

Curriculum vitae

Professor Dr Marwa Matboli Sayed



Name Marwa Matboli Sayed Mohamed
Birth date August, 28, 1979.
Social Status Married, 2 children
Position Professor of biochemistry and molecular Biology, Medical biochemistry department, Faculty of medicine, Ain shams university
Nationality Egyptian
Religion Muslim
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Professional Summary

Accomplished Professor of Biochemistry and Molecular Biology with over 20 years of expertise in **translational bioinformatics, AI-driven predictive modeling, and molecular biomarker discovery**. Proven leader in establishing and directing interdisciplinary research hubs, integrating genomics, proteomics, and machine learning to advance precision medicine. Experienced in academic leadership, cross-departmental collaboration, and training the next generation of researchers in bioinformatics and AI applications in healthcare.



Key Expertise

Translational Bioinformatics

AI & Machine Learning in Healthcare

Genomics, Proteomics & Biomarker Discovery

Molecular Diagnostics & Precision Medicine

Research Hub Leadership & Capacity Building

Grant Writing & International Collaboration

Academic Program Development & Teaching

Skills

Bioinformatics Tools: R, Python, GEO, RNA-seq, miRNA/lncRNA analysis

AI/ML Frameworks: Predictive modeling, deep learning, data integration

Lab Techniques: NGS, proteomics, cell culture, molecular assays

Languages: Arabic (Native), English (Fluent)

Professional Experience

Professor of Biochemistry and Molecular Biology

Ain Shams University, Faculty of Medicine | 2023–Present

Founder & Director, Translational and Applied Science Hub (TASH)

Ain Shams University, Faculty of Medicine | June 2025–Present

Lead an interdisciplinary hub focused on democratizing advanced biomedical research and postgraduate training for Egyptian healthcare innovation.

Oversee units in **Genomic Medicine, Biomarker Discovery, Proteomics, Bioinformatics & AI, and Cell Culture.**

Foster collaboration, capacity building, and integration of AI/bioinformatics into routine research practice.

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Head of Medical Biochemistry & Molecular Biology Department

Modern University for Technology and Information, Faculty of Medicine | July 2019–Sep 2023

Associate Professor

Ain Shams University, Faculty of Medicine | 2018–2023

Lecturer & Assistant Lecturer

Ain Shams University | 2009–2018

Coordinator of Genetic Module & AI-Based Genomics Courses

Ain Shams University & Delta University for Science and Technology | 2024–Present

Recent Leadership & Speaking Engagements

Organizer & Lead Speaker, *Translational Bioinformatics in Dental Medicine Workshop*, Faculty of Medicine, MIU | Jan 24, 2026

Invited Speaker, *Modern Strategies in Peripheral Nerve Injury: Leveraging TASH's Wet-Dry Lab Pipeline for Translational Research*, Neurosurgery Department Workshop | Feb 2026

Host & Facilitator, African Genomic Medicine Training Initiative (AGMT) | 2022

Coordinator, Clinical Bioinformatics Workshops, Armed Forces College of Medicine | 2017

I. Education

1. MD in Medical Biochemistry and Molecular Biology ,November 2012

Thesis: Proteomic Analysis in Breast Screening Study Grade: GPA:3.12.

Faculty: Faculty of Medicine, Ain Shams University

2. Attached as academic visitor Sant George University of Central London during the period (2010-2012).

3. MSc in Medical Biochemistry, May 2009

Thesis: Detection of mRNA of Apoptosis Inhibition Gene in Urine of Bladder Cancer Grade: Excellent

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Faculty: Faculty of Medicine, Ain Shams University

4. M.B, B.ch in Medicine , December 2002 Grade: Excellent
Faculty: Faculty of Medicine, Ain Shams University

II. Specialty:

1. **Medical Biochemistry Department and Molecular Biology**
2. H index : 29(Scopus:25) total citations :2015(scopus:1950) Research
Interest Score:1000.2
3. Scopus ID(H index
25(<https://www.scopus.com/authid/detail.uri?authorId=55920873100>)
4. <http://orcid.org/0000-0002-6852-3954>
5. Google Scholar ID (H index 27(
<https://scholar.google.com.eg/citations?user=cIJGV9UAAAAJ&hl=ar>
6. Researchgate ID (Research Interest
Score:1000.2(<https://www.researchgate.net/account.AccountSettings.html>

III. Personal Experiences

1. General Practitioner, Depts. Of Surgery, Medicine, Physiotherapy, Pediatrics, OB/GYN, and Aneathesia, Ain Shams Faculty of Medicine Hospitals(2002-2003).
2. General Practitioner, Ministry of Health (2003-2004).
3. Demonstrator, Dept. f Medical Biochemistry, Ain Shams Faculty of Medicine(2005-2009)..
4. Assistant Lecturer, Dept. Of Medical Biochemistry, Ain Shams Faculty of Medicine(2009-2012).
5. Lecturer, Dept. Of Medical Biochemistry, Ain Shams Faculty of Medicine(2013-2018).
6. Coordinator Of Medical Biochemistry Department and Molecular Biology, Armed Forces College of medicine from 2016 till 2017.
7. Coordinator Of Biomedical Research Department, Armed Forces College of medicine from 2016 till 2017
8. Coordinator Of Medical Biochemistry Department and Molecular Biology, Armed Forces College of medicine from 2016 till 2017.
9. Associate professor of biochemistry and molecular biology, Medical biochemistry department, Faculty of medicine, Ain shams university(2018-2023).
10. Acting head of Medical Biochemistry Department and Molecular Biology, Faculty of Medicine, Modern university for technology and information from July 2019-2023.
11. Professor of biochemistry and molecular biology, Medical biochemistry department, Faculty of medicine, Ain shams university(2023-Present).



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12. Head of Medical Biochemistry Department and Molecular Biology, Faculty of Medicine, Modern university for technology and information from July 2019 till September 2023
 13. Director of medical research unit Faculty of Medicine, Modern university for technology and information from July 2019 till September 2023.
 14. Professor of biochemistry and molecular biology, Researcher in molecular biology lab, Molecular Biology research Lab, Faculty of oral & dental medicine, Misr International university
 15. Coordinator of genetic module , Ain Shams faculty of medicine(2024-present)
 16. Coordinator of genetic engineering, applied genomic technology, genomic & proteomics and computational finding course, Faculty of Artificial intelligence , Delta university for science and technology September 2024 till present

IV. Medical Bioinformatics experience

1. Coordinator of Computational gene finding and applied genomic technology courses. Biomedical bioinformatics department, Faculty of Artificial intelligence, Delta University
2. Coordinator of genomics & proteomics and genetic engineering courses. Biomedical bioinformatics department, Faculty of Artificial intelligence, Delta University
3. Sharing in GEO dataset preparation for RNAseq data analysis of ACS A multi biomarker panel of miRNA-lncRNA interaction; a novel approach for early diagnosis of Acute coronary syndrome. AGWA SH, MATBOLI M, ELZAHWY S, YAHIA YA, SHERIF N. GSE202937
4. Sharing in the panel expert the release of MicroRNA Childhood Cancer Catalog (M3Cs) Version 2.0 M3Cs version 2.0 in the beginning of 2024(<https://m3cs.shinyapps.io/M3CS-V2/?fbclid=IwAR3A0Yyv-in4fsiLGdYmt4krfk5ECs0GRTfePQ7W9HQA04HCADJ1vtqmAGc>)
 - What is New in M3Cs Version 2.0?
 - 1. We added clinical Validity for each miRNA in the clinical domain. The first platform that does this which will help to proceed to Clinical Utility.
 - 2. We have added microRNA-tested in vivo experiments from published papers.
 - The Panel of Experts gave great support that enabled M3Cs teams to release the new version by adding clinical validity based on the Consensus of M3Cs Standardized 'Clinical Validity' Framework 2024 that they developed.
 - The panel of Experts includes:

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- 1. Prof.Dr. [Marwa Matboli](#), PhD
 - (Faculty of Medicine -Ain Shams University, Cairo, Egypt)
 - 5. Hosting &facilitating a classroom for the 2022 African Genomic Medicine Training Initiative course AGMT_2022
 - 6. Preparing medical bioinformatics course for medical students in Armed Forces college of medicine & Faculty of medicine Modern university for technology and information
 - 7. International Granted **patent**: ELGEBALY SALWA AHMED, SAYED and MARWA MATBOLI .A Novel Autophagy-Related Nourin Gene-Based RNA Network as Early Biomarkers for Cardiac Patients. Grant US-10895572-B2 - Published 2021-01-19 Granted 2021-01-19 Priority 2018-06-18 Family: 6
Based on bioinformatics construction of genetic epigenetic network linked to ACS.
 - 8. Patent filling for AI prototype in MAFLD-MASH diagnosis & stratification 2026-USA Patent office
 - 8. Supervisor of Egyptian Research team in IGEN competition, wining gold medal 2017, silver medal 2018 , bronze medal 2016)..with experience in bioinformatics based construction of ciRNA panel and RNA modeling

V. Educational Expertise:

Seminars

Participation and attending the different seminars in the field of Biochemistry and Molecular Biology

Electronic courses

Participation in preparation the electronic course in the field of Biochemistry and Molecular Biology for both under and post graduate students

Teaching interests

- Theoretical and practical teaching of Medical Biochemistry, and Molecular biology and Designing examination questions for assessment of the student understanding of the subject.
- For under graduate medical students.
- For under graduate dentistry students.
- For postgraduate medical students.
- For postgraduate Pharmacy students
- Teaching for students of special program (Malaysian Students)
- Teaching for students of Extended Modular program



Exams - Sharing in the exams of under and postgraduate students

VI. Activities

1. Sharing as a member in the teamwork for biomarker discovery in cancer led by Prof. Dr. Sanaa Eissa Mohammed, Faculty of Medicine, Ain Shams University.
2. Sharing as a member in the teamwork for bionanotechnology research led by Prof. Dr. Hassan Mohamed Elazzazy, Science and Technology Research Center, American University in Cairo.
3. preparing undergraduate condensed course for bioinformatics based applied medical research in Armed Forces College of Medicine
4. preparing undergraduate condensed course for bioinformatics based applied medical research in Faculty of medicine , MTI university.
5. Organizing Undergraduate Research Activities (review of literature group, R programming , introduction to bioinformatics) in Armed Forces College of Medicine and Faculty of medicine , MTI university.
6. preparing undergraduate research competition in Neuroscience related disorders in Faculty of medicine , MTI university.
7. Lead undergraduate research team for IGEN competition, USA and won gold, silver and bronze medal in 2017, 2018, 2016.
8. Hosting class for undergraduate and postgraduates for basics of genomics for African Genomic Medicine Training Initiative (AGMT) Course, and has thus been selected as, a classroom site to host H3ABioNet's AGMT course in 2022.

VII. Grants

1. Sharing as PI-in project entitled AI prototype in metabolic dysfunction associated steatohepatitis. JESOR 2025
2. Sharing as PI-in project entitled Transcriptional Profile and Machine Learning Models as Potential Tools for Non-invasive Diagnostic and Prediction of Drug Efficacy in Non-alcoholic Steatohepatitis. MARC 2022
3. Sharing as CO-PI in project entitled THE POWER OF TWO : NEXT GENERATION SEQUENCING AND BIOINFORMATICS IN TRANSCRIPTOMIC INTEGRATIVE ANALYSIS OF HEPATOCELLULAR CARCINOMA IN EGYPTIANS. Science and Technology Development Fund (STDF) 2020, BARG call 7, Project ID: 38135,
4. Sharing as CO-Principal investigator in a project entitled; Evaluation of renal damage after PCNL and ESWL using novel RNA markers, STDF young researcher 2019
5. Sharing as CO-Principal investigator in a project entitled; Targeted approach for Gut Microbiome Manipulation, novel key player in Type 2 Diabetes mellitus Management. ASRT JESOR 2019. sic & Applied Research, STDF 2018

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6. Sharing as CO-Principal investigator in a project entitled; Gut Microbiota-Derived Mediators Role in Nonalcoholic Fatty Liver Disease. ASRT JESOR 2019
7. Sharing as team member in collaboration with Genomic center ,Zweil University in a project entitled , Development of point of care nano-microfluidic device platform for the detection of Hepatitis C virus in serum specimens and detection of hepatocellular carcinoma specific circulating miRNAs for early diagnosis of HCV and liver cancer . Basic & Applied Research, STDF 2019
8. Sharing as team member in collaboration with Genomic center ,Zweil University in a project entitled , Exome sequencing in breast cancer. Basic & Applied Research, STDF 2018
9. Sharing as CO- Principal investigator in a project entitled; Gene editing of lncRNA-associated ceRNAs network: in treating type 2 DM. ASRT JESOR 2017 ,ID:2017-2961.
10. Sharing as CO-Principal investigator in a project entitled; Target-based therapeutic approach towards diabetes mellitus by modifying autophagy Signaling, Special Targeted Call: Health (Call 3), "TC/3/Health/2017, STDF.
11. Sharing as CO-Principal investigator in a project entitled; Development of nanoassay for early detection of Diabetic nephropathy. RSGT 6653, STDF 2015-2016
12. Sharing as Principal investigator in a project entitled; Targeting miRNA by medicinal plants to modulate autophagy signaling pathway: A new therapeutic approach of diabetic nephropathy, RSGT 2751, STDF 2015-2016
13. Sharing as a member in FP7 project entitled (Proteomic analysis in breast screening study) during the period between (2010-2012.)

VIII. Thesis Supervision

Master Thesis

1. The effect of smoking on the outcome of Vital Pulp Therapy in mature teeth with irreversible pulpitis compared to non-smokers via integrated clinical assessment and Molecular signature DEFB1 pathway. 2026
2. Exploring the efficacy of xanthine oxidase inhibitor febuxostat in an animal model of nonalcoholic fatty pancreatitis via targeting inflammasome signaling pathway (2025)
3. 2. AI based stratification of Type 2 Diabetes mellitus 2025
4. Machine learning approach for prediction and stratification of type 2DM (2025)
5. Studying The Expression Profile of GTF2I /ANGPTL4/MMP14 Genes as Predictors of Acute Kidney Injury in Patients with Post-Acute Coronary Syndrome(2024)
6. FZD5/Micro-RNA- 1976/CRHR1-IT1 Axis dyregulation in Type 2diabetes mellitus complicated with ischemic heart disease(2024) .

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7. Expression of Ferroptosis related RNA panel as potential Players in non invasive Diagnosis & Stratification of MAFLD-related Hepatocellular Carcinoma(2024).
8. Micro-RNA5192 Novel diagnostic biomarker for diabetes mellitus type 2 complicated with ischemic heart disease(2022)
9. Phytochemical based management of type 2 diabetes mellitus(2020)
10. Evaluation of RNA Based Biomarker Expression in Acute Kidney Injury after ESWL(2018)
11. Evaluation of Minichromosome maintenance complex component 5 (MCM5) and Forkhead box m (FOXm) genes expression in primary breast cancer .(2013)
12. Evaluation of microRNA expression in Obesity (2014(
13. Evaluation of long non-coding RNA expression in hepatocellular carcinoma (2014)
14. -5 The discovery of putative urine marker for detection of diabetic nephropathy by integrative mining of public miRNA databases (2014(
15. Evaluation of long non-coding RNA and Autophagy related gene association in Hepatocellular carcinoma
16. Assessment of Non-Coding RNA Expression as a Potential Stem Cell Biomarker in Breast Cancer
17. Assessment of Novel Biomarkers that reflect Mitophagy-Apoptosis Interplay within Hepatocellular Carcinoma
18. Integrative Pipeline to Identify Potential Long Non-Coding RNA-Associated Competing Endogenous RNA and Its Implication in Hepatocellular Carcinoma Cells
19. Phytochemical extracts: A Target based therapeutic approach for diabetes mellitus via autophagy signaling Modulation in rat model.
20. A Study of the Protective Role versus the Curative Role of Pentoxifylline on Experimentally Induced Diabetic Nephropathy in a Rat Model
21. -Evaluation of RNA based biomarker expression in acute kidney injury after ESWL / by Mohamed Sahab Emam ; supervised by Mohamed Mohamed Yassin, Amr El kholy, Waleed Mousa, Marwa Matboli Sayed

PHD supervision

- 1.Unveiling pyroptosis-linked biomarkers in the diagnosis and characterization of metabolic dysfunctionassociate steatotic liver disease / Metabolicallydysfunction-associated steatohepatitis by using multi-omics patterns A proposed protocol for Ph.D. degree 2026.
- 2.The Clinical Significance of Toll-Like Receptor Signaling and Cytokine Regulation in Diabetic Retinopathy: A Bioinformatics and Molecular Approach. 2026

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3. Exploring the efficacy of phytochemicals and engineered probiotics in gut microbiota modulation and MAFLD management in rats 2025
4. Integrated bioinformatics & in vitro study for knockout of TSG regulatory panel in squamous cell carcinoma (2025)
5. Comparative efficacy between probiotics and phytochemicals in T2DM (2024)
6. The Effect of Amlodipine on High Sucrose High Fat Diet Induced Gut Dysbiosis and its Cardiovascular Consequences in Male Wistar Rats (2023)
7. Effect of Doxycycline in management of diabetic kidney diseases (2023)
8. Therapeutic efficacy of engineered probiotics in management of type 2 diabetes mellitus (2022)
9. Effect of Z probiotics in management of NASH animal model (2022)
10. Exploring the role of hedgehog signalling in modulating hepatic stellate cell fate: Crucial therapeutic and diagnostic trends in non-alcoholic steatohepatitis (2021)
11. Evaluation of the efficacy of targeted microbiome therapy in Non-alcoholic steatohepatitis rat model (2021)
12. Implication of the immune system in colorectal cancer (2021)
13. Impact of gut microbiota on the epigenetic regulation of Nonalcoholic Steatohepatitis in animal model (2020)
14. The Effect of Ibuprofen Arginate on a Murine Model of Diabetic Neuropathy & study of the possible mechanisms (2013)
15. Evaluation of MicroRNA-210 (miRNA-210) and Protein tyrosine phosphatase, non-receptor type 2 (PTPN2) in Pre-eclampsia (2015)
16. Epigenetic control of autophagy receptors in diabetic nephropathy (2015)
17. Efficacy of phytochemical extracts of rosemary in Head and neck squamous cell carcinoma cell line (2015)
18. Study of the Effect of Resveratrol and Lycopene on Laryngeal Carcinoma Cell Line (2015)
19. Evaluation of diagnostic and therapeutic Roles of Exosomes in Hepatocellular Carcinoma
20. Evaluation of circular RNA network expression in Hepatocellular carcinoma
21. CLINICAL SIGNIFICANCE OF EXOSOMES AND AUTOPHAGY IN HEPATOCELLULAR CARCINOMA
22. The Clinical Relevance of Non-Coding RNAs in Colorectal Cancer.
23. The Potential Effect of Sodium Butyrate (a Histone deacetylase inhibitor) on Hepatic Autophagy in Carbon Tetrachloride and Concanavalin A induced Liver Fibrosis in BALB/c mice.
24. Emerging ROLE OF EXOSOMES based therapeutics in management of Hepatocellular carcinoma
25. Evaluation of expression of circulating nucleic acid in traumatic spinal cord injuries

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26. Assessment of the efficacy of gene editing tool as a promising strategy in management of insulin resistance in type 2 diabetes mellitus
27. Targeting non-coding RNAs with Gene Editing Tool system in hepatocellular carcinoma cell lines
28. Assessment of Cardiprotective Effect of phytochemical extract in ischemic heart is mediated via induction of stem cell proliferation
29. Efficacy of fucoxanthin on head and neck squamous cell carcinoma cell line
30. Transcriptome spectral analysis using hyperspectral imaging for hepatocellular carcinoma detection
31. Immune modulation in management of colorectal cancer
32. Impact of gut microbiota on the epigenetic regulation of Nonalcoholic Steatohepatitis in animal model
33. Exploring the rule of hedgehog signaling in management of non-alcoholic steatohepatitis.
34. Effects of Doxycycline on Modulation of Cardiac and Renal Autophagy in Diabetic Rat-Myocardial Ischemia Reperfusion model-2022
35. Considering gut microbiota targeted therapy as a novel approach in treatment of type 2 diabetes mellitus animal model-2022

I. Books

Book chapter entitled Precision Oncology October 2025

(DOI: 10.1007/978-981-96-8959-0_5). Yosr Hamdi, Kais GhediraYasmina Jaufeerally Fakim, **Marwa Matboli**, Faisal M. Fadlelmola ,

In book: Precision Medicine in Africa: Promises and Opportunities
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Editors Fouzia Radouani, Lyndon Zass, Faisal Fadlelmola

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II. Publications

1. Khaled R, El-Zayat E, Ragheb MA, Abdelrahman SE, **Matboli M**. RNA biomarker signatures for prediction of acute kidney injury in acute coronary syndrome patients undergoing PCI. BMC Nephrol. 2026 Apr 14;27(1):242. doi: 10.1186/s12882-026-04926-wIF: 2.4 Q2 . PMID: 41981530IF: 2.4 Q2 ; P

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2. Matboli, M., Elanwar, A., Khaled, R. et al. Machine learning-based prediction model for drug target identification and MASH improvement: a comprehensive analysis of biochemical and ferroptosis/autophagy biomarkers. *J Physiol Biochem* 82, 43 (2026). <https://doi.org/10.1007/s13105-026-01181-3>.
- 3.
4. Matboli, Marwa, et al. "Identification of NFKB1, miR-342-5p,-5192, and– 15b as diagnostic biomarkers for periodontitis in type 2 diabetes mellitus: a cross-sectional and experimental study." *BMC Oral Health* (2026).
5. Matboli, Marwa, et al. "Dual calcium-ACE inhibition reverses non alcoholic fatty pancreas progression: Mechanistic convergence on miR-762/GPX4 driven NLRP3 inflammasome activation." *Biomedicine & Pharmacotherapy* 196 (2026): 119137.
6. Matboli, Marwa, et al. "Role of SFTPD/miR-335-5p/lnc-HNRNPUL2 axis in colorectal cancer: in silico characterization and clinical validation." *BMC cancer* (2026).
7. R Khaled, E El-Zayat, MA Ragheb, SE Abdelrahman, M Matboli .A biomarker signatures for prediction of acute kidney injury in acute coronary syndrome patients undergoing PCI. *BMC Nephrology*-2026
8. AA El-Sayed, AI Nabeel, MGA Hegazy, A El Anwar, M Matboli. Evaluation of a lipid peroxidation-dependent ferroptosis RNA panel expression as a potential noninvasive biomarker in patients with nonalcoholic steatohepatitis-associated *Molecular Biology Reports* 53 (1), 231. 2026
9. Sedkey, Eslam S., et al. "Genetic/epigenetic RNA dysregulation in type 2 diabetes mellitus complicated with ischemic heart disease." *Frontiers in Endocrinology* 16 (2025): 1687145.
10. Nassar, Mohamed, et al. "In Silico Analysis and Experimental Validation of Two New Competing Endogenous RNA Networks in Bladder Cancer." *Egyptian Journal of Chemistry* (2025).
11. Marwa Matboli et al. Amlodipine and perindopril modulate miR-874-3p expression to regulate ferroptosis-linked LPCAT3/LACS4/GPX4 Axis and gut dysbiosis in metabolic-associated steatohepatitis. *International Immunopharmacology* 164, 115333. 2025
12. Abd ElGwad, Asmaa Mohamed, et al. "Machine learning-based prediction of drug response in ischemia reperfusion animal model." *Scientific Reports* 15.1 (2025): 43012.
13. Marwa Matboli et al. Febuxostat alleviate metabolic dysfunction-associated steatohepatitis in rat model via targeting inflammation, cell death, and intestinal barrier dysfunction. *Biomedicine & Pharmacotherapy*, 2025
14. Marwa Matboli et al. Unveiling NLR pathway signatures: EP300 and CPN60 markers integrated with clinical data and machine learning for precision NASH diagnosis. *Cytokine* 2025

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15. Mohammed Esawie 1, **Marwa Matboli** 1 2, Mariam Sameh Bushra . ZBiotics ameliorates T2DM-induced histopathological damage in liver, kidney and adipose tissues by modulating the NOD-like receptor signaling in Wistar rats. Diabetol Metab Syndr. 2025 Feb 4;17(1):45. doi: 10.1186/s13098-025-01600-3. PMID: 39905472; PMCID: PMC11792315.
16. **Marwa Matboli et al.** Innovative approaches to metabolic dysfunction-associated steatohepatitis diagnosis and stratification. Non-coding RNA Research, Volume 10,2025.
17. **Marwa Matboli et al.** Integrating molecular, biochemical, and immunohistochemical features as predictors of hepatocellular carcinoma drug response using machine-learning algorithms. Front. Mol. Biosci., 16 October 2024. Sec. Molecular Diagnostics and Therapeutics. Volume 11 - 2024 | <https://doi.org/10.3389/fmolb.2024.1430794>
18. Maha saad.....**Marwa Matboli**, Evaluating the therapeutic potential of genetically engineered probiotic Zbiotics (ZB183) for non-alcoholic steatohepatitis (NASH) management via modulation of the cGAS-STING pathway. RSC Medicinal Chemistry 2024.
19. Shady Montaser Mohamed, Hadeel Medhat, Sarah Keshk ,**Marwa Matboli**. Mohamed Hassan, LINC00654–SOX5 mRNA–miRNA-133a Compose New RNA Panel for Colorectal Cancer (CRC): A Potential Diagnostic Panel for CRC. Biochemistry (Moscow) Supplement Series B Biomedical Chemistry 18(2):151-166.
20. **Matboli M**,et al.. Machine learning based identification potential feature genes for prediction of drug efficacy in nonalcoholic steatohepatitis animal model. Lipids Health Dis. 2024 Aug 24;23(1):266.
21. Hebatallah S Ali,....**Marwa Matboli**, Rosavin improves insulin resistance and alleviates hepatic and kidney damage via modulating the cGAS-STING pathway and autophagy signaling in HFD/STZ-induced T2DM animals. RSC Medicinal Chemistry 2024.
22. **Matboli et al.**, miRNAs: possible regulators of toll like receptors and inflammatory tumor microenvironment in colorectal cancer. BMC cancer 2024. In press.
23. Reda Abdelbaset, Sherif M. Shawky, Mohammed A. A. Abdullah, Omar E. Morsy, Yahia A. Yahia, Yehya H. Ghallab, **Marwa Matboli** & Yehea Ismail . A new label free spiral sensor using impedance spectroscopy to characterize hepatocellular carcinoma in tissue and serum samples. Sci Rep 14, 13155 (2024). <https://doi.org/10.1038/s41598-024-63141-5>.
24. **Matboli et al.**, Machine learning based identification of key feature RNA-signature linked to diagnosis of Hepatocellular Carcinoma. Journal of Clinical and Experimental Hepatology 2024. In press.
25. **Matboli et al.**, Experimental Investigation for Nonalcoholic Fatty Pancreatitis Management using Probiotics. Diabetology d metabolic syndrome2024. In press.

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26. Agwa, Sara HA,... **Matboli** et al. "Discriminatory power of a circulating multi-noncoding RNA panel in acute coronary syndrome subtypes: Towards precision detection." *The international journal of biochemistry & cell biology* 169: 106531.
27. **Matboli, Marwa**, et al. "Comprehensive machine learning models for predicting therapeutic targets in type 2 diabetes utilizing molecular and biochemical features in rats." *Frontiers in Endocrinology* 15 (2024).
28. Ali, Hebatallah S., **Matboli M** et al. "Rosavin improves insulin resistance and alleviates hepatic and kidney damage via modulating the cGAS-STING pathway and autophagy signaling in HFD/STZ-induced T2DM animals." *RSC Medicinal Chemistry* (2024).
29. Ali HS, Kamel MM, Agwa SHA, Hakeem MSA, Meteini MSE, **Matboli M**. Analysis of mRNA-miRNA-lncRNA differential expression in prediabetes/type 2 diabetes mellitus patients as potential players in insulin resistance. *Front Endocrinol (Lausanne)*. 2023 May 8;14:1131171. doi: 10.3389/fendo.2023.1131171. PMID: 37223012; PMCID: PMC10200895.
30. Albadaawy R, Hasanin AH, Agwa SHA, Hamady S, Mohamed RH, Gomaa E, Othman M, Yahia YA, Ghani AMA, **Matboli M**. Prospective insight into the role of benzyl propylene glycoside as a modulator of the cGAS-STING signaling pathway in the management of nonalcoholic fatty pancreas animal model. *Biol Res*. 2023 Mar 13;56(1):11. doi: 10.1186/s40659-023-00423-8. PMID: 36915161; PMCID: PMC10010022.
31. Salah, N., Eissa, S., Mansour, ANagwa M. Abo El Magd, Amany Helmy Hasanin, Manal M. El Mahdy, Mohamed Kamel Hassan & **Marwa Matboli**. Evaluation of the role of kefir in management of non-alcoholic steatohepatitis rat model via modulation of NASH linked mRNA-miRNA panel. *Sci Rep* 13, 236 (2023). <https://doi.org/10.1038/s41598-022-27353-x>
32. Albadaawy R, Hasanin AH, Agwa SHA, Hamady S, Aboul-Ela YM, Raafat MH, Kamar SS, Othman M, Yahia YA, **Matboli M**. Rosavin Ameliorates Hepatic Inflammation and Fibrosis in the NASH Rat Model via Targeting Hepatic Cell Death. *Int J Mol Sci*. 2022 Sep 5;23(17):10148. doi: 10.3390/ijms231710148. PMID: 36077546.
33. Ali, H.S.; Boshra, M.S.; Agwa, S.H.A.; Hakeem, M.S.A.; Meteini, M.S.E.; **Matboli, M**. Identification of a Multi-Messenger RNA Signature as Type 2 Diabetes Mellitus Candidate Genes Involved in Crosstalk between Inflammation and Insulin Resistance. *Biomolecules* 2022, 12, 1230. <https://doi.org/10.3390/biom12091230>.
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3. Rapid nanoassay for detection of miRNA in urine. ASERT 1631-2017.ID-16252402
4. Transcriptome spectral analysis using hyperspectral imaging for hepatocellular carcinoma detection. ASERT 1561-2019.

IV. Training

1. Computer Programs, Faculty of Computer and Bioinformatics, Ain Shams University 2004.
2. Effective Teaching in FLDP 2009
3. Student Assessment, Quality Assurance Unit , Faculty of Medicine ,Ain Shams University ,June 2010
4. How To make Scientific Research in Community Department, Ain Shams University ,2009.
5. Proteomic workshop and sample processing., Saint George University., London ,August ,2010.
6. Maldi/TOF mass spectrometer training and its application in biomarker ,Southampton University , August ,2010.
7. Proteomic analysis in biomarker discovery ,Clinical pathology Department ,Alexandria University ,February 2011.
8. Proteomic analysis in breast cancer screening workshop .,Biomedical Academy of Athens , 2011.
9. Interactive education., Quality Assurance Unit , Faculty of Medicine ,Ain Shams University ,May 2011
10. Stem cell workshop, biochemistry department, Faculty of Medicine ,Cairo University ,May 2012.
11. Financial & Legal Aspects in College Work, Faculty & Leadership Development Center, Ain Shams University, September 2013
12. Local and international competitive research projects, Faculty & Leadership Development Center, Ain Shams University, August 2014.
13. Teaching methodology, Armed Force faculty of medicine,2014
14. Student Centered Learning in Medical Education, Armed Force faculty of medicine, August 2014
15. Problem-Based Learning in Medical Education, Armed Force faculty of medicine, March 2015
16. Technology in Teaching, Faculty & Leadership Development Center, Ain Shams University, August 2015
17. Constructing Clinical Scenarios in Medical Education, Armed Forces College of Medicine, August 2015.
18. Practical & Online electronic courses, Medical Biochemistry Department, Ain Shams University, 2015-2016
19. Research methodology. Armed Force faculty of medicine, May 2016
20. Researcher Connect Course, British Council in Egypt, February 2017

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21. Communicative Presentation Skills by The British University in Egypt, Armed Forces College of Medicine, April 2017.
22. Navigating peer-review workshop, Armed Forces College of Medicine, May 2017.
23. Effective writing Strategies, Armed Forces College of Medicine, May 2017
24. Application of R program in pharmacoeconomics. 57357 Cancer Children Hospital, September 2017
25. NGS practical training ..Medical Ain Shams Research center 2021
26. Bioinformatics applications in medicine...Medial Ain Shams Research center 2021.

V. Posters in International Conferences presentation

1. **International Association for dental research 2020.** anticancer-effect-of-resveratrol-on-squamous-cell-carcinoma. IADR/AADR/CADR General Session.
2. **44th Congress of the International-Society-of-Oncology-and-Biomarkers (ISOBM) 2017. Matboli, Marwa;** Shafei, Ayman E.; Azazy, Ahmed E. M.; Reda, Maged; El-Khazragy, Nashwa; Nagy, Ahmed Aly; Ali, Mahmoud A.; Sobhi, Mohamed; Abdel-Rahman, Omar.
3. **International Biotechnology and Research Conference 2017** April 25-27, 2018 Rome, Italy. Evaluation of a Panel of CirRNAs Expression as a Novel Potential Biomarker in Hepatocellular Carcinoma. Kerolos A, **Marwa Matboli**¹, Ayman El-Sayed Shafei, Ahmed M Ashry, Kamal M Kamal³, Mohammed Ali Agag³, Ibrahim Reda³, Hana M Abdelzaher³ and Mahmoud A Ali.
4. **International Conference of Oncology& Urology, Cairo,1-3/May 2017** Clinical Bioinformatics As a novel approach towards better diagnosis & treatment of human diseases.
5. **Biotech Congress 2017:Rome 2017.** Investigating miRNA-661 and ATG4b mRNA expression as a potential biomarkers for hepatocellular carcinoma.
6. **World Congress on Cancer. May 3-5, 2017, Melia Barajas, Madrid, Spain. MADRID.** Circular RNAs as Novel Player in Hepatocellular Carcinoma: Functional Considerations and Clinical Translation.
7. **BITs 9th Cancer Congress international conference , Shangahi, China 2016.** Clinical implication of miRNA-Autophagy Target Gene Association in Hepatocellular Carcinoma.

VI. Workshop and conference Organization:

1. AI and In silico approaches in management of Preipheral nerve injuries.Ain Shams Faculty of Medicine 2026
2. Translational bioinformatics in dental diseases. Misr International university 2026
3. Translational bioinformatics pipeline in biomedical research Ain shams faculty of medicine 2024.
4. Construction of regulatory RNA panel in Cancer 20223. Zweil university
5. High throughput Sequencing and bioinformatics Analysis Workshop July 2023, Zweil university for science and technology
6. Hosting and facilitating a classroom for the 2022African Genomic Medicine Training Initiative course AGMT_2022. Faculty of Medicine, Modern University for technology and Information

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2. Biomarker Discovery; in Tumor Markers Workshop, ESTMO , Ain Shams Faculty of Medicine, Cairo, 2015
 3. Successful Clinical Research example; in Research Methodology Workshop, Armed Forces College of Medicine, June, 2016
 4. Lecturer in the Principles of Research Workshop, Armed Forces College of Medicine, July & August 2016

5. Program coordinator for clinical bioinformatics workshop, Armed Forces College of Medicine, May, 2017

VII. Conferences and workshops oral presentation and chair person participation

1. The 46th Annual Conference of Ain shams Faculty of medicine (Hilton Hotel, 2026)
2. The 45th Annual Conference of Ain shams Faculty of medicine (Hilton Hotel, 2025)
3. The 44th Annual Conference of Ain shams Faculty of medicine (Marriott Hotel, 20224)
4. The 43th Annual Conference of Ain shams Faculty of medicine (Marriott Hotel, 2023)
5. The 42th Annual Conference of Ain shams Faculty of medicine (Marriott Hotel, 2022)
6. Biochemistry & Molecular Biology “Present & Future’ (Ain Shams University, 2010)
7. Recent Advances in Biochemistry and Molecular Biology (Ain Shams University, 2012)
8. The 33rd Annual Conference of The Egyptian Society of Haematology (Marriott Hotel, 2012)
9. 10th National Conference for Biochemistry & Molecular Biology (Ain Shams University, 2013)
10. Updating The Egyptian Tumor Markers Society (Ain Shams University, June 2013)
11. Biochem Cairo 2014: Molecular Clinical Biochemistry Updates (Kasr Al-Ainy Faculty of Medicine, 2014)
12. Egyptian Society of Biochemistry & Molecular Biology and The Egyptian Society of Tumor Markers Oncology Annual Scientific Conference (Ain Shams University, 2014)
13. How To be a Good Tutor in Problem-Solving Sessions (AFCM, 2015)
14. 6th international Gastrointestinal, Liver & Uro-oncology Conference, Mena House Hotel, 2017
15. Speech entitled (Using Clinical Bioinformatics to Define a New Path to Human Diseases)
in 8th international Gastrointestinal, Liver & Uro-oncology Conference, Mena House Hotel, Cairo Egypt 2019
16. Speech entitled (Using Clinical Bioinformatics to Define a New Path to Human Diseases) Ain shams university conference 2019

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17. Speech entitled Applying System biology in biomedical research , potential era in precision Medicine in Breast *gynecological & immunology* international conference (BIGGC) 2020
18. Participating as chairperson in 9th International Gastrointestinal, Liver & Uro-oncology Conference, 2020.
19. Participating as chairperson in 13th Breast-Gynecological & immunology cancer international conference BIGGC January 2021
20. Speech entitled Recent Technology Assisted Identification of Blood based diagnostic signatures and molecular targets to combat SARS-CoV-2/COVID-19 in 4th medical biochemistry and molecular biology conference, 42th Ain Shams International Medical congress. March 2022
21. Speech entitled (Emerging diagnostic and therapeutic role of gut microbiota in liver diseases) 10th International Gastrointestinal, Liver & Uro-oncology Conference, Egypt, 2022.
22. Chair person in session entitled (Beyond Tissues: Non-Invasive Molecular diagnostic platform) in 10th International Gastrointestinal, Liver & Uro-oncology Conference, Egypt, 2022
23. Chair person in Onchobroncho Conference 2022, international society of liquid biopsy

VIII. Awards

1. Ain Shams University Award for international Publication 2025
2. Ain Shams University Award for international Publication 2024
3. Shortlisted for 4th Women world Research Award –QWOA-AlSharja2023
4. Ain Shams University Award for international Publication 2023
5. Ain Shams University Award for international Publication 2022
6. Ain Shams University Award for international Publication 2021
7. Ain Shams University Award for international Publication 2020
8. Ain Shams University Award for international Publication 2019
9. Silver Medal for iGEM Egypt team in IGEM competition in Boston, USA, Sharing as instructor (2018)
10. Gold Medal for iGEM Egypt team in IGEM competition in Boston, USA, Sharing as instructor for proposal entitled; Competing endogenous RNA network: Potential entrants to gene editing in Hepatocellular Carcinoma (2017)
11. Bronze medal for IGEM Egypt Team in IGEM competition in Boston, USA, Sharing as secondary PI for proposal entitled; Targeting circular RNA in hepatocellular carcinoma (2016).
12. Ain Shams University Award for international Publication 2017

IX. Editorial Board Member

1. Frontiers in oncology
2. Journal of translational hepatology
3. World journal of biological chemistry (<https://www.wjgnet.com/1949-8454/MemberDetail/3808502>)
4. Biomedical Reports (<https://www.spandidos-publications.com/br/editorial>)

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5. Journal of Medical Biotechnology (<https://www.pulsus.com/archives-medical-biotechnology/editorial-board.html>)
 6. Pharmacology and Therapeutic Research Journal

X. Reviewer in many international journals

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| • Biomedicine & | • Frontiers in immunology |
| pharmacotherapy | • Frontiers in cells and |
| • DNA and Cell Biology | developmental biology |
| • Oncotarget | • Frontiers in genetics |
| • Clinics in Research in | • Journal of hepatocellular |
| hepatology & gastroenterology | carcinoma |
| • Tumor biology | • Journal of inflammation |
| • Translational cancer research | • Journal of clinical medicine |
| • Cancer biomarkers | • International journal of |
| • Biomed Research International | molecular sciences |
| | • Genes |