

CURRICLUM VITAE

Hanaa Hussien Abd El-Baky, Ph.D

Prof. Plant Biochemistry

Head of Plant Biochemistry Dept.

National Research Centre, Cairo, Egypt

Degrees:

- B. Sc. in Biochemistry (with Honer), Cairo University , Giza, Egypt, 1989.
- M. Sc. in Biochemistry, Cairo University, Giza, Egypt, 1995.
Chemical and biochemical studies on carotenoids of some green algae."
- Ph .D. in Biochemistry, Cairo University, Giza, Egypt, 1999.
"Biochemical studies on some algal as a source of antioxidant vitamins."

Awards:

- **State of Egypt Advancement Award for Agricultural Sciences, 2004**
- **Who's Who in the world 2009**

Training Courses:

- Advanced courses in English as Second Languish, Weekend Collage, T.S .U (1991) Houston, TX 77004, USA.

- Advanced course in physical chemistry, Texas Southern University, Houston, TX. 1991 (USA)
- Advanced course in computer sciences Cairo University, 1995.
- Training course on Chromatography, National Research Centre, Dokki, Cairo, Egypt, 1998.
- Training course on PCR, National Research Centre, Dokki, Cairo, Egypt, 2000
- Training course on enzymology, National Research Centre, Dokki, Cairo, Egypt, 2003

Professional Occupation:

- **September 1990- August 1992**
Research assistant in Chemistry Department, Texas Southern University, Houston, TX. 77004, USA.
- **October 1991- September 1995**
Research assistant, Botany Department, National Research Centre, Dokki, Cairo, Egypt.
- **September 1995 – July 1999**
Assistant Researcher, Botany Department, National Research Centre, Dokki, Cairo, Egypt.
- **August 1999 – July 2004**
Researcher of Plant Biochemistry, National Research Centre, Dokki, Cairo, Egypt.
- **August 2004 – July 2009**
Associate Professor of Plant Biochemistry, Plant Biochemistry Department, National Research Centre, Dokki, Cairo, Egypt .
- **August 2009 - present**

Professor of Plant Biochemistry, Plant Biochemistry Department,
National Research Centre, Dokki , Cairo, Egypt .

- **May 2010 - present**

Head of Plant Biochemistry Department, National Research Centre,
Dokki , Cairo, Egypt .

Scientific Activities:

- **Principle investigator of project No. 6/42/5 (2000-2004, NRC)**
“Evaluation of functional ingredient having antioxidants activity
from algae “
- **Co principle investigator of project No 6/24/5 (2000-2004, NRC)**
“Production of oils rich in omega-3 Fatty acids from microalgae.”
- **Principle investigator of project No. 7070902 (2004-2007, NRC)**
“Production of antioxidant and other bioactive substance
from plants. “
- **Co principle investigator of project No. E 8040 (2008-2010,
NRC)**
" Production of nutraceutical raw material from microalgae"
- **Member of research team OF project** “Production and used the
microalgae and their products as functional foods” 2007-2010
Cairo University.
- **Member of research team of project** "Development in biodiesel
production and sources" USA research grant 2008-2011.
- **Principle investigator of project** " Production of biodiesel from
algae and Jatropha oils" Spain research grant 2010/2011

- **Principle investigator of project No. 9130102 (2010-2013, NRC) "**
Innovative and Development production of Natural Functional Ingredients
from Microalgae

Conferences

1. The 6th International Symposium Agro Environ Natural Resources Conservation, Use & Sustainability” Antalya, Turkey, April 28-1 May- 2008
2. 1St Conference “International Chester food Sci. and Technol., 10TH-13TH April” p:53. Chester Univ., UK. (2007).
3. 4th conference on “*Scientific Research Outlook & Technology Development in the Arab World (SROIV)* December 11 - 14, 2006, Umayyad Palace, Damascus, Syria
4. The 3rd conference of Recent Technologies in Agriculture Cairo University, Giza, Egypt (2005).

Professional Affiliations:

- American Chemical Society
- Egyptian Chemical Society
- Egyptian Biochemical Society
- Egyptian Society of Nutrition
- Egyptian British Biological Society

Research Background:

- Mass production of microalgae
- Chemistry and biochemistry of natural products of algae
- Nutritional evaluation of algal as sources of healthy foods
- Isolation and evaluation of antioxidant substances from algae
- Evaluation of algae as source of chemopreventive agent
- Evaluation of algae as a source of antiviral agent

- Using algae as source of plant growth inhibitors
- Isolation, purification of vitamins, lipids and enzymes
- Chemistry and biochemistry of algal lipid and essential oils
- GC and HPLC system
- Production of biodiesel from algal oils

- **Citation**

1. The research paper under title “*Spirulina* Species as a Source of Carotenoids and α -Tocopherol and its Anticarcinoma Factors. Hanaa H. Abd El-Baky, Farouk K. El Baz and Gamal S. El-Baroty Volume 2 Number 3: 222-240, (2003). ISSN 1682-2978, are appear In “Potent Therapeutic Food” (ed) Mark Sircus Ac., OMD (2005).
<http://onibasu.com/archives/am/136011.html>
2. Cited in 10 scientific articles

- **Editor abroad in journal**

1. Editor in – Chief of Academic J. of Cancer Research
2. World Journal of Medical Sciences
3. Journal of Applied Sciences Research
4. Continental J. Of Biological Sci

- **Reviewer in some journals:**

- African J. of Agricultural Research
- Iranian Journal of Science and Technology
- J. Essential Oil Bearing Plants
- J. Pharmacy and Bioallied Sci.
- The European J. of Pharmacology
- International research J. Agric. sci.
- Journal of Yeast and Fungal Research

- International Journal of Nutrition and Metabolism
- Global J. of Biotechnology and Biochemistry
- African Journal of Biochemistry Research

- **Publications**

Books Publications:

1. **Abd El-Baky, H. Hanaa (2007).** In " *Spiruline*: bibliographie scientifique (1966–2006). Ed. Jacques Falquet and Jean-Pierre Hurni, Antenna Technologies Suisse, France, PP:4 -5.
2. **Abd El-Baky, H. Hanaa and El-Baroty, G.S. (2011).** Microalgae as a Source of Biofuel. "In "Advances in Energy Research", Edie Morena J. Acosta, Nova Science Publishers USA, Volume 5, 215-238.

Publications in International Conferences:

1. **Abd El-Baky, H. Hanaa; El Baz, F.K. and El-Baroty, G.S. (2006).** Production of carotenoids from marine microalgae and its evaluation as safe food colorant and lowering cholesterol agents. 4th conference on "*Scientific Research Outlook & Technology Development in the Arab World (SROIV)* December 11 - 14, 2006, Umayyad Palace, Damascus, Syria (ABSTRACT).
2. **Abd El-Baky, H. Hanaa; El Baz, F.K. and El-Baroty, G.S. (2007).** Enhancement of antioxidant production in *Spirulina plantensis* under oxidative stress. 1st Conference "International Chester food Sci. and Technol., 10TH-13TH April" p: 53. Chester Univ., UK (ABSTRACT).
3. **El-Baroty, G.S. and Abd El-Baky, H. Hanaa (2007).** Enhancement of antioxidant production in *Spirulina plantensis* under oxidative stress. Botany and Plant Biology, July 7-11, 2007, Hilton Chicago, Chicago, Illinois (ABSTRACT No.20)
4. **Abd El-Baky, H. Hanaa; El Baz, F.K. and El-Baroty, G.S. (2007).** Production of carotenoids from marine microalgae and its evaluation as safe food colorant and lowering cholesterol agents. (ABSTRACT No.1139)
5. **Abd El-Baky, H. Hanaa; El Baz, F.K. and El-Baroty, G.S. (2008).** Characterization of nutraceutical compounds in *blue green alga Spirulina maxima*. 5th conference on "*Scientific Research Outlook & Technology Development in the Arab World (SROIV)* October 26- 30, 2008, Fez, Morocco (ABSTRACT).

6. **Abd El-Baky, H. Hanaa;** El Baz, F.K. and El-Baroty, G.S. (2008). Production of carotenoids from marine microalgae and its evaluation as safe food colorant and lowering 6th international symposium Agro Environ Antalya, Turkey April 28- May 1, 2008 (ABSTRACT).
7. **Abd El-Baky, H. Hanaa** and El-Baroty, G.S. (2008). Chemical and biological evaluation of the essential oil of Egyptian Moldavian balm. 5th conference on “*Scientific Research Outlook & Technology Development in the Arab World (SROIV)*” October 26- 30, 2008, Fez, Morocco (ABSTRACT).
8. **Abd El-Baky, H. Hanaa;** El Baz, F.K. and El-Baroty, G.S. (2010). Chemical characteristics and Biological activity of *Ulva lactuca* L sulphated polysaccharides. 2nd International Chester Food Science and Technology Conference. PP: L31. 22/3/2010 to 24/3/2010 Chester Univ., UK (ABSTRACT).
9. **Hanaa H. Abd El-Baky** and Gamal S. El Baroty* (2010). Enhancement of Phycocyanin in *Spirulina* and It is Inhibitory Effect on Growth of Carcinoma Cells. Plant Biology conference 2010 from July 31 to August 4, 2010 - Montreal, Canada (ABSTRACT No. P01036).

Publications in national Conferences:

1. El-Baroty, G. S.; Shallan, M.A.; El-Baz, F.K.; **Abd El-Baky, H. Hanaa** and Shalaby, E. (2005). Antiviral activity of different extracts from *Spirulina maxima* . In: The 3rd conference of Recent Technologies in Agriculture. P.1-7.

Publications in international journals:

1. El-Baz, F.K.; Aboul-Enein, A.M.; El-Baroty, G.S.; Youssef, A.M. and **Abd El-Baky, H. Hanaa**, (2002). Anticarcinogenic activity of algal extracts. J. Med. Sci., 2 (5-6)243-251.
1. El- Baz, F.K.; Aboul-Enein, A.M.; El-Baroty, G.S.; Youssef, A.M. and **Abd El-Baky, H. Hanaa** (2002). Accumulation of antioxidant vitamins in *Dunaliella salina* . Online J. Biolog. Sci. 2 (4): 220-223.
2. **Abd El-Baky, H. Hanaa;** Gouda, E. M.; El-Behairy A. M. and G. S. El-Baroty, (2002). Chemoprevention of benzo[a]pyrene-induced carcinogen and lipid peroxidation in mice by lipophilic algae extracts (phycotene). J. Med. Sci., 2 (4):185-193.
3. **Abd El-Baky, H. Hanaa;** Shallan, M.A.; El-Baroty, G. S. and El-Baz, F.K. (2002). Volatile compounds of the microalga *Chlorella vulgaris* and their phytotoxic effect. Paki. J. Biological Sc. 5 (1): 61-65.

4. **Abd El-Baky, H. Hanaa;** Abo-Daiya, Y.M. and El-Baroty, G. S. (2002). Protection against polycyclic aromatic hydrocarbon-induced lipid peroxidation in mice by some essential oils. *J. Med. Sci.*, 2 (5-6): 221-226.
5. Aboul-Enein, A.M.; El-Baz, F.K.; El-Baroty, G.S.; Youssef, A.M. and **Abd El-Baky, H. Hanaa (2003)** Antioxidant activity of algal extracts on lipid peroxidation. *J. Med. Sci.*, 3 (1): 87-98.
6. **Abd El-Baky, H. Hanaa;** Mohamed, A. A. and Hussein, M.M. (2003). Influence of salinity on lipid peroxidation, antioxidant enzymes and electrophoretic patterns of protein and isoenzymes in leaves of some onion cultivars. *Asian J. Plant Sci.* 2(17-24):1220-1227.
7. **Abd El-Baky, H. Hanaa (2003).** Over production of Phycocyanin pigment in blue green alga *Spirulina Sp* .and its inhibitory effect on growth of Ehrlich ascites carcinoma cells. *J. Med. Sci.*, 3 (4): 314-324.
8. **Abd El-Baky, H. Hanaa;** El Baz, F.K. and El-Baroty, G.S. (2003). *Spirulina* Species as a Source of Carotenoids and α -Tocopherol and its anticarcinoma factors. *Biotechol.* 2, 3: 222-240.
9. **Abd El-Baky, H. Hanaa;** El Baz, F.K. and El-Baroty, G.S. (2004). Production of antioxidant by the green alga *Dunaliella salina*. *Int. J. Agri. Biol.*, 6, (1): 49-57.
10. **Abd El-Baky, H. Hanaa;** El Baz, F.K. and El-Baroty, G.S. (2004). Production of Lipids rich in Omega 3 Fatty Acids from the Halotolerant alga *Dunaliella salina*. *Biotechol.* 3, (1): 102-108.
11. **Abd El-Baky, H. Hanaa;** El Baz, F.K. and El-Baroty, G.S. (2006). Over-production of Lipid Rich in γ -Linolenic Acid by Blue Green Alga *Spirulina maxima* and its Inhibitory Effect on Carcinoma Cells. *Ad. Food Sci.*, 4: 206-212.
12. **Abd El-Baky, H. Hanaa;** El Baz, F.K. and El-Baroty, G.S. (2007). Production of carotenoids from marine microalgae and its evaluation as safe food colorant and lowering cholesterol agents. *Am. Eurasian J. Agric. Environ. Sci.*, 2 (6): 792-800.
13. **Abd El-Baky, H. Hanaa** and El-Baroty, G.S. (2008). Chemical and Biological Evaluation of the Essential Oil of Egyptian Moldavian Balm. *International Journal of Essential Oil Therapeutics* 2, 76-81.
14. **Abd El-Baky H. Hanaa;** Hussein M. M. and El-Baroty, G.S. (2008). Algal extracts improve antioxidant defense abilities and salt tolerance of wheat plant irrigated with sea water. *Afr. J. Biochem. Res.*, 2 (7): 151 –164

15. **Abd El-Baky, H. Hanaa;** El Baz, F.K. and El-Baroty, G.S. (2008). Characterization of nutraceutical compounds in *blue green alga Spirulina maxima*. J. Medicinal Plants Research 2(10): 292-300.
16. **Abd El-Baky, H. Hanaa;** El Baz, F.K. and El-Baroty, G.S. (2009). Phenolics from *Spirulina maxima*: Over-production and *in vitro* protective effect of its phenolics on CCl₄ induced hepatotoxicity. J. Medicinal Plants Research, 3(1):24-30.
17. **Abd El-Baky, H. Hanaa;** El Baz, F.K. and El-Baroty, G.S. (2009). Evaluation of Marine Alga *Ulva lactuca* L. as A Source of Natural Preservative Ingredient. International Journal of Food Science and Technology 2009, 44, 1688–1695 1688.
18. **Abd El-Baky, H. Hanaa;** El Baz, F.K. and El-Baroty, G.S. (2009). Production of phenolic compounds from *Spirulina maxima* microalgae and its protective effects. African Journal of Biotechnol., 8 (24): 7059-7067.
19. **Abd El-Baky, H. Hanaa;** El Baz, F.K. and El-Baroty, G.S. (2009). Potential biological properties of sulphated polysaccharides extracted from the macroalgae *Ulva lactuca* L. Acad. J. Cancer Research 2 (1): 1-11.
20. **Abd El-Baky, H. Hanaa;** El Baz, F.K. and El-Baroty, G.S. (2009). Enhancement of antioxidant production in *Spirulina plantensis* under oxidative stress. Acta Physiol. Plant, 31 (3)623-631.
21. **Abd El-Baky, H. Hanaa;** El Baz, F.K. and El-Baroty, G.S. (2010). Enhancing Antioxidant Availability in grains of Wheat plants grown under seawater-stress in response to microalgae extracts treatments. J Sci Food Agric., 90: 299–303.
22. **Abd El-Baky, H. Hanaa** and El Baroty, G.S. (2010). Enhancement of carotenoids in *Dunaliella salina* for use as dietary supplements and in the preservation foods. Food and Chemical Toxicology, DOI: [10.1016/j.fct.2010.04.025](https://doi.org/10.1016/j.fct.2010.04.025).
23. El Baroty G.S., Farag R.S, **Hanaa H. Abd El-Baky,** and Saleh M. A. (2010). Characterization of cinnamon and ginger essential oils and its *in vitro* antioxidant and antimicrobial activities. African J. Biochem. Research, 4(6): 167-17.

National Publications:

1. Shaban, O.A.; EL- Baz, F.K.; **Abd EL- Baky, H. Hanaa;** Mohamed, H.F. and EL- latife, S.A. (2009). Enhancement of sulfated polysaccharides in *Spiruline platensis* and its biological activities. Research Bulletin, Ain shams univ., 1-22.

2. Abd El-Moniem M. N., El-Baz F. K., Salama Zeinab A., **Abd El Baky H. Hanaa**, Ali F. Hanaa and Gaafar A. A. (2010). Enhancement of phenolics, flavonoids and glucosinolates as antioxidants of broccoli in response to organic and bioorganic fertilizers. *J. Biol. Chem. Environ. Sci.*, 5(1): 277-297.