

MUKUL SAIN

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Abohar, Distt. Fazilka, 152116
Marital Status : Unmarried
Languages known : Hindi, English, Punjabi, French
Hobbies : Playing Chess, Reading books, Tourism



EDUCATIONAL QUALIFICATION

Discipline	Name of University/ Board	Year of Passing
Ph.D. (Dairy Engineering)	ICAR-National Dairy Research Institute (NDRI), Karnal	Pursuing
M. Tech. (Dairy Engineering)	Guru Angad Dev Veterinary and Animal Sciences University (GADVASU), Ludhiana, Punjab.	2019
B. Tech. (Agricultural Engineering)	Punjab Agricultural University (PAU), Ludhiana, Punjab.	2017
12th	P.S.E.B.	2012
10th	P.S.E.B.	2010

PROFESSIONAL EXPERIENCE

Assistant Professor cum CTO (NCC) at the Department of Agricultural Engineering, Baba Banda Singh Bahadur Engineering College, Fatehgarh Sahib, Punjab, India since January 2020

AREA OF INTEREST

- Alternative green fuels for dairy and food processing operations
- Biogas based engines and tractors
- Development of convenient and useful dairy processing equipment for small-scale dairy holders

- Solar thermal energy storage techniques using different energy storage materials
- Texture enhancement and increasing shelf life of vegetables
- Robotics and automation in dairy and food processing sector

PROJECTS UNDERTAKEN

- Paddy straw based biogas plant for cooking mid day meals at Government elementary and middle school, Saddo Majra
- Color preservation and drying kinetics of green chickpeas
- Development of a dual fuel system to operate tractor on Biogas
- Thermic fluid based solar thermal reservoir for milk processing
- Drying and rehydration kinetics of Green Pea (*Pisum Sativum L.*) Seeds

INDUSTRIAL EXPERIENCES

- Attended Four weeks training at **ICAR-Central Institute for Post Harvest Engineering and Technology (CIPHET), Abohar-152116**, Punjab (from 01-07-2016 to 30-07-2016)
- Attended one month In-house Training-1 and In-house Training-2 in Farm machinery, Soil water, Food processing, Mechanical and Energy departments at **College of Agricultural Engineering & technology, PAU, Ludhiana-141004**
- Attended fifteen days Industrial Training and visited to various Industries related to Farm machinery, Food processing and Renewable energy
- Attended fifteen days training in Engineering section at **Ludhiana Dist. Cooperative Milk Producers Union Ltd Verka Ludhiana Dairy, Ludhiana- 141004**, Punjab (from 14-01-2019 to 28-01-2019)

PUBLICATIONS

Research/Review Articles

- **Mukul Sain.** 2020. Production of rice straw based sustainable bioplastics to eradicate stubble burning: A Mini-Review. *Environment Conservation Journal*. 21(3): 1-5
- **Mukul Sain,** Anjali Singh, Amanpreet Kaur, Ruchika Zalpouri. 2020. Metaphysical energy based sustainable yogic farming for enhanced productivity and farmers' well being. *Environment Conservation Journal*. 21(3): 63-68
- **Mukul Sain,** Ramandeep Singh, Amanpreet Kaur. 2020. **Robotic Automation in Dairy and Meat Processing Sector for Hygienic Processing and Enhanced Production.** *Journal of community mobilization and sustainable development*. 15(3): 543-550

- **Mukul Sain**, Amandeep Sharma, Ruchika Zalpouri. 2020. Solar energy utilisation in dairy and food processing industries: Current applications and future scope. *Journal of community mobilization and sustainable development*. 15(1): 227-234
- Ruchika Zalpouri, Preetinder Kaur, **Mukul Sain**. 2020. Refractive window drying- A better approach to preserve the visual appearance of dried products. *Pantnagar Journal of Research*. 18(1): 90-94
- Ramandeep Singh, **Mukul Sain**, Balveer Singh, Harpreet Singh Nagi, Niraj bala. 2020. *International Journal of Current Microbiology and applied sciences*. 9(5): 247-257
- **Mukul Sain**, Amandeep Sharma, Gopika Talwar, Nitika Goel. 2019. Thermic fluid based solar thermal energy storage system for milk processing. *International Journal of Current Microbiology and applied sciences*. 8(10): 1962-1973
- **Mukul Sain**, Amandeep Sharma, Gopika Talwar, Narender Kumar. 2019. Study on behaviour of thermal energy storage materials under conventional and solar heating systems. *International Journal of Chemical Studies*. 7(5): 732-73
- Neeraj Jaglan, Amandeep Sharma, **Mukul Sain**, Lovepreet Singh. 2018. Solar technologies and Thermic materials for value addition to perishable commodities: Future research & development. *Green farming. International Journal of Applied Agricultural and Horticultural Sciences*. 9(3): 534-540
- **Mukul Sain**, Manpreet Kaur, Manjeet Singh, Santosh Kumar. 2018. Development of a dual fuel system to operate tractor on biogas. *International journal of pure & applied biosciences*. 6(1): 1710-1720

Popular Articles

- **Mukul Sain**, Amandeep Sharma, Narender Kumar, Gopika Talwar & Gursharan Singh. 2019. Robotics use can decrease labour dependence. *Ingredients South Asia*. 12(10): 75-76
- **Mukul Sain**, Amandeep Sharma, Narender Kumar, Venus Bansal. 2019. Camel milk benefits, industrial importance. *Ingredients South Asia*. 12(19): 48
- **Mukul Sain**, Amandeep Sharma, Narender Chandla. 2019. Portable cold store units help prevent produce spoilage. *Food & Beverages News*. 11(24): 16
- **Mukul Sain**. 2019. Use of Rice Straw for Packaging Materials- The Best Option (**TOP NEWS**). *Food & Beverages News*. <http://www.fnbnews.com/Top-News/use-of-rice-straw-for-packaging-materials--the-best-option-53480>
- **Mukul Sain**. 2020. Whey can be used as a very healthy beverage. *Food & Beverages News*. AAHAR 2020. Pp. 15-16 <http://www.saffronmedia.in/eMagazines/fnb/2020/FNBMar01152020/html5/index.html>.
- **Mukul Sain**. 2020. Dairy Processing Equipment and Fouling Problems. **TOP NEWS**.

Food & Beverages News. <http://www.fnbnews.com/Top-News/dairy-processing-equipments-and-fouling-problem-55865>

Books

- Amanpreet Kaur & **Mukul Sain**. 2020. Natural Fibre Composites & Nanotechnology in Food Processing Sector. *Educreation Publishing*. ISBN 9789390307272
- **Mukul Sain**. 2021. Rice Straw: Management Technologies for Environment Conservation & Sustainable Development. *Astral International Pvt. Ltd.* (Accepted for publication).

Abstracts

- “Thermo-fluids and phase changing material based thermal reservoir for probable processing application in dairy & food sector” published in National conference on New Horizons in Food Processing and Nutrition” organized by Sant Longowal Institute of Engineering & Technology, Longowal, Punjab (SLIETCON 2019) held at Chandigarh during March 1-2, 2019
- “Use of solar energy for value added milk products at farm level” published in 8th international conference on Advancements in Engineering & Technology held at Bhai Gurdas Institute of Engineering and Technology, Sangrur, Punjab, India during March 20-21, 2020
- “Development of a waiter robot for food & beverages sector” published in 8th international conference on Advancements in Engineering and Technology held at Bhai Gurdas Institute of Engineering and Technology, Sangrur, Punjab, India during March 20-21, 2020
- “Use of Paddy straw for environment friendly packaging packs” published in 8th international conference on Advancements in Engineering & Technology held at Bhai Gurdas Institute of Engineering and Technology, Sangrur, Punjab, India during March 20-21, 2020

AWARDS/ ACHIEVEMENTS

- All India 3rd position in ICAR- AICE JRF/SRF 2020
- Awarded NDRI- academic fellowship for PhD programme
- ‘Young Scientist Award’ in 11th International Scientist Awards on Engineering, Science and Medicine held on 17 & 18-Oct-2020, Kolkata, India.
- ‘Young Researcher Award’ by InSc, An ISO 9001:2015 certified Institute, Accredited by UASL

- Best poster award at “National conference on New Horizons in Food Processing and Nutrition” organized by Sant Longowal Institute of Engineering & Technology, Longowal, Punjab (SLIETCON 2019)
- Appreciated and received reprinting requests for popular articles by leading magazines like **Dairy Times, Beverages & Food Processing Times, Mithai & Namkeen Times and Ice-cream Times**
- University Merit certificate holder for M. Tech Programme
- Awarded with academic fellowship during M. Tech Programme
- NCC ‘C’ certificate holder
- Special achievement award for ‘Administration in camp Duties’ in CATC-73
- ‘Rajya Puraskar’ for Bharat Scouts & Guides
- First prize for Punjab School Chess competitions at District level and participated at state level tournaments for Chess
- Appreciation award for National Milk Day Elocution in collaboration with AMUL held on 26-11-2018
- Appreciation certificate for Social Work by ‘Helpage India’ and ‘Global Cancer Concern India’

CONFERENCES/WORKSHOPS

- Participated and presented poster presentation in National conference on New Horizons in Food Processing and Nutrition, organized by Sant Longowal Institute of Engineering & Technology, Longowal, Punjab (SLIETCON 2019)
- Participated and presented poster presentation in 8th international conference on Advancements in Engineering and Technology held at Bhai Gurdas Institute of Engineering and Technology, Sangrur, Punjab, India during March 20-21, 2020
- Participated in workshop on “Artificial Intelligence & Machine Learning” at Delhi Technological University (DTU) organized by Robosapiens India Publications in association with IoThlon: 2019; National Workshop Series
- Participated in One Day Online International Workshop on “Research Process and Outcomes” organized by Guru Nanak Dev University, Amritsar

PROFESSIONAL MEMBERSHIPS

- Life member of Society for community mobilization for sustainable development
- Life member of InSC
- Member of ASEA society

EXTRA-CURRICULAR ACHIEVEMENTS/ACTIVITIES

- Guest Editor (Special Issue on ‘All aspects of Dairy & Food Sciences’) in Environment Conservation Journal
- Pursuing PG diploma in Dairy Science and technology from Institute of Good manufacturing Practices India (IGMPI)
- Working for the development of Village Saddo Majra, Fatehgarh Sahib under **Unnat Bharat Abhiyan**
- Active participant of webinars and short term courses
- Completed one year certificate course and selected for diploma in French language in Punjab Agricultural University, Ludhiana
- Participated in various school level competitions and 55th Punjab School Games for Archery during school time
- Volunteered in Combined Annual Training Camps of NCC, Scout/Guide training camps and PAU Kisan Mela

