NANDHA ABHIJEETA K.

Abhijeeta Nandha

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## PERSONAL STATEMENT

An organized, Enthusiastic, Passionate, hard-working with excellent educational record and extensive experience in molecular biology and tissue culture field. Completed PhD in plant molecular biology and biotechnology and worked on transcriptome analysis of *Triticum aestivum.* Like to get knowledge, also with extra-curricular studies and enjoy sharing knowledge and highly approachable with good leading skills, can work to deadlines as well as excellent work ethic, good with teamwork. Able to combine current academic knowledge and theoretical training with practical experience to approach orientedsolutions.

## CORE COMPETENCIES

* Molecular Biology ➢Teaching ➢ Curriculum Development
* Biotechnology ➢Research ➢ Higher Education
* Biochemistry ➢Biology ➢Technical communication

# AREA OF INTEREST

* Molecular Biology
* Biotechnology
* Biochemical Analysis
* Plant Physiology
* Tissue culture

# EMPLOYMENT HISTORY

## Senior Research Fellow | Department of Biotechnology, ICAR research complex for NEH region, Meghalaya, India

**09/2020 – Present**

* DNA and RNA isolation, polymerase Chain Reaction and other molecular analysis from different crops, specifically from Rice and Maize.
* *In vitro* regeneration of rice from different cultivars.
* Set the experiment on rice and maize under heat and drought stress.
* Physiological analysis of rice and maize by using different techniques.

## Assistant Professor | Collage of Agriculture, Parul University, Baroda, 02/2019 - 09/2020

* Corruptly I have been working in department of Genetics and Plant Breeding.
* The Subjects which I am conducting right now are Principle of Genetics, Fundamentals of Biotechnology, Plant Tissue Culture, Plant Physiology and Environmental Sciences .
* The class have more than 300 students for each subject.
* I also have started various projects in Plant Tissue Culture which is in developmental stage.

## Lecturer | College of Computer, Science and Information Technology, Junagadh 06/2017 -12/2017

* + I have conducted lectures in Bachelor of science with more than 50 students.
  + Lectures included subjects of Molecular Biology and its techniques, basic biotechnology, Bio-processing techniques, basic concepts of Genetics and Immunology.
  + My work included practical as well as tutorial sessions of students.

## Senior Research Fellow | Department of Genetics and Plant Breeding, Junagadh Agricultural University, India

**04/2017 –04/2018**

* + In-Charge of Biotechnology laboratory and conducted practical as well as examination of bachelor’s and master’s students as well as guide them for their research work.
  + I had worked on molecular based analysis of coconut for identification of genetic

variation among Tall, Dwarf and Hybrid varieties.

* + DNA and RNA isolation, polymerase Chain Reaction and other molecular analysis.

## Project Assistant| Directorate of Groundnut Research, Junagadh, India 03/2014 -08/2014

* + Planned and management for farming of Groundnut for research.
  + Management and maintenance of life cycle of *Helicoverpa armigera* and *Spodoptera littoralis*.
  + Observe beneficial and harmful insect pests and its effect on plants.
  + Identified new species of organisms which helps for pest control.
  + Study the effect of various fungi, biochemical and chemical pesticides and other organisms from soil samples.
  + Check on effect of different oil coating on seed for variation in nutrient
  + Effect of beneficial fungi and other microbes on quality of seeds on various biochemical level

## EDUCATIONAL QUALIFICATION:

* + **Ph.D. in Plant Molecular Biology and Biotechnology** -Agricultural University, India.

## GPA: 7.32/10

**Research work Title** *“*TRANSCRIPTOME ANALYSIS OF WHEAT *(Triticum aestivum* L. Em. Thell*)* UNDER HEAT STRESS AT BOOTING STAGE*”*

**Summary:** Transcriptome and proteome present in sensitive and tolerance variety of wheat to identify genes for heat sensitivity and tolerance. Bioinformatical analysis of transcribed data which includes, identification of various genes their comparison with available wheat genome data as well as with other plant genome data. Comparison of different gene from different plant part i.e. Flag leaf and root. And use such data for further analysis for crop improvement. Analysis of different proteins which participate in response to stress condition by using various biochemical techniques.

* + **M.Sc in Plant Molecular Biology and Biotechnology, Agricultural University, India Research work Title** *“In vitro* regeneration of pigeon pea *(Cajanus cajan* L*.)* using various

explants”

## GPA: 7.19/10

**Summary:** Developed new protocol for pigeon pea regeneration of whole plant from various explants (leaf, hypocotyl, and root) via callus formation, which may further use for the development of transgenic plant.

* + **B.Sc (Biotechnology), U. B. Bhagat Science College- Saurashtra University, India Research work Title** *“Biofuel: Fuel of the future”*

## GPA: 6.71/10

**Summary:** Reviewed various data regarding production and use of the Biofuel and analysed best method as well as best source for development of the Biofuel which can be alternative source of the non-renewable fuel.

**PUBLICATIONS:**

* + - Research article:

1. **Nandha, A. K.** and Madariya, R. B. (2016). “*In vitro* plant regeneration in pigeonpea [*Cajanus cajan* (L.) Millsp.] using various explants. *Legume Research*, 41(2)226-229**.**
2. **Nandha, A. K.;** Mehta, D. R.; Tulsani, N. J.; Umretiya, N. and Delvadiya, N. (2017). Proteomic analysis to study the effect of heat stress on Flag leaf in wheat (*Triticum aestivum* Em. Thell.). *International Journal of current microbiology and applied science*,7(2), 3432-3439.
3. **Nandha, A. K.** and Mehta, D. R. (2017). Transcriptome analysis of response to heat stress in heat tolerance and heat susceptible wheat (*Triticum aestivum* L.) genotypes. *Journal of Pharmacognosy and Phytochemistry,* 8(2): 275-284.
4. Umretiya, N.; Jasani, H.; Tulsani, N. and **Nandha A. K.** (2017). Two-Dimensional electrophoresis of protein profile from Groundnut (*Arachis hypogaea* sp. Virginia) at flower development stage. *International Journal of current microbiology and applied science*. 7(10), 3524-3531.
5. Kachhadiya, H. J.; Madariya, R. B.; Bhadani, R. V.; **Nandha, A. K.**; Kapuriya, M.

and Gajera, H. P. (2019). Genetic diversity among castor (*Ricinus communis* L.) Genotypes as reveled by RAPD and ISSR markers. *International Journal of Chemical Studies.* 7(3): 2625-2633.

1. Kachhadiya, H. J.; Madariya, R. B.; Bhadani, R. V.; **Nandha, A. K.**; Kapuriya, M.; Savaliya, N. and Antala, V. (2019). Assessment of molecular diversity in Castor genotypes using SSR markers. *International Journal of current microbiology and applied science*. 8(7):595-603.
2. Tulsani, N. J.; Hamid, R.; Jecob, F.; Umretiya, N. G.; **Nandha, A. K**.; Tomar, R.S. and Golakiya, B. A. (2020). Transcriptome landscaping for gene mining and SSR marker development in coriander (*Coriandrum sativum* L.). *Genomics*. 112(2):1545-1553.
3. **Nandha A. K.** and Mehta D. R. (2019). Bioinformatics in agriculture: A review.

*AGRES- an International e-Journal.* 8(3): 173-183.

1. **Nandha, A. K. (2019).** An efficient protocol for DNA isolation from coconut leaves, root and endosperm. *Crop Plantation.* (Under Reviewing).
2. Talang, H.; **Nandha, A.;** Rekha, A.; Hemanth, Ravishankar, K. V. and Talukdar, M. (2021). Identification of nucellar and zygotic seedlings of Jamun (Syzygium cumini Skeels.) using RAPD marker. *Journal of Pharmacognosy and Phytochemistry,* 11(1):101-103.
3. Rangappa, K.; Hazarika S.; **Nandha A.;** Choudhary B. U.; Moirangthem, P.; Layek, J.; Ramesh T.; Bhattacharjee, B.; Hazarika, S. and Mishra V. K. (2021). Stress ameliorating potential of bioformulation on pea (*Pisum sativum* L.) growth and productivity under low moisture stress. Crop Science (Under Printing).
   * + Book Chapter:
4. Mehta, D. R. and **Nandha A. K. (2018).** Terminator Technology (GURT Technology). **Advanced Molecular Plant Breeding:** Meeting the Challenge of Food Security, *Apple Academic Press*: USA-CANADA. Chapter 15, pp:505-533.
5. Mehta, D. R. and **Nandha A. K. (2018).** Genome Editing in Plant Breeding. **Advanced Molecular Plant Breeding:** Meeting the Challenge of Food Security, *Apple Academic Press*: USA-CANADA. Chapter 18, pp: 605-644.
   * + Farmer’s related articles in magazine / Booklet / Folder:
6. **Abhijeeta K. Nandha**, Pritesh H. Sabara, Nilam J. Tulsani, Nimita G. Umretiya, and Vishal S. Bhatt (2016). Cyclotide. AGROBIOS NEWSLETTER, **15(6):**10-11.
7. Nilam J. Tulsani, **Abhijeeta K. Nandha,** Nimita G. Umretiya, and Pritesh H. Sabara (2016). CISGENESIS: Tool for crop improvement. AGROBIOS NEWSLETTER, **15(6):** 13-14.
8. Nimita G. Umretiya, Nilam J. Tulsani, **Abhijeeta K. Nandha,** Vishal S. Bhatt and Pritesh H. Sabara (2016). Targeting Induced Local Lesions in Genome (TILLING) and its role in crop improvement. AGROBIOS NEWSLETTER, **15(6):**11-12.
9. Nilam J. Tulsani, Nimita G. Umretiya, **Abhijeeta K. Nandha,** Vishal S. Bhatt and Pritesh H. Sabara (2016). Molecular response of plant at high salinity. AGROBIOS NEWSLETTER, **15(5):** 20-21.

## SEMINAR / WORKSHOP / SYMPOSIUM / TRAINING

* **Organize :**

1. One day National level seminar on “Recent Advances in Biotechnology Research for Agriculture” at Collage of Agriculture, Parul University on 27th Sept 2019
2. 3 days Hands on training in plant tissue culture at Collage of Agriculture and Collage of Life Science, Parul University on 14th Oct 2019 to 16th Oct 2019 (Achieved best speaker award for “Biotechnology in Plant Tissue Culture”)

## Invitation for lecture:

1. 3 days Hands on training in plant tissue culture at Collage of Agriculture and Collage of Life Science, Parul University on 14th Oct 2019 to 16th Oct 2019 (Achieved best speaker award for “Biotechnology in Plant Tissue Culture”)
2. Given lecture on “Biotechnological application on abiotic stress management and hands on DNA and RNA isolation” at 7 days training programme on “Enhancing Climate stress resilience of Hill agriculture under Changing climate” organized during 14th to 21st March, 2022.
3. Invited as Resource person for lecture at 10 days short term course on Plant Tissue Culture and Micropropagation: Methods and Application from 28th March to 10th April, 2022 organized by Department of Applied Biology, USTM.

## Poster Presentation:

1. Poster presentation on national level conference at Department of Biochemistry, Shree M. N. Virani Science collage, Rajkot held on February2013.

Title of poster: *Current focus of RNAi to improve productivity and nutritional value of plants.*

1. Participated in 9th national level of symposium on “Recent Trends in Science and Technologies” at Christ Collage, Rajkot held on February 2016.

Title of posters: *Cyclic peptides*

*Zinc Finger Nucleases*

1. Achieved second place in present poster on “Molecular based analysis of Cotton using RAPD, SSR and ISSR markers” in National conference held in Junagadh Agricultural University.

* **Oral Presentation:**

1. Presented work with oral presentation on “Molecular characterization of wheat (*Triticum aestivum*) under heat stress” in National virtual conference on Genomics to Phenomics: A new horizon in plant science research held on 28-02-21 and 01-03-21.

## Seminar Participation:

1. Participated in International seminar on “Current strands in Biological sciences” organized by Department of Biochemistry, M. G. Science institute, Ahmadabad during December 2015.
2. Participated in one day seminar on “Recent Trends and Technologies in Proteomics for Agriculture” held on May 2013.
3. Participated in state level seminar on “Agricultural Biotechnology” organized by Department of Genetics and Plant Breeding, Junagadh Agricultural University, Junagadh on March 2012.
4. UGC sponsored one day national level seminar on “Recent Advances in Microbial Technologies” at February 2011 organized by UGC at M. & N. Virani Science College, Rajkot.

## Conference Attended:

1. Participated in UGC sponsored one day national level conference on “Bio scientific Technologies – An Elixir for Research in 21st Century” organized by UGC at M. & N. Virani Science College, Rajkot on February, 2013.
2. Participated on 3 days National Virtual Conference entitled “Genomics to Phenomics: A New Horizon in Plant Science Research” and presented Oral presentation on “Molecular Characterization of Wheat (*Triticum aestivum* L.) under Heat Stress” 28th February and 1st March, 2021 Organized by Department of Botany, University of Calcutta, West Bengal.

## Workshop Attended:

1. Participated in Agilent Technologies sponsored one day workshop on “Microwave Plasma Atomic Emission Spectroscopy workshop” on August 2015.
2. Participated in GSBTM sponsored five days state level workshop at Junagadh Agricultural University, Junagadh, from December to January 2011.

## Symposium:

1. Participated in 9th National level Symposium on “Recent Trends in Science and Technologies” at Christ Collage, Rajkot at February 2016.
2. National Symposium on “Innovations in Plant Pathology Research and Human Resource Development” held at Junagadh Agricultural University, Junagadh from November2010.
   * **Training**
3. Genome analysis training at IIT, Delhi during August 2016.
4. Two days training program on “Effective Implementation of ISO/IEC 17025: 2005 in testing laboratory” Organized by NABL and Centre for food & water technology, Mumbai on July 2016.
5. Participated in full day-career management training program on “Campus to Corporate”

held on October 2015 at Junagadh Agricultural University, Junagadh.

1. Participated in three days training on “life skills & personality development” during March 2015.
2. Participated in five days training on “Application of Information Technology in Agriculture: Geo-spacial mapping, sensor based irrigation, GFGs emission and statistical computing tools” in April 2021 held by ICAR-NEH, Umiam, Meghalaya.
3. Participated in seven days training on “Climatic and edaphic stress management under changing climate scenario in Hill agriculture: Application of high throughput instruments” under the National Innovation in Climate Resilient Agriculture project during 3rd - 9th March, 2022 at ICAR Research Complex for NEH Region, Umiam, Meghalaya.
   * NSS/NCC/Tracking camp:

## ADDITIONAL SKILLS

* + Introductory coding: HTML, CSS, JAVA script and VS code, R
  + Software: Microsoft Word, PowerPoint, Excel, Adobe Photoshop
  + Sports:
  + Photography

I hereby declare that the details furnished above are true and correct to the best of my knowledge.



(Dr. Abhijeeta Nandha)