

CURRICULUM VITAE

PERSONAL DATA

Name	Seham Moussa Mohamed Hamed
Nationality	Egyptian
Position	Associate Professor
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EDUCATION

Year	Academic Degree	Institution
2012	Doctor's Degree (PhD) in Microbiology	Botany department, Faculty of Science, Beni-Suef University, Beni-Suef, Egypt
2007	Master Degree (MSc) in Microbiology	Botany department, Faculty of Science, Beni-Suef University, Beni-Suef, Egypt
2003	Post graduate courses	Botany department, Faculty of Science, Cairo University, Giza, Egypt
2002	Bachelor of Science (BSc) in Chemistry and Botany	Botany department, Faculty of Science, Beni-Suef University, Beni-Suef, Egypt

WORK EXPERIENCE

Period	Position	Address
December 2018 – present	Senior Researcher (Associate Professor) at Soil Microbiology Dept.	Soils, Water and Environment Research Institute, Agricultural Research Center, Giza, Egypt, Dec.
26 Jun. 2013–Oct 2018.	Researcher (Lecturer)	Soils, Water and Environment Research Institute, Agricultural Research Center, Giza, Egypt, Dec.
5 Apr. 2008–25 Jun. 2013.	Researcher Assistant (Assistant Lecturer)	Soils, Water and Environment Research Institute, Agricultural Research Center, Giza, Egypt, Dec.
14 Feb. 2007–4 Apr. 2008.	Assistant Researcher (Demonstrator)	Soils, Water and Environment Research Institute, Agricultural Research Center, Giza, Egypt, Dec.

15 Oct. 2003–13 Feb. 2007	Chemist Specialist	Soils, Water and Environment Research Institute, Agricultural Research Center, Giza, Egypt.
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RESEARCH INTERESTS

- Investigation of novel integrated biorefinery approach for lipid and hydrogen gas production using green microalgae.
- Hydrogen production through oxygenic photosynthesis in sealed cultures and in bio-electrochemical systems: bio-photoelectrolysis cell (BPEC) and Microbial fuel cell (MFC).
- Synthesis and characterization of nanostructured materials and studying their application and environmental impact.
- Oxidative stress induced by heavy metals i.e Zn^{2+} , Cu^{2+} , Al^{3+} and pesticides (e.g. R- metalaxyl, pyridaphenthion, propiconazole): antioxidant defense and damage on green and blue green microalgae
- Studying the cross and multiple resistances of *Chlorella vulgaris* to some herbicides .
- Isolation, purification and molecular identification of microalgal strains including green and blue green microalgae.
- Optimization of culture growth condition including (autotrophic, mixotrophic and heterotrophic growth condition either in batch static condition or photobioreactor and investigating the related changes in the metabolome.
- Diversity and environmental impact of algae on some soil born plant diseases including antifungal, antibacterial and antinematodal effects.

PUBLICATIONS

- 1- Sherif H. Hassan., Mohamed S. Abdel Hameed., Ola E. Hammouda., Fekry M. Ghazal., **Seham M. Hamed** (2012). Effect of different growth conditions on certain biochemical parameters of different cyanobacterial strains, Malaysian Journal of Microbiology 8(4): 266-272.
- 2- Elham F. M. Abdel-Rahim and **Seham M. Hamed** (2013). Efficacy of *Anabaena flos aquae* alga against larvae of the cotton leaf worm, *Spodoptera littoralis* (Boisd), Egyptian Journal of Biological Pest Control 23:(1)1-7
- 3- Elham F. M. Abdel-Rahim., **Seham M. Hamed** (2013). Comparative toxic activity of four algae, against the 2nd and 4th larval instars of black cutworm, *Agrotis ipsilon* (Hufnagel), Egyptian Journal of Agricultural Research 91:(4)1303-1318.
- 4- **Seham M. Hamed.**, Gerd Klöck (2014). Improvement of Medium Composition and Utilization of Mixotrophic Cultivation for Green and Blue Green Microalgae towards Biodiesel Production, Advances in Microbiology 4, 167-174. <http://dx.doi.org/10.4236/aim.2014.43022> .
- 5- **Seham M. Hamed.**, Elham F. M. Abdel-Rahim., Abdullah A. Saber., Marco Cantonati (2015). Comparative study on the toxic activities of some algal and cyanobacterial extracts against the 2nd and 4th larval instars of cotton leafworm *Spodoptera littoralis* (Boisd.) 6th European Phycological congress 23-28 Agust 2015 in London, UK (EPC6). Poster: p. 153 <http://dx.doi.org/10.1080/09670262.2015.1069487>
- 6- Sally S. Alam., Heba A. M. Abd El-Kader., Abeer H. Abd El-Rahim., **Seham M. Hamed.**, Abdullah A. Saber (2016). The Protective Role of *Ulva lactuca* Against Genotoxic and Biochemical Effects Induced by γ -Irradiation in Rats, Int. J. Pharm. Sci. Rev. Res., 37(2): 40-48.
- 7- **Seham M. Hamed.**, Asmaa M. A. Mostafa., Neveen Abdel-Raouf., Ibraheem B. M. Ibraheem (2016). Biosynthesis of silver and silver chloride nanoparticles by *Parachlorella kessleri* SAG 211-11 and evaluation of its nematicidal potential against the root-knot nematode; *Meloidogyne incognita*,

Australian Journal of Basic and Applied Sciences, 10(18): 354-364.

- 8- Fekry M. Ghazal., Ola I. Hammouda., Mohamed S. AbdeLHameed., Sherif H. Hassan., Seham M. Hamed (2016). Productivity, Lipid Content and Fatty Acid Composition of Some Selected Cyanobacterial Strains under Different Growth Conditions, J pure and applied microbiology 10(3):1847-1856.
- 9- **Seham, M. Hamed.**, G. Zinta., G. Klöck., H. Asard., S. Selim., H. AbdElgawad (2017). Zinc-induced differential oxidative stress and antioxidant responses in *Chlorella sorokiniana* and *Scenedesmus acuminatus*. Ecotoxicology and environmental safety 140:256-263.
- 10- **Seham, M. Hamed.**, S. Selim., G. Klöck., H. AbdElgawad (2017). Sensitivity of two green microalgae to copper stress: growth, oxidative and antioxidants analyses, Ecotoxicology and environmental safety 144:19-25.
- 11- **Seham M. Hamed.**, Mahendra P. Raut., Stephen R.P.Jaffé., Phillip C. Wright (2017). Evaluation of the effect of aerobic-anaerobic conditions on photohydrogen and chlorophyll a production by environmental Egyptian cyanobacterial and green algal species, International J of Hydrogen Energy 42:6567-6577.
- 12- Ibraheem B.M. Ibraheem., **Seham M. Hamed.**, Amal A. Abd elrhman., Farag M. Farag., Neveen Abdel-Raouf (2017). Antimicrobial activities of some brown macroalgae against some soil borne plant pathogens and in vivo management of *Solanum melongena* root diseases, Australian Journal of Basic and Applied Sciences 11(5)157-168.
- 13- **Seham M. Hamed.**, Manal M. Abdel-Alim., Neveen Abdel-Raouf., Ibraheem B.M. Ibraheem (2017). Biosynthesis of silver chloride nanoparticles using the cyanobacterium *Anabaena variabilis*, Life Science Journal 14(6):25-30.
- 14- Eithar K. AL Adham., Amal I. Hassan., **Seham M Hamed.**, Abdullah A Saber (2017). Evaluation of iron-chelating activity of *Caulerpa racemosa* in iron-dextran induced iron overload in an experimental model of thalassemia Int J Clin Exp Med 10(3).
- 15- **Seham M. Hamed.**, Amal A. Abd El-Rhman., Neveen Abdel-Raouf., Ibraheem B.M. Ibraheem (2017). Role of marine macroalgae in plant protection & improvement for sustainable agriculture technology Beni-Suef University Journal of Basic and Applied Sciences <https://doi.org/10.1016/j.bjbas.2017.08.002>.
- 16- Saber, A.A., Hamed, S.M., Abdel-Rahim, E.F.M., Cantonati, M (2018). Insecticidal prospects of algal and cyanobacterial extracts against the cotton leaf worm *Spodoptera littoralis*. Vie et milieu - Life and environment, 68 (4): 199–212.
- 17- **Seham M. Hamed** and Nevein A.S. Messiha (2018). Suppression of bacterial wilt disease by some marine macroalgal extracts isolated from Safaga coast of Red Sea, Egypt. J. Agric. Res., 96 (4):1275-1289.
- 18- **Seham M. Hamed**, Eman S. Hagag and Neveen Abd El-Raouf (2019). Green production of silver nanoparticles, evaluation of their nematicidal activity against *Meloidogyne javanica* and their impact on growth of faba bean. Beni-Suef University Journal of Basic and Applied Sciences, 8(9):1-12.
- 19- **Seham M. Hamed**, S.M., Hassan, S.H., Selim, S., Kumar, A., Khalaf, S.M.H., Wadaan, M.A.M., Hozzein, W.N., AbdElgawad, H (2019). Physiological and biochemical responses to aluminum-induced oxidative stress in two cyanobacterial species. Environmental Pollution, 251: 961–969.
- 20- **Seham M. Hamed**, Sherif H. Hassan, Samy Selim, Mohammed A.M. Wadaand, Mohamed Mohany, Wael N. Hozzein, Hamada AbdElgawad (2019). Differential responses of two cyanobacterial species to R-metalaxyl toxicity: Growth, photosynthesis and antioxidant analyses, Environmental Pollution, 258:113681.

- 21- Sherif Hassan, **Seham M. Hamed**, Mohammed Almuhayawi, Wael Hozzein, Samy Selim, Hammada AbdElgawad (2020). Bioactivity of Ellagic Acid and Velutin: Two Phenolic Compounds Isolated from Marine Algae. *Egyptian Journal of Botany*. doi: 10.21608/ejbo.2020.23778.1456.
- 22- **Seham M. Hamed**, Kapoore, R.V., Raut, M.P., Vaidyanathan, S., Wright, P.C (2020). Influence of nutrient status on the biohydrogen and lipid productivity in *Parachlorella kessleri*: a biorefinery approach. *Applied Microbiology and Biotechnology*, 104:10293–10305.
- 23- **Seham M. Hamed**, Wael N. Hozzein, Samy Selim, Mohamed, HS, Hamada AbdElgawad (2021). Dissipation of pyridaphenthion by cyanobacteria: Insights into cellular degradation, detoxification and metabolic regulation. *Journal of Hazardous Materials* 402:123787.
- 24- Ahmed A. Elrefaey, Ahmed D. El-Gamal, **Seham M. Hamed**, and Ehab F. El-Belely (2021). Growth, primary metabolites, and cell morphogenesis of *Scenedesmus opoliensis* in response to zinc oxide nanoparticles stress. *Egyptian J. of Phycol.* Vol.22.
- 25- **Seham M. Hamed**, Mohammad K. Okla, Luma Shihab Al-Saadi , Wael N. Hozzein, Hussein S. Mohamed, Samy Selim, Hamada AbdElgawad (2022). Evaluation of the phycoremediation potential of microalgae for captan removal: Comprehensive analysis on toxicity, detoxification and antioxidants modulation. *Journal of Hazardous Materials* 427:128177.
- 26- **Seham M. Hamed**, Inas J. Al-Nuaemi, Shereen Magdy Korany, Emad A. Alsherif , Hussein S. Mohamed, Hamada AbdElgawad (2022). Hazard assessment and environmental fate of propiconazole degradation by microalgae: Differential tolerance, antioxidant and detoxification pathway. *Journal of Environmental Chemical Engineering* 10:108170.
- 27- Asma Sarwer, **Seham M. Hamed**, Ahmed I. Osman, Farrukh Jamil, Ala'a H. Al-Muhtaseb, Nawaf S. Alhajeri, David W. Rooney (2022). Algal biomass valorization for biofuel production and carbon sequestration: a review. *Environmental Chemistry Letters* <https://doi.org/10.1007/s10311-022-01458-1>.
- 28- Ahmed A. Elrefaey, Ahmed D. El-Gamala, **Seham M. Hamed**, Ehab F. El-Belely (2022). Algae-mediated biosynthesis of zinc oxide nanoparticles from *Cystoseira crinite* (Fucales; Sargassaceae) and its antimicrobial and antioxidant activities Egypt. *J. Chem.* 65(4): 231 – 240.
- 29- **Seham M. Hamed**, El-Gaml, N.M. and Eissa, S.T., (2022). Integrated biofertilization using yeast with cyanobacteria on growth and productivity of wheat. *Beni-Suef University Journal of Basic and Applied Sciences*, 11(1), p.112.
- 30- **Seham M. Hamed**, El Shimi, H.I., van Dijk, J.R., Osman, A.I., Korany, S.M. and AbdElgawad, H., (2022). A novel integrated system for heavy metals removal and biodiesel production via green microalgae: A techno-economic feasibility assessment. *Journal of Environmental Chemical Engineering*, 10(6), p.108804.
- 31- Osman, A.I., Farghali, M., Ihara, I., Elgarahy, A.M., Ayyad, A., Mehta, N., Ng, K.H., Abd El-Monaem, E.M., Eltaweil, A.S., Hosny, M. and **Seham M. Hamed**, (2023). Materials, fuels, upgrading, economy, and life cycle assessment of the pyrolysis of algal and lignocellulosic biomass: a review. *Environmental Chemistry Letters*, pp.1-58.