

## *Resume*

**Dr. Sarfaraz Hadi**, *M. Sc., M. Phil., Ph. D.*  
Indian; born: 1.05.1954

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*Associate Professor*  
Department of Botany and Microbiology,  
College of Science,  
King Saud University, Riyadh  
(Since Nov. 2009)

### **Experience of Research, Teaching, and Industry: 30 years**

#### **Current responsibilities:**

- Teaching assigned courses.
- Guiding and supervising Ph.D. and M. Sc. students in research work and writing thesis.
- Planning, designing, and executing research work for various projects running in the lab.
- Writing research papers for publication in peer reviewed journals.
- Writing project proposals for submission to National Plan for Science & Technology (NPST) and to the Research Center at College of Science.
- Writing and reviewing reports, thesis and other manuscripts assigned by the Department.

#### **Teaching:**

##### **Post Graduate program:**

Advanced Environmental microbiology	(MBio-641)
Advanced Bacterial parasites of fungi	(MBio-632)

##### **Bachelors program:**

Scientific communication	(MBio-490)
Laboratory skills	(MBio-240)
Research training	(MBio-499)

**Research guidance:****Ph. D.**

1. 'Biodegradation of urban waste by mangrove fungi'  
 - Student: Foud Amin Sa'ad Hasan (Univ. ID. 430108177)  
 - Registered April, 2012.  
 - Status: Degree awarded
2. 'Biology of desert truffles of Saudi Arabia under natural and controlled conditions'  
 - Student: Mansur Abdul Latif Al-Qash'am (Univ. ID.431106107)  
 - Registered: April, 2013.  
 - Status: Work in progress
3. 'Enhancing biodegradation potential of marine yeasts from Red Sea by genetic engineering'  
 - Student: Ahmad Ebrahim Ali Al-Sabri (Univ. ID. 434108540)  
 - Registered: 2015.  
 - Status: Work in progress

**M. Sc.**

1. 'Anti-microbial efficacy of Myrrh (*Commiphora myrrh*) exudates'  
 - Student: Ahmad Ebrahim Ali Al-Sabri (Univ. ID. 429107435)  
 - Registered: 2011.  
 - Status: Degree awarded
2. 'Rapid PCR-based identification of some dermatophytes isolated from patients with skin diseases'  
 - Student: Abu Bakr Mahmood Qasim Al-Mansoob (Univ. ID. 431106505)  
 - Registered: April, 2012.  
 - Status: Degree awarded

**Research projects awarded by National Plan for Science and Technology (NPST):**

1. **Title:** 'Development of genetically engineered bio-mortar for repairs.'  
**Sponsored by:** National Plan for Science & Technology (NPST)  
 Project No. 11-BIO 1959-02.  
**Role:** Co-investigator  
 - In collaboration with Dpt. of Civil Engineering, College of Engineering, KSU  
**Status:** Final report under preparation.

2. **Title:** ‘Cataloguing fungi and mycetozoa of the deserts of Saudi Arabia.’  
**Sponsored by:** National Plan for Science & Technology (NPST)  
 Project No. 13-BIO 1030-02.  
**Role:** Co-investigator  
**Status:** Work to be started soon
3. **Title:** ‘Genetic characterization and antimicrobial profiling of marine fungi from Saudi Arabia’  
**Submitted to:** National Plan for Science & Technology (NPST)  
 Proposal ID: 13-BIO2290-02  
**Role:** Co-investigator  
**Status:** Work to be started soon

**Research project completed:**

**Title:** ‘Antifungal efficacy of some natural oils and evaluating the risk of fungal contamination in class rooms and laboratories at King Saud University.’ [No. NPA R3 – (9)].

**Sponsored by:** Deanship of Scientific Research, KSU (under: National Applied Research Fund Scheme).

**Role:** Co-investigator

**Status:** Final report submitted

**Patents:** (submitted to Intellectual Property & Licensing Program at KSU)

1. ‘A gadget for quantifying anti-microbial efficacy of aroma compounds/essential oils’.  
 Submitted: April, 2013  
 Disclosure ID: 042013-00488  
 Role: 2<sup>nd</sup> Inventor
2. A gadget for quantifying anti-fungal efficacy of non-aromatic compounds.  
*(Under preparation)*

**Major capabilities:**

***Teaching:***

- Microbiology
- Genetic engineering & Molecular biology
- Industrial Biotechnology
- Botany
- Agriculture

**Research:**

- Genetic characterization of microorganisms by PCR and sequencing
- Activity profiling of microorganisms for antibiotics/secondary metabolite production
- Genetic modification of microorganisms
- Induction and evaluation of genetic variability
- Pilot plant set-up for industrial production
- Optimization of production protocols
- Product quality assessment

**Writing:**

- Research papers
- Research proposals for NPST and other funding agencies
- Formulating and upgrading syllabi in microbiology

**Previous career Summary:**

At King Abdulaziz City for Science & Technology, Riyadh  
(Premier Government organization for scientific research in Saudi Arabia)

**Researcher:** Sept. 2003 – Nov. 2009

Biotechnology Section

Natural Resources & Environment Research Institute

**Assignments & accomplishments**

- Construction and cloning of bacterial plasmid vectors
- Introgression of foreign genes in tomato (drought tolerance), date palm (insect resistance), and eggplant (salt tolerance) using gene gun and *Agrobacterium*
- Screening of soil and water samples for detection of desired bacteria (*Bacillus* spp.)
- DNA finger printing of TC-derived date palm using RAPD & AFLP procedures
- Hormone assay in date palm by HPLC, and isozyme analysis
- Determined cause of 'shees' abnormality of date palm and method for its correction
- Determined DNA markers associated with date palm 'shees'
- Conducted Aflatoxin detection in camel feed by HPLC and ELISA

At DCM Shriram Industries Ltd, New Delhi, India  
*(A frontline Pvt. Ltd. Company of India)*

**Deputy Manager – R&D:** Aug.1994 - Sept.2002  
 Daurala Sugar Works

**Assignments & accomplishments**

- Established biotech lab of the Company.
- Trained the manpower at various levels of operations.
- Headed capacity production of tissue culture (TC) plants of sugar cane varieties.
- Introduced several innovative methods for production and hardening of TC plants.
- Headed preparation of reports and correspondence with corporate Hq. and Govt.
- Conducted microbial analysis of factory effluent and treatment plant out flow.
- Performed DNA profiling of sugarcane varieties using RAPD & AFLP.
- Attempted introduction of 'Bt' gene in sugar cane using gene gun.
- Guided research work and preparation of dissertation for M. Sc. (Botany).

At Indian Agricultural Research Institute, New Delhi, India  
*(A Deemed University & Premier agricultural research organization)*

**Research Associate:** Jul.1985 - Sep.1988; Sep.1989 - Aug.1994

National Research Center for Plant Biotechnology

**Assignments & accomplishments**

- Developed over 800 high-yielding lines of Basmati rice by cell culture techniques.
- Conducted grain quality and cooking quality tests on different types of rice.
- Developed an innovative method for isolation of rice anthers for in-vitro culture.
- Developed over 100 salt-tolerant lines of mustard by cell culture techniques.
- Developed Mustard lines resistant to black spot disease (*Alternaria brassicae*).
- Contributed to introduction of 'Bt' gene in Basmati rice using gene gun.
- Conducted DNA finger printing of rice somaclones and transgenics by RAPD, AFLP.
- Conducted teaching and research guidance at Ph. D. and M. Sc. level.

At Jawaharlal Nehru University, New Delhi, India  
*(An internationally renowned university of India)*

**Scientific Officer:** Oct.1988 - Sep.1989  
 Molecular Biology Lab, School of Life Sciences

- Acquired proficiency in techniques of Microbiology and genetic engineering.  
 HPLC, ELISA, protoplast culture etc.
- Conducted teaching and research guidance at Ph.D., M. Phil and M. Sc. level.

**Educational qualifications:**

**At Aligarh Muslim University, Aligarh, India**

*(An internationally renowned university of India)*

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|-------------------------|------|----------------------------------------------------------------------------------------------------------|
| <b>Ph. D. (Botany)</b>  | 1987 | <i>Thesis: "Induction and evaluation of genetic variability in safflower (Carthamus tinctorius L.)."</i> |
| <b>M. Phil (Botany)</b> | 1982 | <i>Thesis: "Studies on breeding for improvement of safflower (Carthamus tinctorius L.)."</i>             |
| <b>M. Sc. (Botany)</b>  | 1977 |                                                                                                          |
| <b>B. Sc. (Hons)</b>    | 1975 |                                                                                                          |

**Membership:**

- Member, Biotechnology Society of India, New Delhi
- Member, Indian Society for Genetics & Plant Breeding, New Delhi

**Publications**

**Books:**

1. **Antimicrobial efficacy of Arabian shrub 'Myrrh' (*Commiphora myrrha* L) – (2016)**  
 Ahmed Ebrahim Al-Sabri, Mohammed Moslem, Sarfaraz Hadi  
 Published by: LAP LAMBERT Academic Publishing, Germany.  
 ISBN-978-3-659-83372-4  
 Website: <https://www.lap-publishing.com/>
2. **Biodegradation of urban waste by mangrove fungi - (2015)**  
 Fuad Ameen, Mohammed Moslem, Sarfaraz Hadi  
 Published by: LAP LAMBERT Academic Publishing, Germany  
 ISBN-13: 978-3-659-71569-3  
 Website: <https://www.lap-publishing.com/>

**Peer reviewed articles:**

- Yousef Al-Salloum, **S. Hadi**, H. Abbas, Tarek Almusallam, and M.A. Moslem (2017). Bio-induction and bioremediation of cementitious composites using microbial mineral precipitation - A review. Construction and Building Materials (Submitted).
- Sarfaraz Hadi**, M.A. Moslem, S.K. Raina, and Upendra Kumar (2016). Long term stability of basmati somaclones. International Journal of Agriculture and Biology (Submitted).

- Yousef Al-Salloum, H. Abbas, Q.I. Sheikh, **S. Hadi**, Saleh Alsayed, and Tarek Almusallam (2016). Effect of some biological parameters on microbially-induced calcite precipitation in cement mortar. *Saudi Journal of Biological Sciences* 23, xx.
- Fuad Ameen, **Sarfaraz Hadi**, and Mohammed Moslem (2016). Biodegradation of Diesel fuel hydrocarbons by mangrove fungi from Red Sea coast of Saudi Arabia. *Saudi Journal of Biological Sciences* 23, 211-218.
- Fuad Ameen, Mohammed Moslem, **S. Hadi**, Ahmed Al-Sabri (2015). Biodegradation of low density polyethylene (LDPE) by mangrove fungi from the Red Sea coast of Saudi Arabia. *Progress in Rubber, Plastics, and Recycling Technology* 31 (2): 125-144.
- Fuad Ameen, **Sarfaraz Hadi**, and Mohammed Moslem (2015). Biodegradation of engine oil by fungi from mangrove habitat. *Journal of General and Applied Microbiology* 61, 185-192.
- Fuad Ameen, Mohamed Moslem, and **Sarfaraz Hadi** (2015). Biodegradation of petroleum oil by mangrove fungi from Saudi Red Sea Coast. *Research Journal of Biotechnology* 10 (4): 75-83.
- Sarfaraz Hadi**, Nasser S. Al-Khalifah, and Mohammed Abdo Moslem (2015). Hormonal basis of 'shees' fruit abnormality in tissue culture derived plants of date palm (*Phoenix dactylifera* L.). *International Journal of Agriculture and Biology* 17 (3): 607-612.
- Ahmad E. Al-Sabri, Mohammed A. Moslem, **Sarfaraz Hadi**, Mohammed A. Yassin, and Fuad Ameen (2014). Antifungal activity of *Commiphora myrrha* L against some air fungi. *Journal of Pure and Applied Microbiology* 8(5): 3951-3955.
- Fuad Ameen, mohammed A. Moslem, **Sarfaraz Hadi**, and Ahmad E. Al-Sabri (2014). Biodegradation of cellulosic materials by marine fungi isolated from South Corniche of Jeddah, Saudi Arabia. *Journal of Pure and Applied Microbiology* 8(5): 3617-3626.
- Mohannad Abdullah Al-Wataban, **S. Hadi**, M. A. Moslem (2014). In-vitro production of mycotoxins by airborne *Cladosporium* under variable temperature regimes. *Journal of Pure and Applied Microbiology* 8 (5): 4061-4069.
- Khalid S. Al-Zuaagi, Mohammed Abdo Moslem, **Sarfaraz Hadi** and Mohammed Rabbani (2013). Molecular Procedures for Detection of Mycotoxigenic Fungi in Wheat Supplies in Saudi Arabia. *Journal of Pure and Applied Microbiology* 7(Spl. Edn.): 53-62.
- Alsum BA, Al-Bahkali AH, Filflan SA, Moslem MA, Eifan SA, and **Hadi S** (2013). Selection of polygalacturonase-secreting *Saccharomyces cerevisiae* mutants from Saudi Arabia. *Journal of Pure and Applied Microbiology* 7 (Spl. Edn.): 423-428.

- Mohammed Rabbani, Mohamed A. Moslem, and **Sarfaraz Hadi** (2013). Molecular characterization of anastomosis groups of *Rhizoctonia solani* associated with potato tubers in Saudi Arabia. *Journal of Pure and Applied Microbiology* 7: 1789-1798.
- Al-Sum BA, Ali H. Bahkali, Shafik A. Filflan, **S. Hadi** and Mohammad A. Moslem (2012). Isolation of polygalacturonase-producing strains of *Saccharomyces cerevisiae* from different sources in Saudi Arabia. *Advances in Food Sciences* 34, 82-84.
- Al-Khalifah NS, Khan FA, Askari E, **Hadi S**, and Shanavaskhan AE (2011). Medium supplements and support matrices for better in vitro growth of date palm (*Phoenix dactylifera* L.). *Acta Hort.* 882, 815-825.
- Nasser S. Al-Khalifah, Sarfaraz **Hadi**, Abdulrahman Alwasel, and Mohammed Motawei. (2010). Plant growth regulators associated with 'shees' fruit abnormality of date palm. *Proc. First Date Palm Conf. Nov. 2009. Bahrain.*
- Al-Khalifah NS, **Hadi S**, Khan FA, Khan PR, Shanavaskhan AE, and Askari E (2007). Effect of plant growth regulators on fruit abnormality of tissue culture derived date palm (*Phoenix dactylifera* L.). *Proceedings of Fourth Symposium on Date Palm in Saudi Arabia, King Faisal University, Al-Hassa, 5-8 May, 2007.*
- Al-Khalifah NS, Al-Wasel AS, Metawi M, **Hadi S**, and Askari E (2007). Genetic analysis of abnormal fruiting tissue culture derived trees date palm 'Burhy' grown in Saudi Arabia. *Acta Horticulturae* 763, 155-163.
- Al-Khalifah NS, Khan FA, Askari E, and **Hadi S** (2006). *In-vitro* culture and genetic analysis of male and female date palm (*Phoenix dactylifera* L.). *Acta Horticulturae* 725, 653-661.
- Al-Khalifah NS, **Hadi S**, and Khan FA (2005). Influence of sucrose concentration on *in-vitro* growth of five rose (*Rosa hybrid* L.) cultivars. *Plant Tissue Culture* 15, 43-49.
- Al-Khalifah NS, Askari E, Shanavaskhan AE, and **Hadi S** (2005). Morphologic and genetic analysis of some turf grass cultivars grown in Saudi Arabia. *International Turf Grass Resources Journal* 10, 54-55.
- Purnima and **Hadi S** (2002). Manipulation of culture requirements for low cost *in-vitro* tuberization in potato. *Journal of Indian Potato Association* 24, 128-131.
- Kirti PB, **Hadi S**, and Chopra VL (1991). Production of sodium chloride tolerant *Brassica juncea* Cos. & Czern. Plants by *in-vitro* selection at somatic embryo level. *Theoretical & Applied Genetics* 83, 233-237.
- Kirti PB, **Hadi S**, and Chopra VL (1989). Seed transmission of salt tolerance in regenerants of *Brassica juncea* selected *in-vitro*. *Eucarpia Cruciferae Newsletter* 12, 37-38.



- Hadi S** and Raina SK (1989). Variation for anther culture efficiency among the donor tillers in rice. *Current Science* 58, 1397-1398.
- Raina SK and **Hadi S** (1987). A simple device for mass extraction of rice anthers. *International Rice Research Newsletter* 12, 23-24.
- Amani AZ, **Hadi S**, Khan IH and Ghouse AKM (1982). Effect of coal burning pollution on leaf cuticular features of *Mangifera indica* L. *Science & Environment* 4, 68-72.
- Naqvi QA, **Hadi S**, and Mehmood K (1981). Marigold mottle virus in Aligarh, India. *Plant Disease* 65, 271-274.
- Hadi S**, Amani AZ, Zaidi BA, and Zaidi ZH (1981). Effect of air pollution on pollen viability in *Ipomea* pp. *Science & Environment* 3, 117-120.
- Zaidi ZH, Zaidi BA, and **Hadi S** (1980). A comparative account of floral biology of some varieties of eggplant (*Solanum melongena* L.). *Science & Environment* 2, 169-174.

(Sarfaraz Hadi)