

Curriculum Vitae

Hani Al-Ahmad, Ph.D.

Assistant Professor (Plant Biotechnology)
Department of Biology & Biotechnology
An-Najah National University, Nablus, P. O. Box 7, Palestine
Phone: +972-9-234-5113 internal 2342 office; Fax: +972-9-234-5982
alahmad@najah.edu
Web of Science ResearcherID: J-7665-2019

Education:

2000-2004 Ph.D. (awarded Feb. 2005). Department of Plant Sciences (now Department of Plant and Environmental Sciences). The Weizmann Institute of Science. Supervisor: Prof. Jonathan Gressel. (Plant Molecular Genetics). Thesis: *Tandem constructs mitigate transgene introgression and establishment in volunteers and in related wild or weedy species: a molecular ecology study.*

1993-1996 M.Sc. Biological Sciences (Microbiology), with highest honors, An-Najah National University, Nablus, Palestine. Thesis topic: *The epidemiology of Pseudomonas aeruginosa nosocomial infections in Rafedia Hospital, Nablus, West Bank.*

1993 B.Sc. Biological Sciences, with honors, An-Najah National University, Palestine.

Scientific Interests:

Plant Biotechnology: plant genetic transformation, plant molecular genetics, plant cell & tissue culture, and plant-based bioenergy.

Research & Teaching Experience:

❖ **2005-Present: Assistant Professor**, Department of Biology & Biotechnology, An-Najah National University, Nablus, Palestine.

Taught courses:

- 2005-present: Recombinant DNA Technology;
- 2005-present: Plant Cell & Tissue Culture;
- 2007: Ecology;
- 2005-2009: General Biology.
- 2012, 2016: B.Sc. Graduation Research Project.

❖ **Summer 2019:**

Erasmus+ European Teaching Mobility Program:

Academic visit to the Public University of Navarra (upna), Pamplona, Navarra, Spain.

❖ **Summers**

2007-2015: Visiting Scientist (Plant-based bioenergy). Plant Biotechnology, Department of Plant Sciences, The University of Tennessee, Knoxville, USA, Plant Molecular Genetics Lab of Prof. C. Neal Stewart Jr.

- ❖ **2006: Post Doctoral Research Associate (Plant-based bioenergy).** Department of Plant Sciences, The University of Tennessee, Knoxville, USA, Plant Molecular Genetics Lab of Prof. C. Neal Stewart Jr.
- ❖ **2005: Post Doctoral Fellowship (Developing of transgenic biocontrol agents -"mycoherbicides"- for intractable weeds).** The Weizmann Institute of Science. Department of Plant Sciences, lab of Prof. Jonathan Gressel.
- ❖ **1996-1998:** Part-time instructor of Microbiology and Genetics. An-Najah National University, Faculty of Agriculture, and The Community College.
- ❖ **1993-1995:** Teaching assistant. An-Najah National University, Department of Biological Sciences.

Awards and Scholarships:

- 2011, 2012, 2014, 2018** Research Excellence Awards. An-Najah National University, Palestine.
- 2011** The Foundation of Hisham Hijjawi Award for Applied Sciences-Field of Industry and Energy. "*Biomaterials from Olive Industry Solid Wastes: Cellulose and Bioethanol*". Amman-Jordan. 19th, December. (Jointly with Dr. Othman Hamed, Dept. of Chemistry, An-Najah National University).
- 2002** Schwarz Memorial Graduate Scholarship Fund. Feinberg Graduate School, Weizmann Institute of Science. Special award to outstanding graduate students.

Research Grants:

- **Investigating Plant Biosynthesis of Short-chain Alkanes for Renewable Ideal Biofuels.** AgResearch Innovation Grants Program **2012**. The University of Tennessee. **\$US 100,000**. PI: C. Neal Stewart, Jr. CoPIs: Nicole Labbe, Blake Joyce, and Hani Al-Ahmad.

Professional Service:

Manuscript reviewer: (journals reviewed, and the year):

- Forests (MDPI): 2018
- Plant Cell Reports-Springer: 2015
- Forest Science (Society of American Foresters): 2012
- Annals of Applied Biology-Wiley: 2011
- Plant Science-Elsevier: 2007, 2010

M.Sc. theses reviewer:

- Faculty of graduate studies, An-Najah National University, Palestine. 2005, 2014.

Conference session chair:

- Molecular Biology and Biomedicine EMBO Workshop, Birzeit University, Ramallah, Palestine. March, 2010.

LIST OF PUBLICATIONS:

<https://scholar.google.com/citations?user=yO21C1cAAAAJ>

Patents

US 7,612,255 B2: Gressel, J. and Al-Ahmad H. Transgenic plants for mitigating introgression of genetically engineered genetic traits. United States Patent. **Issued Nov. 3, 2009.** (<http://www.uspto.gov/>).

Selected Peer-Reviewed Articles

1. Al-Ahmad H. **2018.** Biotechnology for bioenergy dedicated trees: meeting future energy demands. *Zeitschrift für Naturforschung C*, 73(1-2), 15-32.
2. Mazarei M., Al-Ahmad H., Rudis M.R., Joyce B.L., and Stewart C.N. Jr. **2011.** Switchgrass (*Panicum virgatum* L.) cell suspension cultures: Establishment, characterization, and application. *Plant Science*. 181, 712-715.
<http://www.sciencedirect.com/science/article/pii/S0168945211000033>
3. Rose C.W., Millwood R.J., Moon H.S., Rao M.R., Halfhill M.D., Raymer P.L., Warwick S.I., Al-Ahmad H., Gressel J., and Stewart, C.N. Jr. **2009.** Genetic load and transgenic mitigating genes in transgenic *Brassica rapa* (field mustard) × *Brassica napus* (oilseed rape) hybrid populations. *BMC Biotechnology* 9:93. (14 pages). <http://www.biomedcentral.com/1472-6750/9/93/>
4. Chen F*, Al-Ahmad H.*, Joyce B., Zhao N., Köllner T.G., Degenhardt J., and Stewart C.N. Jr. **2009.** Within-plant distribution and emission of sesquiterpenes from *Copaifera officinalis*. *Plant Physiology and Biochemistry*. 47, 1017-1023. (*These authors contributed equally to this work).
5. Meir S., Larroche C., Al-Ahmad H., and Gressel, J. **2009.** Fungal transformation of *Colletotrichum coccodes* with bacterial oahA gene to suppress defences of *Abutilon theophrasti*. *Crop Protection*. 28, 749-755.
6. Meir S., Amsellem Z., Al-Ahmad H., Einat Safran E., and Gressel, J. **2009.** Transforming a NEP1 toxin gene into two *Fusarium* spp. to enhance mycoherbicide activity on Orobanche – failure and success. *Pest Management Science*. 65, 588-595.
7. Yuan, J.S., K.H. Tiller, H. Al-Ahmad, N.R. Stewart, C.N. Stewart, Jr. **2008.** Plants to power: bioenergy to fuel the future. *Trends in Plant Science* 13, 421-429.
8. Mazarei M., Al-Ahmad H., Rudis M.R., and Stewart, C.N.Jr., **2008.** Protoplast isolation and transient gene expression in switchgrass, *Panicum virgatum* L. *Biotechnology Journal* 3, 354-359.
9. Al-Ahmad H., Dwyer J., Moloney M., and Gressel J. **2006.** Mitigation of establishment of *Brassica napus* transgenes in volunteers using a tandem construct containing a selectively unfit gene. *Plant Biotechnology Journal* 4, 7-21.
10. Al-Ahmad H., and Gressel J. **2006.** Mitigation using a tandem construct containing a selectively unfit gene precludes establishment of *Brassica napus* transgenes in hybrids and backcrosses with weedy *Brassica rapa*. *Plant Biotechnology Journal* 4, 23-33.

11. Al-Ahmad H., Galili S., and Gressel J. **2006**. Infertile interspecific sexual hybrids between transgenically mitigated *Nicotiana tabacum* and wild type *Nicotiana sylvestris* did not backcross to *N. sylvestris*. *Plant Science* 170 (5), 953-961.
12. Al-Ahmad H., Galili S., and Gressel J. **2005**. Poor competitive fitness of transgenically mitigated tobacco in competition with the wild type in a replacement series. *Planta* 222, 372-385.
13. Al-Ahmad H., and Gressel J. **2005**. Transgene containment using cytokinin-reversible male sterility in constitutive, gibberellic acid-insensitive (Δgai) transgenic tobacco. *Journal of Plant Growth Regulation* 24, 19-27. (With accompanying journal cover).
14. Gressel J., and Al-Ahmad H. **2005**. Assessing and managing biological risks of plants used for bioremediation, including risks of transgene flow. *Zeitschrift für Naturforschung* 60c, 154-165.
15. Al-Ahmad H., Galili S., and Gressel J. **2004**. Tandem constructs to mitigate transgene persistence: tobacco as a model. *Molecular Ecology* 13 (3), 697-710.
16. Gressel J., and Al-Ahmad H. **2004**. Molecular solutions for increasing biosafety of transgenic plants. GMOs in Integrated Production. *IOBC/wprs Bulletin* 27 (3), 7-13.

Chapters in Edited Books

1. Gressel, J. and Al-Ahmad H. **2012**. Transgenic mitigation of transgene dispersal by pollen and seed. In: M.J. Oliver, and Y. Li, eds. *Plant Gene Containment*, Wiley-Blackwell. pp. 125-146.
2. Joyce, B., H. Al-Ahmad, F. Chen., and C. N. Stewart, Jr., **2012**. Diesel trees. In: Chittaranjan Kole, Chandrasekhar P. Joshi and David R. Shonnard., eds. *Handbook of Bioenergy Crop Plants*. CRC Press, Boca-Raton, pp. 619-629.
3. Gressel J., Meir S., Herschkovitz Y., Al-Ahmad H., Babalola O. O., and Amsellem Z. **2007**. Transgenic biocontrol agents to overcome evolutionary barriers. In: Ejeta G., and Gressel J., eds. *Integrating new technologies for Striga control - towards ending the witch-hunt*. World Scientific, Singapore, pp. 313-323.
4. Gressel J., Meir S., Herschkovitz Y., Al-Ahmad H., Greenspoon I., Olubukola B., and Amsellem Z. **2007**. Approaches to and successes in developing transgenically enhanced mycoherbicides. *Novel Biotechnologies for Biocontrol Agent Enhancement and Management*. Springer, pp. 297-305.
5. Rotteveel T., Al-Ahmad H. and Gressel J. **2006**. Assessing and containing or mitigating biosafety risks of transgenic and non-transgenic phytoremediating plants. In: M. Macková, D.N. Dowling and T. Macek, eds. *Phytoremediation and Rhizoremediation, Focus on Biotechnology*, Vol. 6, Springer, Dordrecht, pp. 259-284.
6. Gressel J., and Al-Ahmad H. **2005**. Molecular containment and mitigation of genes within crops, prevention of gene establishment in volunteer offspring and feral strains. In: Gressel J., ed. *Crop Fertility and Volunteerism*. CRC Press, Boca-Raton, pp. 371-388.

Book reviews

1. Al-Ahmad H. **2011**. Reviewed work of: “*Plant Biotechnology: The genetic manipulation of plants; second edition*. Adrian Slater, Nigle W. Scott, and Mark R. Fowler. 2008. 376 pp. Oxford University Press, Great Clarendon Street, Oxford ox2 6DP”. In: ***The Quarterly Review of Biology***. Chicago Journals. The University of Chicago Press. 86 (1), pp. 57-58. DOI: 10.1086/658449. Stable URL: <http://www.jstor.org/stable/10.1086/658449>

Proceedings Contributions

1. Meir S., Herschkovitz Y., Larroche C., Al-Ahmad H., Amsellem Z., and Gressel J. **2008**. Unholy trinity of crop, attached parasitic weed, and transgenic biocontrol agents. In: Biology of Plant-Microbe Interactions CD, Volume 6: XIII International Congress on Molecular Plant-Microbe Interactions, 2007. ***International Society for Molecular Plant-Microbe Interactions***. Lorito M., Woo S., and Scala F. eds. (Available on CD: PC and Mac Compatible; ISBN 978-0-9654625-5-6; Item No. 62556; <http://www.ismpminet.org/bookstore/VOL6.ASP>).
2. Gressel J., Al-Ahmad H., Amsellem Z., Babalola O., and Meir S. **2005**. Transgenic enhancement of biocontrol agents. American Phytopathology Society Meeting, Austin, USA. 30th July-3rd August. ***Phytopathology*** 95:S126. Publication no. P-2005-0040-SSA.
3. Gressel J., and Al-Ahmad H. **2004**. Mitigating transgene flow – successes. Proceedings 8th ***International Symposium on the Biosafety of Genetically Modified Organisms***. Montpellier: International Society for Biosafety Research. pp. 162-166 (available online at: http://www.isbr.info/document/proceedings_montpellier2004.pdf).
4. Gressel J., and Al-Ahmad H. **2003**. Containment and mitigation of transgene flow from crops. BCPC ***International Congress-Crop Science and Technology***. pp. 1175-1180.

International Scientific News Reports

1. Gressel J., and Al-Ahmad H. **2006**. Transgene flow control discussed. ***CropBiotech update***. February 10th. Global Knowledge Center on Crop Biotechnology, International Service for the Acquisition of Agri-biotech Applications SEAsiaCenter (ISAAA), USA.
2. Gressel J., and Al-Ahmad H. **2006**. Mitigating transgene flow from crops. Risk assessment news. ***Information Systems for Biotechnology (ISB) news report***. Virginia Tech USA, February, pp. 8-11.

Abstracts of Invited Lectures ^L and Posters ^P

1. ^LAl-Ahmad H., Mazarei M., Rudis M.R., and Stewart, C.N. Jr., **2012**. Evaluation of transient gene expression and promoter transcriptional activity in protoplasts of switchgrass (*Panicum virgatum* L.). Third conference on biotechnology research and application in Palestine. Al-Quds University, Jerusalem, Palestine. October, 20th.
2. ^PB.L. Joyce, S. Liu, Y. Peng, H. Al-Ahmad, P. Ranjan, X. Chen, X. Sun, J. Johns, G. Wong, F. Chen, J.S. Yuan, and C.N. Stewart, Jr. **2012**. Investigating the novel sesquiterpene biosynthesis pathway in *Copaifera officinalis*, ‘the diesel tree,’ through next-generation *de novo* transcriptome sequencing and functional genomics. ***Plant and Animal Genome XX***. January 14-18th, San Diego, CA, USA.

3. ^LAl-Ahmad H., Mazarei M., Rudis M.R., and Stewart, C.N. Jr., **2012**. Transient gene expression in protoplasts from switchgrass (*Panicum virgatum* L.): A potential bioenergy crop. The Scientific Conference for Agricultural Research (SCAR 2012). An-Najah National University, Nablus, Palestine. March, 25th.
4. ^LAl-Ahmad H., and Gressel J. **2010**. Decreasing crops transgene persistence in volunteers and related weedy species: Oilseed rape (*Brassica napus*) case study. The second conference on biotechnology research and applications in Palestine. An-Najah National University, Nablus, Palestine. September, 26-27th.
5. ^LAl-Ahmad H. **2010**. Tandem mitigation technology for reducing risks of transgene flow from genetically modified plants. Birzeit University, Ramallah, Palestine. Frontiers in molecular biology and biomedicine: EMBO workshop. March, 20-21th.
6. ^PJoyce, B.L, Feng C., Al-Ahmad H., Zhao N., Köllner T., Degenhardt J., and Stewart, Jr., C.N. November, **2009**. Introducing the 'diesel trees' (*Copaifera spp.*) as an alternative source of novel chemicals for biofuel. UT-China conference, Knoxville, TN, USA.
7. ^PMazarei, M., Al-Ahmad, H., Rudis, M.R., Joyce, B.L., and Stewart, Jr., C.N. Switchgrass cell suspension cultures: establishment, characterization, and application. November, **2009**. UT-China conference, Knoxville, TN, USA.
8. ^PMazarei, M., H. Al-Ahmad, W. Liu, P.R. Arelli, V.R. Pantalone, C. N. Stewart, Jr. **2009**. Gene expression profiling of a resistant and a susceptible soybean challenged with soybean cyst nematode. World Soybean Research Conference VIII, Beijing, China, August 10th-15th.
9. ^P Stewart, Jr., C.N., Rose C. W., R. J. Millwood, H. S. Moon, M. R. Rao, M. D. Halfhill, P. L. Raymer, S. I. Warwick, H. Al-Ahmad, J. Gressel. **2009**. Genetic load and competition effects resulting from transgene flow from canola to field mustard: event specific introgression and transgenic mitigation. Weed Science Society of America Annual Meeting Orlando, Florida, USA, February 2009.
10. ^PMazarei, M., Al-Ahmad, H., Rudis, M.R., Stewart, Jr., C.N. **2008**. Protoplast isolation and transient gene expression in switchgrass, *Panicum virgatum* L. Bioenergy Science Center Retreat, Chattanooga, TN, USA, December 1st-3rd.
11. ^LStewart, C.N., Jr., M. Mazarei, D.A. Mann, M.R. Rudis, J. Burris, L.L.G. Abercrombie, H. Al-Ahmad. **2008**. Switchgrass biotechnology: tools for switchgrass improvement. China-US Workshop: Bioenergy Consequences for Global Environmental Change. Beijing, China, October 15th-18th. Program book p. 28.
12. ^PMazarei, M., Al-Ahmad, H., Rudis, M.R., Stewart, Jr., C.N. **2008**. Switchgrass protoplasts: isolation and transient gene expression. Bioenergy Science Center Annual Review, ORNL. USA. October 14th.
13. ^PMazarei, M, H Al-Ahmad, MR Rudis, CN Stewart, Jr. **2008**. Protoplast isolation and transient gene expression in switchgrass, *Panicum virgatum* L. Abstract Book, Plants and People--Mutual Dependence in the 21st Century: PhD Symposium of the Zürich-Basel Plant Science Center-- ETH Zurich June 6th ; pp. 33-34.

14. ^PAl-Ahmad H., Kania S A., Trent D J., and Stewart C N Jr. **2008**. Determination of bioenergy plant nuclear DNA content by flow cytometry. Plant and Animal Genomes XVI Abstracts P902, Town & Country Convention Center, San Diego, California, USA. January 12th-16th.
15. ^PAl-Ahmad, H., Kania, S.A., Trent, D.J. , Stewart Jr., C. N. **2007**. Determination of plant nuclear DNA content by flow cytometry. Abstract 2723. Plant Biology and Botany Joint Congress 2007, Chicago. USA, Julye 7th -11th.
16. ^LAl-Ahmad H. **2007**. Genetically modified crops: engineering and commercialization. Dept. of Biology & Biotechnology. An-Najah National University, Nablus, Palestine. April 15th.
17. ^LGressel J., Meir S., Herschkovitz Y., Al-Ahmad H., Olubukola B., and Amsellem Z. **2006**. Transgenic biocontrol agents to overcome evolutionary barriers. Integrating new technologies for *Striga* control: towards ending the witch-hunt, Addis Ababa, Ethiopia. November 5th-11th.
18. ^PAl-Ahmad H., and Gressel J. **2006**. Transgenic mitigation technology for reducing risks of transgene flow. In Vitro Biology Meeting, Minneapolis, Minnesota, USA. June 3rd-7th.
19. ^LAl-Ahmad H. **2006**. Mitigating risks of gene flow from transgenic crops into related weeds. Plant Sciences Department, University of Tennessee, Knoxville, TN, USA. March 27th.
20. ^LMeir S., Amsellem Z., Al-Ahmad H., Babalola O., Herschkovitz Y., and Gressel J. **2005**. Biotechnology and the Management of Weedy *Orobanchace*. COST Action 849, Parasitic Plant Management in Sustainable Agriculture. WG1+4 Workshop on Means for Limiting *Orobanche* Propagation and Dispersal in Agricultural Fields. Newe-Yaar Research center, Israel. December 4th-6th.
21. ^LGressel J., Al-Ahmad H., and Weissmann S. **2005**. Containing and mitigating transgene flow. BioThailand, Challenges in the 21st Century. Queen Sirikit National Convention Center, Bangkok, Thailand. November 2nd-5th.
22. ^LAmsellem Z., Meir S., Babalola O., Al-Ahmad H., Safran E., and Gressel J. **2005**. Transforming *NEP1* toxin gene and other genes into two *Fusarium* spp. to enhance mycoherbicide activity against *Orobanche* – failure, success and progress. Joint Working Groups and MC meeting of COST Action 849, Biology, Control and Management. Reading University, UK. September 15th – 17th.
23. ^LAl-Ahmad H., and Gressel J. **2005**. Transgenic mitigation precludes the establishment of *Brassica napus* transgenes in volunteer and weedy *B. rapa*. Meeting of the Weed Science Society of America. Honolulu, Hawaii, U.S.A.
24. ^LAl-Ahmad H. **2005**. Hypervirulence genes for efficient Fungal Biocontrol of noxious and parasitic weeds. 2EBCAs Annual Meeting: “Enhancement and Exploitation of Soil Biocontrol Agents for Bio-Constraint Management in Crops”. 6th EU Framework Programme. Priority 5 - Food Quality and Safety. January 11-15th. Magic Nirvana Club - Dead Sea, Israel.
25. ^LGressel J., and Al-Ahmad H. **2004**. Mitigating transgene flow – successes. 8th International Symposium on the Biosafety of Genetically Modified Organisms. September 26–30th. Montpellier, France.

26. ^LGressel J., and Al-Ahmad H. **2004**. Assessing and managing biological risks of plants used for bioremediation, including risks of transgene flow. OECD-Workshop: Phytoremediation: Environmental and Molecular Biological Aspects. September 11. Matrahaza, Hungary.
27. ^LGressel J., and Al-Ahmad H. **2004**. Molecular solutions for increasing biosafety of transgenic plants. GMOs in Integrated Production. IOBC/wprs, Prague, Czech.
28. ^LGressel J., Al-Ahmad H., and Amsellem Z. **2003**. Mitigating transgene flow from crops to weeds; from biocontrol agents to crop pathogens. ESF-Workshop: New Science for Increasing Biosafety of GM Plants. March 8-12. Braunschweig, Germany.
29. ^LGressel J., and Al-Ahmad H. **2003**. Containment and mitigation of transgene flow from crops. BCPC International Congress-Crop Science and Technology. Glasgow, UK.
30. ^LAl-Ahmad H., and Gressel J. **2003**. Mitigation of transgene flow from crops to related weeds; tobacco as a model. Meeting of the Weed Science Society of America, volume 43. Jacksonville, Florida, U.S.A.
31. ^{L+P}Al-Ahmad H., and Gressel J. **2002**. Mitigation of transgene flow from crops to related weeds; tobacco as a model. The 7th International Symposium on the Biosafety of Genetically Modified Organisms. October 10-15. Beijing, China.
32. ^PAl-Ahmad H., and Gressel J. **2002**. Mitigation of transgene flow from crops to related weeds. The 10th International Congress of Plant Tissue Culture & Biotechnology. June 23-28. Orlando, Florida-U.S.A.
33. ^PAdwan K., Abu-Hasan N., and Al-Ahmad H. **1998**. The epidemiology of *Pseudomonas aeruginosa* infections in a neonatal unit. The second scientific day, March 15th. Faculty of Medicine, Al-Quds University, Jerusalem, Palestine.

International symposia:

- Darwin's Living Legacy: An International Conference on Evolution and Society. **2009**. The British Council. November 14-16. Bibliotheca Alexandrina, Alexandrina, Egypt.

My Websites:

-  <https://staff.najah.edu/en/profiles/academic-staff/2428/>
-  <https://scholar.google.com/citations?user=yO2lC1cAAAAJ>
-  http://www.researchgate.net/profile/Hani_Al-Ahmad
-  <https://www.linkedin.com/pub/hani-al-ahmad/7b/390/325>
-  <https://orcid.org/0000-0003-3954-9335>

Updated December, 2019