Dr. Adnan Khan NIAZI
Assistant Professor
Centre of Agricultural Biochemistry and Biotechnology (CABB),
University of Agriculture, Faisalabad Pakistan
Phone: 00 92 343 688 3510/ 00 92 41 9200161 ext 2925
adnan1753@yahoo.com, niazi@uaf.edu.pk

JOB/INTERNSHIP/TRAINING

2016 to date: Working as Assistant Professor (TTS) in Centre of Agricultural Biochemistry and Biotechnology (CABB), University of Agriculture, Faisalabad Pakistan.

2014 to 2016: Worked as PostDoc fellow in Laboratoire Génome et Développement des Plantes (LGDP), Université de Perpignan, Perpignan, France.

2013-2014: Worked as PostDoc fellow in Institut de Biologie Moléculaire des Plantes (IBMP), Université de Strasbourg, Strasbourg, France.

ACADEMIC QUALIFICATION

2013 **Doctor of Philosophy (Ph.D)**
"Regulation and retrograde coordination of mitochondrial gene expression"
Science de la Vie et de la Santé, Institut de Biologie Moléculaire des Plantes (IBMP),Université de Strasbourg, Strasbourg, France.

2009 **Master 2 Recherche (M2)**
Report 1: Mitochondrial regulation and cross-talk with the nucleus.
Report 2: Specific RNA knockdown in the mitochondria of plant cells.
Sciences du Végétal, Faculté de Science de la Vie et de la Santé,
Université de Strasbourg, Strasbourg, France.

2007 **B.Sc (Hons.) Agriculture**
1st Division (CGPA: 3.75/4.00)
Internship Report: Genetics and breeding of Oilseed Crops of Pakistan
Department of Plant Breeding and Genetics
University of Agriculture, Faisalabad, Pakistan.

2002 **Higher Secondary School Certificate (HSCC) Add Math**
Grade: A^{+}, 1^{st} Division (188/200)
Board of Intermediate and Secondary Education, DG Khan, Pakistan.

1999 **Secondary School Certificate (SCC)**
Grade: A^{+}, 1^{st} Division (696/850)
Board of Intermediate and Secondary Education, DG Khan. Pakistan.

Research Projects (Completed, ongoing or submitted)

1. **Project title: Mitochondrial DNA recombination to generate plant genetic diversity and novel phenotypes adapted to a changing environment** (Completed)

Funding Agency: Franco-Pakistani Hubert Curien Partnership (PHC)
Date of approval: 18-05-2017
Duration of project: 03 years (Completed)
Total approved budget: about 4 Million PKR
PI Pakistani side: Dr. Adnan Khan Niazi
PI French side: Dr. Jose GUALBERTO (IBMP-CNRS Strasbourg France)

2. Project title: **Replacing Imported Edible Oil by Improving the Quality and Shelf Life of Indigenous Brassica through Utilization of Innovative Gene Editing Techniques (Submitted)**
Funding Agency: AGRICULTURAL LINKAGES PROGRAMME (ALP), PAKISTAN AGRICULTURAL RESEARCH COUNCIL
Date of Submission: 06-06-2023
Duration of project: 03 years
Total budget: 23.575 Million PKR
PI: Dr. Adnan Khan Niazi
Co-PI: Dr Muhammad Arshad (NUST, Islamabad Pakistan)

PUBLICATIONS

Research Articles

1) Charbonnel Cyril*, **Niazi Adnan Khan***,Elvira-Matelot Emilie, Zytnicki Matthias, de Bures Anne, Opsomer Alisson, Carapito Christine, Shamandi Nahid, Reichheld Jean Philippe, Vaucheret Hervé and Sáez-Vásquez Julio. 2016. "The dsRNA cleavage capacity of the RNaseIII siRNA suppressor RTL1 is regulated by glutathionylation." Nucleic Acids Research, gkx820, https://doi.org/10.1093/nar/gkx820
Published:15 September 2017. **Impact factor: 9.112**
*These authors contributed equally to the paper as first authors.

2) Laure D. Sultan, Daria Mileshina, Felix Grewe, Katarzyna Rolle, Sivan Abudraham, Paweł Głodowicz, **Adnan Khan Niazi**, Ido Keren, Sofia Shevsov, Jan Barciszewski, Jeffrey P. Mower, André Dietrich, Oren Ostersetzer-Biran. 2016. The reverse-transcriptase/RNA-maturase MatR protein is required for the splicing of various group II introns in Brassicaceae mitochondria. The plant cell. Advanced Publication October 19, 2016, doi: 10.1105/tpc.16.00398. **Impact factor: 9.338**

3) J. Huang*, **Niazi, A.K.***, D. Young, L. Rosado, N. Bodra, I.V. Molle, K. Wahni, D. Vertommen, F. V. Breusegem, J. Messens, J.P. Reichheld. 2018. " Self protection of cytosolic malate dehydrogenase against oxidative stress in Arabidopsis." **Journal of**

Experimental Botany. 19 June 2018; 69(14):3491-3505. doi: 10.1093/jxb/erx396. **Impact factor: 5.526**.

*These authors contributed equally to the paper as first authors.

4) **Adnan Khan Niazi**, Laetitia Bariat, Christophe Riondet, Christine Carapito, Amna Mhamdi, Graham Noctor and Jean-Philippe Reichheld. 2019. Cytosolic Isocitrate Dehydrogenase from Arabidopsis thaliana is Regulated by Glutathionylation. Antioxidants 8(1), 16. https://doi.org/10.3390/antiox8010016. **Impact factor: 4.081**

5) **Adnan Khan Niazi**, Etienne Delannoy, Rana Khalid Iqbal, Daria Mileshina, Romain Val, Marta Gabryelska, Eliza Wyszko, Ludivine Soubigou-Taconnat, Maciej Szymanski, Jan Barciszewski, Frédérique Weber-Lotfi, José Manuel Gualberto and André Dietrich. 2019. Mitochondrial transcriptome control and inter-compartment cross-talk during plant development. Cells. 2019 Jun 13;8(6). pii: E583. doi: 10.3390/cells8060583**. Impact factor: 4.829**

6) Mukhtar, A., M. Manzoor, I. Gul, R. Zafar, H.I. Jamil, **A.K. Niazi,** M.A. Ali, T.J. Park, and M. Arshad. 2020. "Phytotoxicity of Different Antibiotics to Rice and Stress Alleviation upon Application of Organic Amendments." Chemosphere 258. https://doi.org/10.1016/j.chemosphere.2020.127353. **Impact factor: 5.778**

7) Rao Sohail Ahmad Khan, Zainab Ali, **Adnan Khan Niazi**, James Carolan, Tom Wilkinson. In silico Characterization of a Candidate Protein from Aphid Gelling Saliva with Potential for Aphid Control in Plants. 2020. Protein & Peptide Letters. 27 (2). https://doi.org/10.2174/0929866526666191014145839 **Impact factor: 1.039**

8) Aqsa Parvaiz, Ghulam Mustafa, Hafiz Muhammad Walayat Ali Khan, Faiz Ahmad Joyia, **Adnan Khan Niazi**, Sultana Anwar and Muhammad Sarwar Khan. 2019. Field evaluation ratified by transcript and computational analyses unveils myco-protective role of SUGARWIN proteins in sugarcane. 3 Biotech 9 (10). https://doi.org/10.1007/s13205-019-1896-0. **Impact factor: 1.786**

9) Haider, Zeshan, Muhammad Muneeb Subhani, Muhammad Ansar Farooq, Maryum Ishaq, Maryam Khalid, Muhammad Numan Akram, Rao Sohail Ahmad Khan, and Adnan Khan Niazi. 2020. "In-Silico Pharmacophoric and Molecular Docking-Based Drug Discovery against the Main Protease (Mpro) of SARS-CoV-2, a Causative Agent COVID-19."

Pakistan Journal of Pharmaceutical Sciences 33 (6): 2697–2705. https://doi.org/10.36721/PJPS.2020.33.6.REG.2697-2705.1. **Impact factor: 0.650**

10) Haider, Zeshan, Zulfiqar Muzdalfa, Rana Iqrar Ahmad, Ahmad Khan Rao Sohail, Akram Muhammad Numan, and **Niazi Adnan Khan.** 2020. "Comparative Modeling, Structure and Active Site Prediction of Sclerotinia Disease-Resistant Gene BnaMPK3 in Oilseed Rape (Brassica Napus)." Open Journal of Bioinformatics and Biostatistics 4 (1): 001–005. https://doi.org/10.17352/ojbb.000005.

11) Munawar, Sadam, Muhammad Sagir, Ghulam Mustafa, Muhammad Amjad Ali, Adnan Khan Niazi, Aqsa Parvaiz, Farkhanda Yasmin, et al. 2021. "In Silico Analyses of Predicted Substitutions in Fibrinolytic Protein 'Lumbrokinase-6' Suggest Enhanced Activity." Process Biochemistry 110 (November): 292–301. https://doi.org/10.1016/j.procbio.2021.08.022. **Impact factor: 3.757**

Review Articles:

12) Niazi, Adnan Khan, Daria Mileshina, Anne Cosset, Romain Val, Frédérique Weber-Lotfi, and André Dietrich. 2013. "Targeting Nucleic Acids into Mitochondria: Progress and Prospects." Mitochondrion 13 (5): 548–58. https://doi.org/10.1016/j.mito.2012.05.004. **Impact factor: 3.226**

13) Gualberto, José M, Daria Mileshina, Clémentine Wallet, **Adnan Khan Niazi**, Frédérique Weber-Lotfi, and André Dietrich. 2014. "The Plant Mitochondrial Genome: Dynamics and Maintenance." Biochimie 100 (May): 107–20. https://doi.org/10.1016/j.biochi.2013.09.016. **Impact factor: 3.188**

14) Farooq, Muhammad Ansar; **Niazi, Adnan Khan**; Akhtar, Javaid; Ullah, Saif; Faroom, Muhammad; Souri, Zahra; Karimi, Naser; Rengel, Zed. 2019. " Acquiring control: The evolution of ROS-Induced oxidative stress and redox signaling pathways in plant stress responses". Plant Physiology and Biochemistry. 141 (2019) 353–369 https://doi.org/10.1016/j.plaphy.2019.04.039. **Impact factor: 2.718**

15) Komal, Jabeen, Husnain Haider Muhammad Basit, Haider Zeshan, Hassan Ali, Ali Sultan, and **Niazi Adnan Khan.** 2021. "Coronavirus (COVID-19) Pandemic: Outbreak, Current

Scenario and Impact on Human Physiology in Pakistan." Global Journal of Clinical Virology, April, 012–020. https://doi.org/10.17352/gjcv.000011.

16) Cyril Charbonnel, **Adnan Khan Niazi**, Emilie Elvira-Matelot, Matthias Zytnicki, Anne de Bures , Edouard Jobet, Pascale Comella, Alisson Opsomer, Marcin Nowotny, Christine Carapito, Nahid Shamandi, Hervé Vaucheret, Julio Sáez-Vásquez, Jean-Philippe Reichheld. 2021. Thiol-mediated redox regulation of DICER-LIKE RNaseIII and small RNA metabolism. Free Radical Biology and Medicine. 177 (Dec 2021). DOI:10.1016/j.freeradbiomed.2021.08.051. **Impact factor: 8.101**

Book Chapters:

17) Mileshina, Daria, **Adnan Khan Niazi**, Frédérique Weber-Lotfi, José Gualberto, and André Dietrich. 2015. "Mitochondrial Genetic Manipulation." In Somatic Genome Manipulation, edited by Xiu-Qing Li, Danielle Donnelly, and Thomas G. Jensen, 275–321. New York, NY: Springer New York. https://doi.org/10.1007/978-1-4939-2389-2_13.

18) Mileshina, Daria, **Adnan Khan Niazi**, Eliza Wyszko, Maciej Szymanski, Romain Val, Clarisse Valentin, Jan Barciszewski, and André Dietrich. 2015. "Mitochondrial Targeting of Catalytic RNAs." In Methods in Molecular Biology, edited by Weissig Volkmar and Edeas Marvin, Manipulati, II:227–54. New York: Springer New York. https://doi.org/10.1007/978-1-4939-2288-8_17.

19) Dietrich, André, Daria Mileshina, **Adnan Khan Niazi**, Anne Cosset, Romain Val, Noha Ibrahim, and Frédérique Weber-Lotfi. 2012. "Manipulating the Mitochondrial Genetic System." In Genetically Modified Organisms, edited by P. Poindron and P. Piguet, 3:103–19. Basel, Switzerland: Karger Medical and Scientific Publishers. https://doi.org/10.1159/000339194.

20) Zeshan Haider, **Adnan Khan Niazi.** 2021. Functional characterization of proteins and peptides using computational approaches. In "Frontiers in Protein and Peptide Sciences", 2nd Volume. Edited by Prof. Dr. Muhammad Sarwar Khan, Chapter 5. Bentham Science Publishers.

21) Maryam Noor, Adnan Khan Niazi, Faiz Ahmad Joyia, Waqas-ud-Din Khan, Muhammad Arshad and Muhammad Ansar Farooq. 2023. Regulation of cell signaling in response to abiotic stresses in plants. In "The Role of Growth Regulators and Phytohormones in

Overcoming Environmental Stress" Edited by Sharma et al. Chapter 1. Academic Press. Elsevier.

SEMINARS DELIVERED

"Mitochondrial response to ribozyme expression and target RNA knockdown." 4th International Multidisciplinary Research Conference (IMRC-2018), October 9th - 11th 2018, Sarhhad University of Science & Information Technology, Peshawar, **Pakistan.**

"Redox regulation and self-protection of Arabidopsis cytosolic malate dehydrogenase against oxidative stress" August 9-11, 2018. Second National Conference on Emerging Trends in Bioinformatics and Biosciences (NCETBB-18), Hazara University, Mansehra, Pakistan.

"Mitochondrial response to ribozyme expression and target RNA knockdown." 25-26th April, 2018. Food and Biotechnology Research Center, PCSIR Labs Complex, Ferozepur Road, Lahore-54600, **Pakistan.**

"Cytosolic Malate Dehydrogenase in Arabidopsis: a new story for an old enzyme." November, 2015, Laboratoire Génome et Développement des Plantes (LGDP), Université de Perpignan, Perpignan, France.

''The dsRNA cleavage capacity of the RNaseIII siRNA suppressor RTL1 is regulated by glutathionylation'' March, 2015, Laboratoire Génome et Développement des Plantes (LGDP), Université de Perpignan, Perpignan, France.

''Cytosolic NADP-thiol systems in oxidative signaling in plants'' December 05, 2014, Laboratoire Génome et Développement des Plantes (LGDP), Université de Perpignan, Perpignan, France.

''Regulation and retrograde coordination of mitochondrial gene expression'' April 7, 2014, Laboratoire Génome et Développement des Plantes (LGDP), Université de Perpignan, Perpignan, France.

"Mitochondrial RNA knockdown and regulation studies", December 18, 2012, "Third MITO@STRASS meeting", Forum de la Faculté de Médecine, Université de Strasbourg, Strasbourg, France.

"Mitochondrial regulation studies through specific RNA knockdown in the organelles" Dec. 14-17, 2010 "37ème Forum des Jeunes Chercheurs de la SFBBM", Centre Culturel St-Thomas, Strasbourg, France.

"Mitochondrial regulation studies through specific RNA knockdown in the organelles" June 7-9, 2010 "Congress; 13th Meeting, Joint Edition of the Young Researchers in Life Sciences ", Institute Pasteur, Paris, France.

"Mitochondrial regulation studies through specific RNA knockdown in the organelles" December 17-18, 2009 "Journées de l'Ecole Doctorale", Collège Doctoral Européen, Université de Strasbourg, Strasbourg, France.

"Mitochondrial regulation studies through specific RNA knockdown in the organelles" in

November 16-20, 2009 "Mitochondrie 2009",Université Paris-Sud 11, Orsay, Paris, France.

POSTER PRESENTED

"Ethylene as traffic controller of hormone for defense" 9th National Wheat Conference 2019. Innovative trends in wheat: way forward to sustainable wheat production. 12-14th Feb, 2019. College of Agriculture, University of Sargodha, Sargodha, Pakistan.

"Molecular, biochemical and physiological assessment of Triticum Aestivum lines against salinity stress" 9th National Wheat Conference 2019. Innovative trends in wheat: way forward to sustainable wheat production. 12-14th Feb, 2019. College of Agriculture, University of Sargodha, Sargodha, Pakistan.

"Effect of sewage water on morphological parameters of different wheat varieties" 1st Aus-Pak international conference on wheat for food security. March 24-25, 2019. MNS University of Agriculture, Multan, Pakistan.

"Effect of heavy metal pollution on crop plants and bioremediation of heavy metal affected soil" International Conference on surface science: Innovations and applications for geo-environmental challenges. April 25-26, 2019. University of Agriculture Faisalabad, Pakistan.

"Self-protection of arabidopsis cytosolic malate dehydrogenase against oxidative stress" 4th International Multidisciplinary Research Conference (IMRC-2018), October 9th - 11th 2018, Sarhhad University of Science & Information Technology, Peshawar, Pakistan.

"The siRNA suppressor RTL1 is redox-regulated through glutathionylation of a conserved cysteine in the double-stranded-RNA-binding domain" 4th International Multidisciplinary Research Conference (IMRC-2018), October 9th - 11th 2018, Sarhhad University of Science & Information Technology, Peshawar, Pakistan.

"Mitochondrial regulation studies through specific RNA knockdown in the organelles" in "2nd Biotechnology World Congress", February 18-21, 2013, Dubai Women's College, Dubai, United Arab Emirates.

"Mitochondrial RNA knockdown and regulation studies" in "Journées de l'Ecole Doctorale", December 07-08, 2010, Collège Doctoral Européen, Université de Strasbourg, Strasbourg, France.

"Mitochondrial RNA knockdown and regulation studies", in the second meeting of MITO@STRASS, April 29, 2010, Institut de Biologie Moléculaire des Plantes (IBMP), Université de Strasbourg, Strasbourg, France.

RESEARCH SKILLS

- Microarray analysis
- RNA-seq (RNA sequencing) analysis
- Genomic and Plasmid RNA, DNA and protein extraction
- Northern blot analysis
- Western blot analysis
- Enzymatic assays
- RNase protection assays

- PCR and RT-qPCR
- Polysome profiling and polysomal RNA extraction and analysis
- Small RNA extraction and analysis
- Genetic and phenotypic characterization of A. thaliana mutants
- Basic Tissue Culture Techniques

EXTRA CURRICULAR

1) Vice President of Association of Pakistanis for Promotion of Education and Cooperation (APPEC) since 2015. APPEC is registered in France and Pakistan. APPEC has completed more than 130 projects worth 1,84,000 euros. www.durabledevelopment.com/appec/
2) Head and member of organizing committee of "Journées de l'Ecole Doctorale 2010", December 07-08, 2010, Université de Strasbourg, Strasbourg, France.
3) Convener of Teepu Hall Sports Festival 2006-07, University of Agriculture, Faisalabad, Pakistan.
4) First Prize in Intra-Divisional National Song Competition 2000-01, DG Khan, Pakistan.

REFERENCES

Dr. Andre DIETRICH
Research Director (DR2)
CNRS & Universite de Strasbourg
Institut de Biologie Moleculaire des Plantes (IBMP)
12 rue du General Zimmer
67084 Strasbourg, France
andre.dietrich@ibmp-cnrs.unistra.fr
Phone +33 3 88 41 72 41
Fax +33 3 88 61 44 42

Dr. Jean-Philippe REICHHELD
Research Director (DR2)
CNRS & Université de Perpignan Via Domitia (UPVD)
Laboratoire Genome et Developpement des Plantes (LGDP)
58, Avenue P. Alduy - 66860 Perpignan, France
Tel: +33 4 68 66 22 25
Fax : +33 4 68 66 84 99
Email: jpr@univ-perp.fr

Dr. Julio SAEZ VASQUEZ
Research Director (DR2)
CNRS & Université de Perpignan Via Domitia (UPVD)
Laboratoire Genome et Developpement des Plantes (LGDP)
58, Avenue P. Alduy - 66860 Perpignan, France
Tel: +33 4 30 19 81 18
Fax : +33 4 68 66 84 99
Email: saez@univ-perp.fr