El-kader. "Quantum Chemical Analysis"
US20150022815 A1, WO2013127402 A2, PCT/EG2012/000029
<https://patents.google.com/patent/US20150022815A1/en>
<https://patents.google.com/patent/WO2013127402A2/en>

RESEARCH INTERSET

- 1) Ion mobility-mass spectrometry
- 2) Development of hybrid nanomachine
- 3) Development of optical and electrochemical biosensors.
- 4) I am well experienced in spectroscopy, electrochemical methods and separation techniques like HPLC, LC-MS/MS, CE.
- 5) Development and validation of analytical methods for raw drug material and dosage form analysis.
- 6) Development and validation of stability indicating methods.
- 7) Development and validation of bioanalytical methods for the estimation of drug in biological fluids.
- 8) Conduct pharmacokinetics, bioavailability and bio equivalence studies.

TEACHING EXPERIENCE

Extensive teaching experience and writing curriculum of different courses for undergraduate and graduate students since 2014. The teaching courses are:

- Instrumental Analysis
- Advanced Instrumental Analysis
- Analytical chemistry
- Quality Control
- Food Analysis
- Physical Chemistry

PROFESSIONAL DEVELOPMENT ACTIVITIES AND SERVICES

Conferences

- 1) Poster: American Society of Mass Spectrometry. 2025
Characterization of Alzheimer's Disease biomarkers using High-Resolution Ion Mobility Mass Spectrometry
Kimberly Youandi Kartowikromo; Wael T Ismail; Ahmed M Hamid
Auburn University, Auburn, AL, USA
- 2) Damanhour University International Conference, 2022.
- 3) Menofia University International Pharmaceutical Sciences Conference, 2018
- 4) Bioavailability & Bioequivalence: BA/BE studies, 2016, Atlanta, Georgia, USA.

Membership

- 1) Member of Faculty council, Faculty of Pharmacy, Damanhour University, Egypt from September 2020 till present.
- 2) Member of education and student affairs council, Faculty of Pharmacy, Damanhour University, Egypt from August 2020 to January 2024.
- 3) Member of postgraduate studies and research council, Faculty of Pharmacy, Damanhour University, Egypt from April 2016 to July 2020.
- 4) Member of environmental development and community service council, Faculty of Pharmacy, Damanhour University, Egypt from May 2015 to March 2016.

Professional Services

Peer- Reviewer in international journals

- Talanta
- Sustainable Chemistry and Pharmacy
- Microchemical Journal
- Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy
- Journal of Photochemistry & Photobiology, A: Chemistry
- BMC Chemistry
- Talanta Open
- Materials today Communications
- Journal of Separation Science
- Journal of Fluorescence
- Journal of Analytical Sciences and Technology
- Results in Chemistry
- Analytical Chemistry Letters

Editorial Membership

- Editorial Board Member of Optics, Science Publishing Group from Jul. 2024

Training

- 1) Annual Laboratory Hazards Training: Staff Education and Development, University of California, San Diego, USA.
- 2) University of California Laboratory Safety Fundamentals: Staff Education and Development, University of California, San Diego, USA.
- 3) Responsible Conduct of Research (certified by Collaborative Institutional Training Initiative, CITI Program): Auburn University, USA.
- 4) Lab Safety: Auburn University, USA.
- 5) Biosafety: Auburn University, USA.
- 6) Bloodborne Pathogens: Auburn University, USA.
- 7) Safe Handling of Cryogenic Liquids: Auburn University, USA.
- 8) Laboratory Compressed Gas Safety: Auburn University, USA.
- 9) Managing Regulated Waste: Auburn University, USA.
- 10) Institute of Physics Publishing, IOP, Peer Review Excellence

Faculty and Leadership Development Program (FLDP)

- 1) Legal and Financial Aspects in University Environment
- 2) International Publishing of Scientific Research
- 3) Intellectual Property Rights
- 4) Research Methods
- 5) Communication Skills
- 6) E- Learning
- 7) Combating Corruption and its definition
- 8) Strategic Planning
- 9) Effective Crisis Management
- 10) Credit Hours System
- 11) Presentation Skills
- 12) Competing for Research Fund

Student Supervision

Undergraduate students: 200-400 student /level

Graduate students: five master and four Ph.D students

Languages & Skills

- 1) Fluent English (IELTS &GRE general)
- 2) GRE Chemistry
- 3) Computer skills (word, power point, Excel, Prism 4, Origin, High resolution mass spectrometry software, hyperchem to some extent)

REFERENCES

- 1) **Prof. Fathalla A. Belal**
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- 2) **Prof. Gamal Omran**
Prof. Biochemistry, Faculty of Pharmacy, Damanhour University, Egypt.
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- 3) **Prof. Abdelbasset A. Farahat**
Prof. Pharmaceutical Chemistry, Master of Pharmaceutical Sciences Program, California Northstate University, Elk Grove, CA 95757, USA.
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- 4) **Dr. Mohammed Y. Kaddah**
Postdoctoral Researcher
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