

Galal Khamis Galal Mabrouk

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Education history

- **09/1998–06/2002:** Bachelor of Agricultural science, (Biotechnology) Major, Faculty of Agriculture, Cairo University, Egypt
- **09/2002–06/2003:** Diploma in laser application in biotechnology, National Institute of Laser Enhanced Sciences (NILES), Cairo University, Egypt
- **09/2003–10/2004:** Pre-Master of laser application in biotechnology, National Institute of Laser Enhanced Sciences (NILES), Cairo University, Egypt
- **10/2005-11/2008:** Master of laser application in biotechnology, National Institute of Laser Enhanced Sciences (NILES), Cairo University, Egypt
- **04/2011–04/2015:** PhD in Plant Biology, Institute of Botany, Faculty of Natural sciences, Leibniz University Hannover, Germany

Work Experience

- **06/2003–08/2008:** Teaching assistant, Department of Laser Application in Metrology, Photochemistry and Agriculture (LAMPA) National Institute of Laser Enhanced Science (NILES). Cairo University, Egypt
- **11/2008–09/2015:** Assistant Lecturer, LAMPA, NILES. Cairo University, Egypt
- **10/2010–04/2015:** PhD student (DAAD scholarship) Institute of Botany, Faculty of Natural sciences, Leibniz University Hannover, Germany
- **09/2015- 01/2022:** Assistant professor, LAMPA, National Institute of Laser Enhanced Science (NILES). Cairo University, Egypt
- **07/2018-08/2019:** Post Doc. Fellowship, at Nanjing Biotech. YSY Company Ltd, China
- **06/2022- Present:** Associate professor, LAMPA, National Institute of Laser Enhanced Science (NILES). Cairo University, Egypt

Publications

- **Khames, G. (2008)**. Application of laser microbeam cell surgery and *Agrobacterium*-mediated gene transformation systems in melon (*Cucumis melo L.*). (Master thesis), National Institute of Laser Enhanced Science (NILES). Cairo University
- **Khames, G., A.A. Mona, M.H. Gihan, A.S. Sadik and Y. Badr. (2009)**. Application of laser microbeam cell surgery and *Agrobacterium*-mediated gene transformation systems in melon (*Cucumis melo L.*). Pak. J. Biotechnol. 6 (1-2) 45-54
- **Galal Khamis, Jutta Papenbrock. 2014**. Newly established drought-tolerant plants as renewable primary products as source of bioenergy, Emirates Journal of Food and Agriculture, 26 (12):1067- 1080. **IF 1.04**
- **Khamis, G. (2015)**. Establishment of a regeneration and transformation system of *Balanites aegyptiaca* L. and investigation on the physiological responses to abiotic stress of different genotypes (Doctoral dissertation), Institute of Botany, Hanover University, Germany
- **Galal Khamis, Traud Winkelmann, Frank Schaarschmidt, Jutta Papenbrock. 2016**. Establishment of an *in vitro* propagation and transformation system of *Balanites aegyptiaca*. Plant Cell, Tissue and Organ Culture. **125**, 457–470. **IF 2.71**
- **Galal Khamis, Frank Schaarschmidt, Jutta Papenbrock. 2017**. Genetic diversity among populations of the xerophytic tree species *Balanites aegyptiaca* and its morpho-physiological responses to water deficiency. African Journal of Agricultural Research. 12 (45): 3252– 3269. **IF 0.6**
- **Galal Khamis, AbdElgawad Hamada, Frank Schaarschmidt, Gerrit T. S. Beemster, Han Asard, Jutta Papenbrock. 2019**. Morphological and biochemical responses of *Balanites aegyptiaca* to drought stress and recovery are provenance-dependent. Journal of Agronomy and Crop Sciences. 205:490–507. doi.org/10.1111/jac.12340. **IF 4.15**
- **Galal Khamis, Ahmed M. Saleh, Talaat H. Habeeb, Wael N. Hozzein, Mohammed A. M. Wadaan, Jutta Papenbrock, Hamada AbdElgawad. 2020**. Provenance effect on bioactive phytochemicals and nutritional and health benefits of the desert date *Balanites aegyptiaca*. Journal of Food Biochemistry. 44:e13229. doi.org/10.1111/jfbc.13229. **IF 3.65**

- **Galal Khamis**, Manar Hassan, Mona Morsy, Marwa A. Ibrahim, Reham M. Abd-Elsalam, Shymaa Ahmed El Badawy, Asmaa A. Azouz, Mona Galal. 2020. Innovative application of helium-neon laser: enhancing the germination of *Adansonia digitata* and evaluating the hepatoprotective activities in mice. Environmental Science and Pollution Research. 27:26520–26531. doi.org/10.1007/s11356-020-09036-0. **IF 5.053**
- Mohammed S. Almuhayawi, Hamada AbdElgawad, Soad K. Al Jaouni, Samy Selim, Abdelrahim H.A. Hassan, **Galal Khamis**. 2020. Elevated CO₂ improves glucosinolate metabolism and stimulated anticancer and anti-inflammatory properties of broccoli sprouts. Food Chemistry. 328:127102. doi.org/10.1016/j.foodchem.2020.127102. **IF 9.23**
- Mohammed S. Almuhayawi, Abdelrahim H.A. Hassan, Soad K. Al Jaouni, Dalal Hussien M. Alkhalifah, Wael N. Hozzein, Samy Selim, Hamada AbdElgawad, **Galal Khamis**. 2021. Influence of elevated CO₂ on nutritive value and health-promoting prospective of three genotypes of Alfalfa sprouts (*Medicago Sativa*). Food Chemistry. 340:128147. doi.org/10.1016/j.foodchem.2020.128147. **IF 9.23**
- Mohammed S. Almuhayawi, Abdelrahim H.A. Hassan, Mohamed Abdel-Mawgoud, **Galal Khamis**, Samy Selim, Soad K. Al Jaouni, Hamada AbdElgawad. 2021. Laser light as a promising approach to improve the nutritional value, antioxidant capacity and anti-inflammatory activity of flavonoid-rich buckwheat sprouts. Food Chemistry. 345:128788. doi.org/10.1016/j.foodchem.2020.128788. **IF 9.23**
- Modhi O. Alotaibi, **Galal Khamis**, Hamada AbdElgawad, Afrah E. Mohammed, Mohamed S. Sheteiwy, Mudawi M. Elobeid, and Ahmed M. Saleh. 2021. Lepidium sativum sprouts grown under elevated CO₂ hyperaccumulate glucosinolates and antioxidants and exhibit enhanced biological and reduced antinutritional properties. Biomolecules. 11:1174. doi.org/10.3390/biom11081174. **IF 6.064**
- Omar A. Hewedy, Ghada Abd-Elmonsef Mahmoud, Naglaa F. Elshafey, **Galal Khamis**, Ali M.Karkour, Nour Chiab, Basma H. Amin, Khalid S. Abdel Lateif, Mahmoud F. Seleiman. 2022. Plants take action to mitigate salt stress: Ask microbe for help, phytohormones, and genetic approaches. Journal of Water and Land Development. Accepted. **IF 1.19**
- **Galal Khamis**, and Zhao Qingshun. (2022). Establishment of an in vitro propagation, transformation, and gene editing system on tomato. Journal of Plant Research. Under review.

Honors and award

- **Sep.2009**, the best master thesis, National Institute of Laser Enhanced Science (NILES). Cairo University
- **Oct. 2010**. PhD scholarship, The German- Egyptian Long-Term scholarship (GERLS) funded by the Deutscher Akademischer Austausch dienst (DAAD) and the Ministry of Higher Education (MOHE) of the Arab Republic of Egypt, cooperation agreement.
- **Mar. 2017, 2019, 2020, 2021**. Reward for international scientific publication from Cairo University.
- **Jul. 2018**. Post doc. Fellowship, at Nanjing Biotech. YSY Company Ltd, China. Supported from Talented Young Scientist program (TYSP), China.

Conferences and Workshop

- **Khames G., A.A. Mona, M.H. Gihan, A.S. Sadik and Y. Badr. (2008)**. Applications of laser microbeam cell surgery and *Agrobacterium*-mediated transformations system in melon (*Cucumis melo* L.). Oral presentation, ASTF conference, Amman. 2:5/03/2008
- **Khamis, G., Schaarschmidt, F., and Papenbrock, J. (2015)**. Effect of water deficiency on different genotypes of *Balanites aegyptiaca*. Poster in Agricultural and Climate Change- Adapting Crops to Increased Uncertainty Conference, Amsterdam, Netherlands. 15:17/02/2015.
- **Khamis, G., Winkelmann, T., Schaarschmidt, F., and Papenbrock, J (2016)**. Establishment of a regeneration and transformation system of *Balanites aegyptiaca* L. The first international conference of genetics and its role in life science development. Oral presentation, faculty of sciences, Alexandria University, Alexandria, Egypt, 20/04/2016
- **Participant in, 2016 DAAD alumni summer school on sustainability at Leibniz Universität Hannover**, African and European perspectives on sustainability in natural resource Management and environmental research. 9-16 of October 2016 and 8-15 of October 2017.
- **Participant in, DIES, Proposal writing courses for research grants In Tunisia, organized by University of Cologne and DAAD**. 22-26 of January 2017 and 20-25 August 2017

Projects

- **October 2018.** Principal investigator: Innovative application of helium neon laser: improving the germination of *Adansonia digitata* and analyzing their Hepatoprotective activities (2019-2021). Supported from Cairo University with 300,000 Egyptian pounds budget.

Personal skills

Mother tongue(s) Arabic

Other

language(s)

English

German

Understanding		Speaking		Writing
Listening	Reading	Spoken Interaction	Spoken production	
C2	C2	C2	C2	C2
B1	B1	B1	B1	A2

Job-related skills

- Plant tissue culture and transformation (Melon, tomato, desert date, wheat, potato, *Adansonia digitata*), Nucleic acid extraction, PCR and qPCR, Gene isolation, Gene cloning and genome editing (CRISPR-Cas9)
- DNA sequencing, Protein extraction and SDS/PAGE
- Plant abiotic stress (Drought and salt stress) Molecular marker techniques (AFLP)
- Attended 12 courses in the program of Faculty and Leadership Development Project (FLDP) during the period of Dec. 2004 to Jun. 2015. These courses included: - The thinking skills – The communication skills – The ethics of the carrier – The ethics of the scientific Research – The communication effective skills – The modern strategy in the teaching Preparation of projects for competitive research funding- International publication for Scientific Research-Undergraduate Management- The use of technology in teaching Organizing scientific conferences-Time management and meetings.

Teaching tasks and Responsibilities

Courses for postgraduate students:

- Photobiology 1 and 2
- Laser applications in agricultural biotechnology
- Pollutants, and genotoxicity in agriculture
- Advanced approaches in agricultural biotechnology
- Genetically modified crops and animals
- Laser in gene technology for agricultural improvement.

Responsibilities

- Committee of scientific research for quality assurance at NILES, Cairo University.
- Committee of biosafety at NILES, Cairo University
- Member in the International Classification Unit at Cairo University