Name: Yasser Refaat Abdel-Fattah

Title: Professor of Microbial Biotechnology

PERSONAL INFORMATION	Full Name:	Yasser Refaat Abdel-Fattah, Ph.D
	Affiliations:	Professor of Microbial Biotechnology, Genetic Engineering and Biotechnology Research Institute, SRTA-City
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EDUCATION	• Ph.D in Microbiology, 1997 – Hannover University (Germany) and Alexandria University, Joint Channel System Thesis: "Modeling of microbiological processes and Kinetic conversion rates in Saccharomyces cerevisiae fermentation processes". • M.Sc. in Microbiology, 1993 – Faculty of Science, Alexandria University Thesis: "Fermentative production of itaconic acid". • B.Sc. in Microbiology, 1988 – Faculty of Science, Alexandria University, Excellent grade	
ACTIVITIES	**ADMINISTRATIVE EXPERIENCE** • Deputy Minister of Higher Education for Scientific Research Affairs (2018–2024) • Secretary of the Supreme Council for Research Centers and Institutes (2013–2018) • Director, Dean, and Department Head at SRTA-City (2003–2011) • Lead national S&T policy including Egypt Vision 2030 and Innovation Law Implementation • Formulated and monitored research KPIs through digital systems across national institutions • International relations: revitalized Egypt's scientific cooperation with France, Italy, Korea, Germany, and Arab countries	

SUPERVISION

• Supervised 10 PhD theses and 8 MSc theses in microbial biotechnology, bioprocessing, and environmental microbiology
• Collaborated internationally on student exchanges (Germany, USA)
• Integrated industrial application themes into graduate work (enzymes, biofuels, bioplastics)

PATENTS

• Egyptian Patent #23388 – Diagnostic kit for DNA isolation (Approved by NODCAR and Egyptian Patent Office)
• Egyptian Patent #24281 – Biosurfactants with high emulsification/surface tension reduction
• Egyptian Patent #24237 – DNA ladder preparation via PCR, optimized by RSM
• Egyptian Patent #28999 – Extraction method for polyphenols from Milk Thistle
• Egyptian Patent #29853 – Seawater bio-cracking unit for petroleum oil

TEACHING EXPERIENCE

• Lecturer – Industrial Microbiology (Alexandria University)
• Lecturer – Experimental Microbiology and Optimization (University of Hannover)
• Course Leader – Bioinformatics, Real-Time PCR, Enzyme Purification Workshops
• Organized over 10 workshops under HEEPF and university-industry collaborations

SCIENTIFIC ACHIEVEMENTS

• Established culture collection of thermophilic strains for industrial enzyme production
• Founded diagnostic kit production unit with national approval and private sector distribution
• Upgraded and certified ISO 17025 Central Lab at SRTA-City
• Pioneered development of active microbial metabolites with industrial and medical relevance

PROFESSIONAL MEMBERSHIPS

• Egyptian Syndicate of Scientific Professionals (since 1988)
• Editorial Board Member – Journal of Basic Microbiology (Wiley)
• Editorial Board Member – World Technopolis Review (Korea)

GRANTS & AWARDS	**GRANTS** • Production of bio-ethanol from wastes (NRC-Sugar Company) • Extraction of Tartaric acid from grape residues (NRC-Alexandria Company for pharmaceuticals) • Collaborator at the project entitled: Development of Thermozyme Biotechnology: Lipase/Esterase from Bacillus stearothermophilus (US-Egypt collaboration funds, BIO 003-02 contract No. 10). The project is financially supported with a fund of 50,000 US$. (1998-2002) • Collaborator at the project entitled: Biodegradation of petroleum spills using modified microorganisms (Program for National Strategy for Genetic Engineering and Biotechnology fund, GBENV-002-002-003) supported by National Academy of Science with 560,000 EP (1999 till 2004). A second phase extension has been financially supported by the funds provided from National Academy of Science with 300,000 Egyptian Pounds. (End 2009) • Collaborator at the project entitled: Bioprocess development for some models of biotechnological products of economic values (National Strategy for Genetic Engineering and Biotechnology fund, GBENV-002-002-005). This project is financially supported by the funds provided from National Academy of Science with 5,250,000 Egyptian Pounds. (End 2009) • Principal investigator of the project entitled: Bioprocess development of high value immunosuppressant drug: Rapamycin (US-Egypt collaboration funds, BIO 5-002-010 contract No. 120). This project is in collaboration with Prof. Kevin A. Reynolds, Institute for Structural Biology and Drug Discovery, Virginia Commonwealth University, USA. The project is financially supported with a fund of 50,000 US$. (Ended 2005) • Co-PI of the project entitled: Microbial Production of biosurfactant exhibiting excellent emulsification and surface active properties, (US-Egypt collaboration funds). The project is financially supported with a fund of 50,000 US$. (Ended 2006) • Principal investigator of the project entitled: Bioprocess development for the Biotechnological Production of Protease, Amylase and Lipase with Outstanding Characteristics for detergent and food industries. ASTF (Arab Science and Technology Foundation) funded in collaboration ALJ foundation (contract Bio 07-06). Financially supported with a fund of 40,000 US$. (2006-2009) • Principal investigator of the project entitled: Microbial production of extremozymes with outstanding properties for food, industrial and bio-energy applications. STDF (Science and Technology Developing Funds) contract # 247. Financially supported with a fund of 950,000 EP. (2009-2014). • Partner in the project "Conversion of Agricultural Wastes Into Ethanol and Microcrystalline Cellulose" in collaboration with Prof. Waleed K. El-Zawawy the principle investigator. US-Egypt collaboration funds with a fund of 60,000 US$. (End 2009). • Partner in the project "Economic conversion of agriculture products into ethanol and products of industrial significance" in collaboration with Prof. Waleed K. El-Zawawy the principle investigator. STDF (Science and Technology Developing Funds) contract. Financially supported with a fund of 1,000,000 EP. (2009-2013). • Co-PI of the project entitled: Studies on Thermostable Esterase(s) from Geobacillus spp.: Novel Thermostable Esterase with dual activities, and Typical Thermostable Carboxyl Esterase, Cloning, Over-expression, Applying of Directed Evolution and Gene Shuffling to produce New Variant(s) with unique properties. STDF (Science and Technology Developing Funds). Financially supported with a fund of 1,000,000 EP. (Start June 2009). • Co-PI of the project entitled: Unraveling and exploiting Mediterranean Sea microbial diversity and ecology. FP07 collaborative project. Financially supported with a fund of 175000 €. (2011-2014).

	AWARDS • Distinguished Scientific Achievement Award (2001–2002) • Honor Shield of City for Scientific Research & Technology Applications • Biography included in Marquis Who's Who: Medicine and Healthcare (2006) • Member of the Experts Board, Environmental Biotechnology, European Federation of Biotechnology (EFB) • Member of Advisory Committee for Science and Technology at WTA • Reviewer for international journals: Scientific Reports (Nature), Canadian Journal of Microbiology, Process Biochemistry, etc.
LIST OF PUBLICATIONS	**PUBLICATION (*last 10 years)*** *1.* DA Goda, EH El-Gamal, M Rashad, **YR Abdel-Fattah** (2025). The optimization of calcareous soil cation exchange capacity via the feather hydrolysate and NP fertilizers integration. Scientific Reports, 15(1), 4676. *2.* **Y Abdel-Fattah**, L Sallam, H Diekmann (2024). Box-Behnken Experimental Design for Optimization of Biomass and Ethanol Yield in *Saccharomyces Cerevisiae*. Future Perspectives of Medical, Pharmaceutical and Environmental Biotechnology, 1(3), 9-14. *3.* Ghada E Hegazy, Madelyn N Moawad, Sarah Samir Othman, Nadia A Soliman, Abdelwahab Abeer E, Hussein Oraby, **Yasser R Abdel–Fattah** (2024). Microbial dynamics, chemical profile, and bioactive potential of diverse Egyptian marine environments from archaeological wood to soda lake. Scientific Reports, 14(1), 20918. *4.* AE Mansy, EA El Desouky, Ahmed K Saleh, MA Abu-Saied, Tarek H Taha, Waleed K El-Zawawy, **Yasser R Abdel-Fattah** (2024). Separation of bioethanol using in situ composite membrane of bacterial cellulose/poly (2-acrylamido-2-methylpropane sulfonic acid)(AMPS) and their characterization. Biomass Conversion and Biorefinery, 14(16), 18697-18706. *5.* Ghada E Hegazy, Nadia A Soliman, Soha Farag, Ehab R El-Helow, Hoda Y Yusef, **Yasser R Abdel-Fattah** (2024). Isolation and characterization of Candida tropicalis B: a promising yeast strain for biodegradation of petroleum oil in marine environments. Microbial Cell Factories, 23(1), 20. *6.* Nadia A Soliman, Safaa M Ali, Mahmoud EA Duab, **Yasser R Abdel-Fattah** (2023). A scalable overexpression of a thermostable recombinant poly-histidine tag carboxyl esterase under lambda promoter: purification, characterization, and protein modelling. J Genetic Engineering and Biotechnology, 21(1). 165. *7.* Ghada E Hegazy, Marwa M Abu-Serie, Nadia A Soliman, Mohamed Teleb, **Yasser R Abdel-Fattah** (2023). Superior anti-pulmonary viral potential of Natrialba sp. M6-producing surfactin and C50 carotenoid pigment with unveiling its action modes. Virology Journal, 20(1), 249.

	8. AE Mansy, EA El Desouky, Ahmed K Saleh, MA Abu-Saied, Tarek H Taha, Waleed K El-Zawawy, **Yasser R Abdel-Fattah** (2023). Separation of bioethanol using in situ composite membrane of bacterial cellulose/poly (2-acrylamido-2-methylpropane sulfonic acid)(AMPS) and their characterization. Biomass Conversion and Biorefinery, *https://doi.org/10.1007/s13399-023-03983-7* 9. Ghada E Hegazy, Nadia A Soliman, Mona E Ossman, **Yasser R Abdel-Fattah**, Madelyn N Moawad (2023). Isotherm and kinetic studies of cadmium biosorption and its adsorption behaviour in multi-metals solution using dead and immobilized archaeal cells. Scientific Reports, vol.13 (1):2550. 10. **Yasser R. Abdel-Fattah**, Mohamed Ramadan A. Rezk, Nahed Salem, Amr Radwan, Leonardo Piccinetti, Yasser Elshayeb, Mahmoud Sakr, Abdelmajid BenAmara (2022). The big picture of climate change research in the Arab world: insights from bibliometric analysis. J. Entrepreneurship and Sustainability Issues, 10(2): 653-671 11. hada E. Hegazy, Tarek H. Taha and **Yasser R. Abdel-Fattah** (2022). Investigation of the optimum conditions for electricity generation by haloalkaliphilic archaeon *Natrialba sp.* HMN55 using the Plackett–Burman design: single and stacked MFCs. Microb. Cell Fact., 21:82 12. Ahmed K. Saleh, Hamada El-Gendi, Nadia A. Soliman, Waleed K. El-Zawawy, **Yasser R. Abdel-Fattah** (2022). Bioprocess development for bacterial cellulose biosynthesis by novel *Lactiplantibacillus plantarum* isolate along with characterization and antimicrobial assessment of fabricated membrane. Scientific Reports, vol.12 (2181) https://doi.org/10.1038/s41598-022-06117-7 13. SA Abdelgalil, NA Soliman, GA Abo-Zaid, **YR Abdel-Fattah** (2022). Bioprocessing strategies for cost-effective large-scale production of bacterial laccase from *Lysinibacillus macroides* LSO using bio-waste. Int. J. Env. Sci. Technol., VOL. 19(3), 1633-1652 14. Safaa M. Ali , Nadia A. Soliman, Samia Abd Allah Abdal-Aziz and **Yasser R. Abdel-Fattah** (2022). Cloning of cellulase gene using metagenomic approach of soils collected from Wadi El Natrun, an extremophilic desert valley in Egypt. J. Gen. Eng. Biotechnol., 20:20 https://doi.org/10.1186/s43141-022-00312-9 15. Ahmed K Saleh, **Yasser R Abdel-Fattah**, Nadia A Soliman, Maha M Ibrahim, Mohamed H El-Sayed, Zeinab K Abd El-Aziz, Waleed K El-Zawawy (2021). Box-Behnken design for the optimization of bioethanol production from rice straw and sugarcane bagasse by newly isolated *Pichia occidentalis* strain AS.2. Energy & Environment, 1-23 DOI: 10.1177/0958305X211045010 16. Rania S Ahmed, Amira M Embaby, Mostafa Hassan, Nadia A Soliman, **Yasser R Abdel-Fattah** (2021). Optimization, Purification, and Characterization of Haloalkaline Serine Protease from a Haloalkaliphilic Archaeon *Natrialba hulunbeirensis* Strain WNHS14. Microbiol. Biotechnol. Lett. , 49(2), 181-191. 17. Soad A Abdelgalil, Nadia A Soliman, Gaber A Abo-Zaid, **Yasser R Abdel-Fattah** (2021). Dynamic consolidated bioprocessing for innovative lab-scale production of bacterial alkaline phosphatase from *Bacillus paralicheniformis* strain APSO. Scientific Reports, vol.11 (1-22) 18. SA Abdelgalil, NA Soliman, GA Abo-Zaid, **YR Abdel-Fattah** (2021). Bioprocessing strategies for cost-effective large-scale production of bacterial

laccase from *Lysinibacillus macroides* LSO using bio-waste. International Journal of Environmental Science and Technology, March 2021 (1-20).

19. Samar M Yousef, Hamada El-Gendi, Hanan Ghozlan, Soraya A Sabry, Nadia A Soliman, **Yasser R Abdel-Fattah** (2021). Production, partial purification and characterization of alkaline phosphatase from a thermo-alkaliphile *Geobacillus thermodenitrificans* I2 isolate. Biocatalysis and Agricultural Biotechnology, 31 (101853).
20. Doaa A. Goda, Ahmad R. Bassiouny, Nihad M. Abdel Monem, Nadia A. Soliman and **Yasser R. Abdel-Fattah** (2020). Effective multi-functional biotechnological applications of protease/keratinase enzyme produced by new Egyptian isolate (*Laceyella sacchari* YNDH). J. Genetic Engineering and Biotechnology, 18(1): 23-34.
21. S Hegazy, Ghada E; Abu-Serie, Marwa M; Abo-Elela, Gehan M; Ghozlan, Hanan; Sabry, Soraya A; Soliman, Nadia A; **Abdel-Fattah, Yasser R** (2020). In vitro dual (anticancer and antiviral) activity of the carotenoids produced by haloalkaliphilic archaeon *Natrialba* sp. M6. Scientific Reports, Vol. 10(1), Article number: 5986
22. Saleh, Ahmed K; Soliman, Nadia A; Farrag, Ayman A; Ibrahim, Maha M; El-Shinnawy, Nashwa A; **Abdel-Fattah, Yasser R** (2020). Statistical optimization and characterization of a biocellulose produced by local Egyptian isolate *Komagataeibacter hansenii* AS. 5. International Journal of Biological Macromolecules, Vol. 144, pp. 198-207.
23. El-Moslamy, Shahira H; Rezk, Ahmed H; **Abdel-Fattah, Yasser R** (2019). Applying Experimental Design for Low-Cost and Eco-Friendly Biosynthesis of MgONPs from Local Endophytic Actinomycetes as an Antiphytopathogens Agent. Nanoscience and Nanotechnology Letters, Vol. 11(3), pp. 406-415.
24. Khera, Ahmed Saleh; Farrag, Ayman Ahmed; Soliman, Nadia Abdel-Mohsen; Mohamed, Maha; Ibrahim, Nashwa Ahmed El-Shinnawy; **Abdel-Fattah, Yasser Refaat** (2019). Evaluation of culture requirements for cellulose production by Egyptian local isolate alongside reference strain *Gluconaceto-bacter hansenii* ATCC 23769. Pak. J. Biotechnol. Vol. 16 (2) 69-80
25. Farrag, Ayman A; Saleh, Ahmed; Soliman, Nadia A; Ibrahim, Maha M; El-Shinnawy, Nashwa; **Abdel-Fattah, Yasser**; (2019). Biocellulose Production by *Gluconacetobacter hansenii* ATCC 23769: Application of Statistical Experimental Designs and Cellulose Membrane Characterization. Egyptian Journal of Chemistry, Vol. 62(11), pp. 2077-2092.
26. El-Aassar, MR; Shibraen, Mahmoud HMA; Abdel-Fattah, Yasser R; Elzain, Ahmed A (2019). Functionalization of Electrospun Poly (Acrylonitrile-co-Styrene/Pyrrole) Copolymer Nanofibers for Using as a High-performance Carrier for Laccase Immobilization. Fibers and Polymers, Vol. 20(11), pp. 2268-2279.
27. SH El-Moslamy, EM El-Morsy, MT Mohaisen, AH Rezk, **YR Abdel-Fattah** (2018). Industrial Bioprocessing Strategies for Cultivation of Local *Streptomyces violaceoruber* Strain SYA3 to Fabricate Nano-ZnO as Anti-Phytopathogens Agent. Journal of Pure and Applied Microbiology 12(3):1133-1145.
28. SH El-Moslamy, **YR Abdel-Fattah** (2018). Statistical bioprocessing strategy for cellulases production by endophytic *Trichoderma harzianum* utilizing lignocellulosic wastes. Bioscience Research 15(3):1852-1866

29. S Farag, NA Soliman, **YR Abdel-Fattah** (2018). Enhancement of Crude Oil Biodegradation by Immobilized Bacterial Consortium in Small Batch and Continuous Bioreactor Modes. Egy. J. Chem., 61(6): 710-720.
30. S Farag, NA Soliman, **YR Abdel-Fattah** (2018). Statistical optimization of crude oil bio-degradation by a local marine bacterium isolate *Pseudomonas* sp. 48. J. Genetic Engineering and Biotechnology. https://doi.org/10.1016/j.jgeb.2018.01.001
31. SH El-Moslamy, MF Elkady, AH Rezk, **YR Abdel-Fattah** (2017). Applying Taguchi design and large-scale strategy for mycosynthesis of nano-silver from endophytic *Trichoderma harzianum* SYA. F4 and its application against phytopathogens. Scientific reports 7, 45297.
32. H El-Gendi, MS Azab, EM El-Fakharany, NA Soliman, **YR Abdel-Fattah** (2016). Purification and Characterization of Contemporaneously Produced Alkaline Protease and α-amylase Enzymes from Locally Isolated *Bacillus methylotrophicus* SCJ4. PSM Biological Research 1 (2), 88-95
33. Soha Farag, Nadia A. Soliman, **Yasser R. Abdel-Fattah** (2016). Optimization of immobilization conditions for petroleum oil biodegradation by *Candida tropicalis* AQ1 using wood chips and wax as carrier. Research J. Pharmaceutical, Biological and Chemical Sciences, 7(5): 200-210.
34. Hamada El-Gendi, Mohamed S. Azab, Nadia A. Soliman and **Yasser R. Abdel-Fattah** (2016). Application of Plackett-Burman Design for Optimization of Alkaline Protease and α-amylase Production by the Marine Bacterium *Bacillus methylotrophicus* SCJ4. Research J. Pharmaceutical, Biological and Chemical Sciences, 7(4): 899-909
35. Rafael Bargiela, Francesca Mapelli, David Rojo, Bessem Chouaia, Jesús Tornés, Sara Borin, Michael Richter, Mercedes V. Del Pozo, Simone Cappello, Christoph Gertler, María Genovese, Renata Denaro, Mónica Martínez-Martínez, Stilianos Fodelianakis, Ranya A. Amer, David Bigazzi, Xifang Han, Jianwei Chen, Tatyana N. Chernikova, Olga V. Golyshina, Mouna Mahjoubi, Atef Jaouanil, Fatima Benzha, Mirko Magagnini, Emad Hussein, Fuad Al-Horani, Ameur Cherif, Mohamed Blaghen, Yasser R. Abdel-Fattah, Nicolas Kalogerakis, Coral Barbas, Hanan I. Malkawi, Peter N. Golyshin, Michail M. Yakimov, Daniele Daffonchio, Manuel Ferrer (2015). Bacterial population and biodegradation potential in chronically crude oil-contaminated marine sediments are strongly linked to temperature, Scientific Reports, Volume 5, 29 June 2015, Article number 11651
36. Christoph Gertler, Rafael Bargiela, Francesca Mapelli, Xifang Han, Jianwei Chen, Tran Hai, Ranya A. Amer, Mouna Mahjoubi, Hanan Malkawi, Mirko Magagnini, Ameur Cherif, Yasser R. Abdel-Fattah, Nicolas Kalogerakis, Daniele Daffonchio, Manuel Ferrer, Peter N. Golyshin (2015). Conversion of Uric Acid into Ammonium in Oil-Degrading Marine Microbial Communities: a Possible Role of Halomonads, Microbial Ecology, Vol. 69 (4)
37. S. Fodelianakis, E. Antoniou, F. Mapelli, M. Magagnini, M. Nikolopoulou, R. Marasco, M. Barbato, A. Tsiola, I. Tsikopoulou, L. Giaccaglia, M. Mahjoubi, A. Jaouani, R. Amer, E. Hussein, F.A. Al-Horani, F. Benzha, M. Blaghen, H.I. Malkawi, Y. Abdel-Fattah, A. Cherif, D. Daffonchio, N. Kalogerakis (2015). Allochthonous bioaugmentation in ex situ treatment of crude oil-polluted sediments

in the presence of an effective degrading indigenous microbiome. J. Hazardous Materials, 287: 78-86.

38. Ranya A. Amer, Francesca Mapelli, Hamada M. El Gendi, Marta Barbato, Doaa A. Goda, Anna Corsini, Lucia Cavalca, Marco Fusi, Sara Borin, Daniele Daffonchio and Yasser R. Abdel-Fattah (2015). Bacterial Diversity and Bioremediation Potential of the Highly Contaminated Marine Sediments at El-Max District (Egypt, Mediterranean Sea). BioMed Research International, Article ID 981829.

Due to space, please refer to the full list of publications on Scopus:
https://www.scopus.com/authid/detail.uri?authorId=6602223781