



Anoop Anand Malik, Ph.D.

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EDUCATION

Ph.D. (Bio-technology)	TERI School of Advanced Studies, New Delhi, India	2013-2019
PG Diploma (Industrial Biotechnology)	Bioinformatics Institute of India (BII), New Delhi, India	2014-2015
B.Tech. (Bio-technology)	AMITY University, Noida, Uttar Pradesh, India	2007-2011

KEY SKILLS

- **Operating Systems:** Linux, Windows and macOS
- **Programming languages:** Perl and R
- **Analytical tools:** WebSat, Genefinder, Clustal W, NTSYS pc, Darwin, MEGA, SPSS, Image J, JoinMap, ICIMapping, PediMap, R packages, TASSEL 5.0, OriginLab
- Research proposal development and drafting of project reports
- Trained in ISO/IEC 17025:2017 and developed a quality manual system for food testing laboratory at TERI, North Eastern Regional Centre, Guwahati, Assam
- **Technical skills:**
 - a) Phenotyping in plants and animals

- b) Gene Pyramiding (conventional breeding) and Trait stacking
- c) Conduct breeding program to enhance genetic diversity
- d) Genomic library preparation for Next Generation Sequencing, Genotyping-by-Sequencing (GBS), Meta-genomics, and Transcriptomics
- e) DNA Extraction, Purification, quantification
- f) PCR, Western Blot, RNA isolation, SDS PAGE
- g) AFLP by LICOR 4300
- h) Animal handling and surgeries (rat, mouse and Syrian hamster)

PUBLICATIONS AND BOOK CHAPTERS

- 2023** Rana A., **Malik A.A.**, Tripathi S.B. and Kumar A., 2023. **Novel SNP based analysis of genetic diversity in *Polygonatum verticillatum* Linn. across Indian Himalayas**
3 Biotech, (<https://doi.org/10.1007/s13205-023-03654-4>)
- 2023** Kanaka K.K., Sukhija N., Goli R.C., Singh S., Ganguly I., Dixit S.P., Dash A. and **Malik A.A.**, 2023. **On the concepts and measures of diversity in the genomics era**
Current Plant Biology, (<https://doi.org/10.1016/j.cpb.2023.100278>)
- 2023** Kadri K., **Malik A.A.**, Hammadi H., Elsafy M. and Sharma S.S., 2023. **Genetic diversity of Tunisian and Indian date palm cultivars and genotypes revealed by AFLP markers**
Research Square (Preprint), (<https://doi.org/10.21203/rs.3.rs-2648385/v1>)
- 2023** Singh, V.K., **Malik, A.A.**, Islam, M.A., Sharma, S.S. and Tripathi, S.B., 2023. **Identification and characterization of a fertility restorer line in Bhut Jolokia Vegetos**, (<https://doi.org/10.1007/s42535-022-00566-1>)
- 2023** Chettri, D., Ahmed, S., **Malik, A.A.** and Verma, A.K., 2023. **Lignin Depolymerization for Its Valorization**
BioEnergy Research, (<https://doi.org/10.1007/s12155-022-10561-8>)

- 2021** Farhad Md, Tripathi S.B., Singh R.P., Joshi A.K., Bhati P.K., Vishwakarma M.K., Mondal S., **Malik A.A.**, Kumar U. **Multi-trait selection of bread wheat ideotypes for adaptation to early sown condition.**
Crop Science, (DOI: <https://doi.org/10.1002/csc2.20628>)
- 2021** Tripathi S.B., Jatav G., **Malik A.A.**, Joshi S., Singh V.K., Negi M.S., Chauhan L. Sharma S.S. **AFLP markers based genetic diversity and population structure analysis of Kadaknath: an indigenous black meat poultry breed of India.**
Animal Biotechnology, (DOI: [10.1080/10495398.2020.1865390](https://doi.org/10.1080/10495398.2020.1865390))
- 2019** **Malik A.A.**, Singh V.K., Sharma S.S., Negi M.S., Tripathi S.B. **Prevalence of apomixis in Jatropha: Is it significant?**
Biofuels, (DOI: [10.1080/17597269.2019.1706280](https://doi.org/10.1080/17597269.2019.1706280))
- 2019** **Malik A.A.** and Tripathi S.B. **Application of Molecular Markers in Genetic Improvement of Jatropha.**
Jatropha, Challenges for a New Energy Crop, Volume 3 (Springer, Singapore), 131-143 (https://doi.org/10.1007/978-981-13-3104-6_8)
- 2018** **Malik A.A.**, Tripathi R., Ahlawat S., Deb S., Negi M.S., Tripathi S.B. **Analysis of genetic relatedness among Indian cattle (*Bos indicus*) using genotyping by sequencing (GBS) markers.**
Animal Genetics. 49(3):242-245. (DOI: <https://doi.org/10.1111/age.12650>)
- 2018** **Malik A.A.** and Chaudhary G. **Global Food Security: A Truncated Yield of Underutilized and Orphan Crops**
Biotechnology Products in Everyday Life (Springer, Cham), 161-171 (doi: https://doi.org/10.1007/978-3-319-92399-4_11)
- 2016** Pandey P., **Malik A.A.**, Kumar K., Negi M.S., Tripathi S.B. **Changes in DNA methylation levels during seed development in *Jatropha curcas*.**
Journal of Genetics 95, 13–18. (<https://doi.org/10.1007/s12041-016-0703-5>)

- 2016** Sharma S.S., Islam M.A., **Malik A.A.**, Kumar K., Negi M.S., Tripathi, S.B. **Seed Traits, Fatty Acid Profile and Genetic Diversity Assessment in *Pongamia Pinnata* (L.) Pierre Germplasm.** **Physiology and Molecular Biology of Plants** 22, 193–205. (<https://doi.org/10.1007/s12298-016-0356-0>)
- 2014** Jain D., **Malik A.A.**, Kumar A., Malik B.K., Raina V. **Variations in Exon-2 of SBDS Gene and Its Association with Aplastic Anemia.** **International Journal of Laboratory Hematology.** (DOI: <https://doi.org/10.1111/ijlh.12202>)
- 2010** Jain D., Raina V., Fauzdar A., Mishra M., Tyagi N., Mahajan A., Iravathy Goud K., Dayakar S., Mishra P., **Malik A.A.**, Kumar A., Malik B.K. **Chromosomal Breakage Study in Aplastic Anemia Patients in India.** **Asian Journal of Medical Sciences** 2(5): 227-232, 2010

AWARDS AND FELLOWSHIPS

- 2016** Fellowship to visit University of Natural Resources and Life Sciences (BOKU) at Vienna, Austria, under student exchange program to study “**Identification of elite mutants in *Jatropha curcas* using TILLING**” supervised by Prof. Fatemeh Maghuly and Prof. Margit Laimer for two months.
- 2017** Travel grant for a flash talk and poster presentation on “**Aiming for selection of Indian cattle breeds by DNA Fingerprinting**” in **Alexander von Humboldt Foundation colloquium** at Bangalore, India.
- 2019** Partial scholarship to participate in Indo-UK bioinformatics workshop on “**R for Crop Genomics and Data Mining**” held in India and conducted by TIGR2ESS program.
- 2019** **Young plant scientist award** in National conference on Climate Change, Dehradun, Uttarakhand

WORKSHOPS / POSTERS / CERTIFICATES

- 2020** Certificate course offered by The Pennsylvania State University, USA on **Dairy Production and Management**.
- 2019** Indo-UK bioinformatics workshop on “**R for Crop Genomics and Data Mining**”.
- 2017** Poster presentation on “**Identification of DNA markers linked to virus resistance in *Jatropha curcas***” in the 38th Annual Meeting of the Plant Tissue Culture Association (PTCA), India.
- 2016** National conference on “**Energy Security for India- Creating a Biofuel Economy**” at Vigyan Bhawan, New Delhi, India.
- 2015** DBT Inter-Ministerial workshop on “**Quality Feedstock for Biodiesel**” at India Habitat Centre, New Delhi, India.
- 2014** Poster presentation on “**Study of variation in wood characters associated with stem hardness in a backcross population of *Jatropha curcas***” in the Symposium on Recent Advances in Biotechnology for Food and Fuel at India Habitat Centre (IHC), New Delhi, India.
- 2014** National Workshop and Hands on training on “**Plant Gene Repository and Plant Gene Database Handling**” at National Institute of Plant Genome Research (NIPGR), New Delhi, India.
- 2012** Poster presentation in ICPBFS 2012 on “**Functional marker development and genetic diversity analysis in Finger Millet**” at Indian Agricultural Research Institute (ICAR), Pusa, New Delhi, India.
- 2012** Poster presentation in Biology-2012 and Beyond on “**Novel sex-hormonally repressed proteins expressed in salivary and lacrimal glands of Syrian Hamsters**” at Centre for Cellular and Molecular Biology (CCMB), Hyderabad, India.

RESEARCH EXPERIENCE

October 2022 – March 2023: Research Associate-III, ICAR-National Institute for Plant Biotechnology, New Delhi, India.

Research: Worked on DBT and DST-funded Tea and Rice breeding and genomics projects.

September 2021- October 2022: Research Associate, The Energy and Resources Institute (TERI), North Eastern Regional Centre, Guwahati, Assam, India.

Research: Worked on DBT and DST funded projects on Rubber waste-water treatment through algae in Assam and DNA barcoding of *Garcinia* sp.

February 2021- September 2021: Research Associate-I, Uttarakhand State Council for Science and Technology (UCOST), Dehradun, Uttarakhand, India.

Research Title: Worked on a collaborative project between TERI SAS and UCOST to develop a solar-based greenhouse for high throughput hydroponic system under the theme of Water-Energy-Food Nexus funded by DST, Government of India.

November 2019- January 2021: Research Scholar, TERI School of Advanced Studies, Vasant Kunj, New Delhi, India.

Project Title: Collection, evaluation, documentation, and conservation of banana genetic resources from the northeastern region of India

July 2013- November 2019: Ph.D. Scholar, TERI School of Advanced Studies, Vasant Kunj, New Delhi, India.

Thesis Title: QTL mapping in *Jatropha* using an advanced inter-specific population

February 2012- May 2013: Project - Junior Research Fellow, Centre for Cellular and Molecular Biology (CCMB), Hyderabad, India.

Project Title: Novel Sex hormonally repressed proteins expressed in salivary and lacrimal glands

REFERENCES

Prof. Shashi Bhushan Tripathi (Ph.D. Supervisor)

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