

## **Dr. EHAB R. M. EL-HELOW**

Professor of Molecular Microbiology, Faculty of Science, Alexandria University, Egypt

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### **PERSONAL DATA:**

Name: Ehab Ragheb Mohamed El-Helow  
Date of birth: 10/09/1957  
Place of birth: Alexandria, Egypt  
Marital status: Married, two children  
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### **EDUCATION:**

1991 Ph.D. in Microbiology, Alexandria University (Lab work at UC, Berkeley)  
1985 M.Sc. in Microbiology, Alexandria University  
1980 B.Sc. in Botany, Alexandria University

### **PROFESSIONAL EXPERIENCES:**

2002 – Present Professor of Molecular Microbiology, Faculty of Science, Alexandria University, Alexandria, **Egypt**  
2010 – Present Professor of Molecular Microbiology, Faculty of Pharmacy, Pharos University in Alexandria, **Egypt**  
2014 – 2014 **Fulbright Scholar**, Department of Biology, University of Texas at San Antonio, **USA**  
2013 – 2014 Vice Dean for Education and Students Affairs, Faculty of Pharmacy, Pharos University in Alexandria, **Egypt**  
1999 – 2001 Visiting Scholar, Division of Molecular Biology, University of California, Berkeley, **USA**  
1998 – 1999 **Fulbright Scholar**, Division of Molecular Biology, University of California, Berkeley, **USA**  
1996 - 2002 Associate professor of Microbiology, Faculty of Science, Alexandria University, Alexandria, **Egypt**  
1991 - 1996 Assistant professor of Microbiology, Faculty of Science, Alexandria University, Alexandria, **Egypt**  
1995 - 1995 Visiting Scholar, School of Pure & Applied Biology, University of Wales, Cardiff, **UK**  
1988 – 1990 Visiting Ph.D. Student, Division of Molecular Biology, University of California, Berkeley, **USA**  
1985 - 1991 Assistant lecturer of Botany and Microbiology, Faculty of Science, Alexandria University, Alexandria, **Egypt**

1981 - 1985      Demonstrator of Botany, Faculty of Science, Alexandria University,  
Alexandria, **Egypt**

**PROFESSIONAL AFFILIATION:**

- Egyptian Society of Microbiology
- Egyptian Society of Genetics

**AWARDS:**

- Fulbright Egyptian Scholar program (2014-2015)
- Fulbright Egyptian Scholar program (1998-1999)
- Alexandria University Award for Scientific Encouragement (1996)

**TEACHING EXPERIENCE:**

- Molecular Genetics
- Bioinformatics
- Biotechnology
- Basic Microbiology

**RESEARCH EXPERIENCE:**

- Molecular systematics
- Control of gene expression in bacteria
- Microbial production of digestive enzymes
- Application of multi-factorial statistical designs for optimization in biotechnology
- Microbial recycling of agro-industrial wastes and by-products
- Bioremediation of polluted environments

**RESEARCH TECHNIQUES:**

- Microbiology and basic biochemistry techniques: isolation, purification, cultivation and molecular characterization of bacterial strains; assaying enzymes; chromatography .....
- Molecular biology techniques: preparation and purification of nucleic acids, bacterial mutagenesis, transduction and transformation, molecular cloning, PCR, computer analysis of DNA and protein sequences .....
- Designing multi-factorial optimization experiments for biotechnology applications
- Experience in computer software: Microsoft Word, Excel & Power point, Statistica, Biology WorkBench and other bioinformatics programs ...

**References in Egypt:**

- Dr. Soraya Sabry:      010 655 27751
- Dr. Hanan Ghozlan:   010 001 60509

**References in the US:**

- Dr. Hussein Saad Hussein:   510 717 8148
- Dr. Ahmad Ehab El-Helow:   504 975 5514

## LIST OF PUBLICATIONS & CONFERENCES:

1. Rusconi B., Chen Y., Koenig S.S.K., **El-Helow E.R.**, Eppinger M. (2015). Genome Sequence of *Bacillus thuringiensis* Strain Btm27, an Egyptian Isolate Highly Toxic to Cotton Leafworm. *Genome Announcements*, 3(3):e00446-15 doi:10.1128/genomeA.00446-15.
2. **El-Helow E.R.**, Elbahloul Y., El-Sharouny E.E., Ali S.R., Ali A.A. (2015). Economic production of baker's yeast using a new *Saccharomyces cerevisiae* isolate. *Biotechnology & Biotechnological Equipment*. DOI: 10.1080/13102818.2015.1038302.
3. Soliman N.A, Abdel-Fattaha Y.R., Yousef S.M., **El-Helow E.R.** (2014). Thermostable recombinant esterase production in 3-l stirred tank bioreactor, purification and characterization. *Pak. J. Biotechnol.*, 11: 123-140
4. **El-Helow E.R.**, Badawy M.E. I., Mabrouk M.E.M., Mohamed E.A.H., El-Beshlawy Y.M. (2013). Biodegradation of chlorpyrifos by a newly isolated *Bacillus subtilis* strain, Y242. *Bioremediation Journal*, 17(2): 113-123.
5. Alfazairy A.A., El-Ahwany A.M., Mohamed E.A., Zaghoul H.A., **El-Helow E.R.** (2013). Microbial control of the cotton leafworm *Spodoptera littoralis* (Boisd.) by Egyptian *Bacillus thuringiensis* isolates. *Folia Microbiologica*, 58: 155-162.
6. Abdel-Fattah Y.R., Soliman N.A., Yousef S.M., **El-Helow E.R.** (2012). Application of experimental designs to optimize medium composition for production of thermostable lipase/esterase by *Geobacillus thermodenitrificans* AZ1. *Journal of Genetic Engineering and Biotechnology*, 10: 193-200.
7. El-Refai H.A., **El-Helow E.R.**, Amin M.A., Sallam L.A., Salem H.A. (2010). Application of multi-factorial experimental designs for optimization of biotin production by a *Rhizopus nigricans* strain. *Journal of American Science*, 6(6): 179-187.
8. Zaki S., Desouky D., **El-Helow E.** and Marwa M. (2009). Molecular and biochemical diagnosis of *Salmonella sp.* in wastewater. *Journal of Applied Sciences and Environmental Management*, 13: 83-92.
9. Abou-Elela G.M., Ibrahim H.A., **El-Helow E.** and Sabry S. (2009). Abundance and Antagonistic Interactions among Bacterioplankton in Suez Gulf. *World Applied Sciences Journal*, 7: 748-755.
10. Amer R.A., Nasier M.M. and **El-Helow E.R.** (2008). Biodegradation of monocyclic aromatic hydrocarbons by a newly isolated *Pseudomonas* strain, *Biotechnology*, 7: 630-640.
11. Abdel-Fattah, Y.R.; **El-Helow, E.R.**; Ghanem, K.M. and Lotfy, W.A. (2007). Application of factorial designs for optimization of avicelase production by a thermophilic *Geobacillus* isolate. *Res. J. Microbiol.*, 2: 13-23.
12. Lotfy, W.A.; Ghanem, K.M.; **El-Helow, E.R.** (2007). Citric acid production by a novel *Aspergillus niger* isolate: II. Optimization of process parameters through statistical experimental designs. *Bioresource Technology*, 98: 3464-3469.
13. Lotfy, W.A.; Ghanem, K.M.; **El-Helow, E.R.** (2007). Citric acid production by a novel *Aspergillus niger* isolate: I. Mutagenesis and cost reduction studies. *Bioresource Technology*, 98: 3470-3477.
14. Mohamed, E.A.; Abe, M.; Ghanem, K.M.; Abdel-Fattah, Y.R.; Nakagawa, Y. and **El-Helow, E.R.** (2006). Diversity of *Bacillus* genotypes in soil samples from El-Omayed biosphere reserve in Egypt. *J. Culture Collections*, 5: 78-84.
15. Kim, K.; Park, C.; Kim, W.; Chung, S.; **El-Helow, E.R.**; Wheeler, K. and Leighton, T. (2003). Highly specific PCR detection of *Bacillus anthracis* and the *Bacillus cereus* group utilizing the *sspE* gene. In: 5<sup>th</sup> International Conference on Anthrax. National Institute of Allergy and Infectious Diseases, Nice, France.

16. **El-Helow, E.R.** (2002). Bioremediation of heavy metal-polluted environments: Regulation of bacterial cell affinity for metal cations (Review). In Proceedings, Plant and Industrial Pollution. March 6<sup>th</sup> 2002, pp: 111-134. *Egyptian Botanical Society*, Cairo, Egypt.
17. **El-Helow, E.R.** (2001). Identification and molecular characterization of a novel *Bacillus* strain capable of degrading Tween-80. *FEMS Microbiol. Lett.* 196: 119-122.
18. **El-Helow, E.R.**; Ghanem, K.M. and Mohamad, E.A. (2001). Amplification of the *Escherichia coli lacZ* gene in *Bacillus subtilis* and its expression on a by-product growth medium. *J. Basic Microbiol.*, 41: 17–24.
19. Leighton, T; **El-Helow, E.R.**; XIA, D. and Gomez, Y. (2001). Outer spore coat molecular genetic diversity of the *Bacillus anthracis* group. In: 4<sup>th</sup> International Conference on Anthrax. *American Society for Microbiology*, Annapolis, Maryland, USA.
20. **El-Helow, E.R.**; Abdel-Fattah, Y.R.; Ghanem, K.M. and Mohamad, E.A. (2000). Application of the response surface methodology for optimizing the activity of an *aprE*-driven gene expression system in *Bacillus subtilis*. *App. Microbiol. Biotechnol.*, 54: 515-520.
21. **El-Helow, E.R.**; Sabry, S.A. and Amer, R.M. (2000). Cadmium biosorption by a cadmium resistant strain of *Bacillus thuringiensis*: regulation and optimization of cell surface affinity for metal cations. *BioMetals*, 13: 273-280.
22. **El-Helow, E.R.**, Leighton, T., Gomez, Y.; Poole, J. Nunez, E.; Ekunwe, S.; Zoh, K; Steding, A; Rubrake, J. and Horne, A. (2000). Genetic and physiological regulation of nitroglycerin degradation in *Bacillus* species. 219<sup>th</sup> *ACS National Meeting*. *American Chemical Society*, San Francisco, USA.
23. **El-Helow, E.R.**; Leighton, T.; Nunez, E.; Mock, M.; Fouet, A. and Poole, J. (2000). Molecular phylogenetic analysis of the *Bacillus cereus* clade. In: *Bacillus 2000: Applications and Systematics of Bacillus and Relatives*. *International Committee on Systematic Bacteriology, Subcommittee on the Genus Bacillus and Related Organisms*. Bruges, Belgium.
24. **El-Helow, E.R.** and El-Ahawany, A. (1999). Lichenase production by catabolite repression resistant *Bacillus subtilis* mutants: optimization and formulation of an agro-industrial by-product medium. *Enz. Microb. Technol.*, 24: 325-331.
25. **El-Helow, E.R.**; Sabry, S.A. and Khattab. A. (1997). Production of b-mannanase by *Bacillus subtilis* from agro-industrial byproducts: screening and optimization. *Antonie van Leeuwenhoek*, 71: 189-193.
26. **El-Helow, E.R.** and El-Gazaerly, M.A. (1996). *Bacillus subtilis*  $\alpha$ -amylase, lichenase, b-mannanase and xylanase: screening for their induction by agro-industrial byproducts and precipitation by organic solvents. *J. Basic Microbiol.*, 36: 75-81.
27. **El-Helow, E.R.** and Khattab. A. (1996). The development of a *Bacillus subtilis* 168 culture condition for enhanced and accelerated b-mannanase production. *Acta Microbiol. et Immunol. Hungarica*, 43: 289-299.
28. **El-Helow, E.R.** (1996). Optimization of medium ingredients for  $\alpha$ -amylase production by altered genotypes of *Bacillus subtilis* 168. *J. of the Medical Research Institute*, 17: 175-181.
29. **El-Helow, E.R.** and El-Ahawany, A. (1995). Studies on the regulation of b-glucanase expression in *Bacillus subtilis*. *Egyptian J. Gene.*, 24: 180-190.
30. **El-Helow, E.R.** (1995). The *Bacillus subtilis* SpoIIJ has a developmentally modulated crosstalk with catabolic operons. *Egyptian J. Gene.*, 24: 140-150.
31. Ghanem, K.; Sallam, L.; El-Refai, A. and **El-Helow, E.** (1987). Some nutritional requirements of *Streptomyces coriofaciens* producing 16  $\alpha$ -progesterone hydroxylase. *J. Microbiol. Egypt.*, 22: 27-34.
32. Ghanem, K.M.; El-Refai, A.H. and **El-Helow, E.R.** (1985). Studies on a new progesterone-16  $\alpha$ -hydroxylating Streptomyces. *Microbiol. Espan.*, 38: 107-113.

33. Ghanem, K.M.; El-Refai, A.H. and **El-Helow, E.R.** (1986). Some characteristics of progesterone 16 a-hydroxylase of *Streptomyces coriofaciens*. *Rev. Lat-amer. Microbiol.*, 28: 243-247.

**PATENTS:**

Citric acid production by a local *Aspergillus niger* isolate, Ghanem, K.M.; El-Helow, E.R.; Lotfy, W.A. Faculty of Science, Alexandria University, Egypt. Pat., 24304, January, 13, 2009