Curriculum Vitae

Dr. Sachin R. Chaudhari
Senior Scientist and Assistance Professor,
Department of Plantation Products, Spices & Flavour Technology,
CSIR-Central for Food Science and Technological Institute, Mysuru, Karnataka, India.

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Research Interests

- Advancing solution and solid-state NMR methods for molecular structure insights in food science applications.
- Application of TD-NMR techniques for versatile analysis in food and pharmaceutical industries.
- Utilization of market insights for successful product ideation and commercialization.
- Exploration of sustainable ingredients and packaging technologies to meet consumer demands.
- Integration of food chemistry, sensory analysis, and shelf-life studies in product development.
- Emphasis on food quantity and safety measures to ensure consumer protection.
- Research and development focused on utilizing Plantation Products, Spices & Flavour Technology for value addition, extraction, and flavor enhancement in food products.

Education

Degree	Subject	University/Institution	Duration
Ph.D.	Chemical Science (Core area: NMR spectroscopy)	NMR Research Centre, Indian Institute of Science, Bengaluru, India.	2009-2014
M.Sc.	Chemistry	Department of Chemistry, Nagpur University, Maharashtra, India.	2006 – 2008
B.Sc.	Phys, Chem & Math	Sardar Patel College, Chandrapur, Nagpur University, Maharashtra, India.	2003 - 2006

Current Position

Senior Scientist, Department of Plantation Products, Spices and Flavour Technology, CSIR-Central for Food Science and Technological Institute, Mysuru, Karnataka, India.

Previous Position

1. Research Associate, NMR Research Centre, Indian Institute of Science, Bengaluru, India January 2014 - August 2014 **|** Supervisor: Prof. N. Suryaprakash
2. Post-doctoral Fellow, Centre de RMN Très Hauts Champs, Université de Lyon (CNRS/ENS Lyon/UCB Lyon 1), 69100 Villeurbanne, France September 2014 - August 2016 Supervisors: Prof. Lyndon Emsley and Dr. Anne Lesage
3. Post-doctoral Fellow, Laboratory of Magnetic Resonance and Modeling and Exploration of Materials, INAC, CEA, and Grenoble Alpes University, 17, rue des Martyrs, Grenoble, France September 2016 - April 2017 Supervisor: Dr. Gaël De Paepe
4. Marie Skłodowska-Curie Fellow, School of Chemistry, University of Nottingham, University

Park, Nottingham, UK, 2017 - 2018 Supervisor: Prof. Jeremy Titman

5. Scientist, Department of Plantation Products, Spices and Flavour Technology, CSIR-Central Food Technological Research Institute, Mysuru, Karnataka, India February 2018 - January 2021

Fellowship and Academic Achievements

1. Qualified the Council of Scientific and Industrial Research- National Eligibility Test (CSIR-NET), India for Junior Research Fellowship and Eligibility for Lectureship, June-**2009.**
2. Qualified the Maharashtra State Eligibility Test (MH-SET), India for Assistant Professorship Conducted by University of Pune as a State agency, Maharashtra, India, **2009.**
3. Qualified the GATE (Graduate Aptitude Test of Engineering, India) in **2010.**
4. Awarded CBMR-NMRS Gold Medal award for Excellence in Research in India (National Level) in the field of NMR Spectroscopy for the Year-**2012.**
5. Awarded the Jharana Rani Samuel, Best Student Award for Excellence in Research in India (National Level) in the field of NMR Spectroscopy for the Year-**2013.**
6. Awarded CBMR-NMRS Gold Medal award for Excellence in Research in India (National Level) in the field of NMR Spectroscopy for the Year-**2014.**
7. Selected **Marie-Curie Individual Fellowship** for postdoctoral research funding from the Marie-Skłodowska-Curie Actions-**2016.**

Grant Received

Principal Investigator (PI) Projects:

1. **Development and Applications of NMR methods for Qualitative and Quantitative analysis of Curcuminoids**
   - Project Category: GAP-567
   - Funding Agency: SERB
   - Role: PI
2. **NMR based profiling of coconut water**
   - Project Category: GAP-619
   - Funding Agency: Coconut Development Board (CDB), Gov. of India.
   - Role: PI
3. **Individual Fellowship-DNP for materials characterization**
   - Type: Individual Fellowship
   - Funding Organization: Marie-Skłodowska-Curie Actions, Europe
   - Role on Project: PI
4. **Enhancing Shelf Life and Quality of Peanut Butter Using Curcumin and Turmeric Oil**
   - Type: MLP- 0318
   - Funding Organization: CSIR-CFTRI, Mysore
   - Role on Project: PI

Co-Principal Investigator (Co-PI) Projects:

1. **CSIR Mission Mode Programme on Food and Consumer Safety Solutions (FOCUS)**
   - Project Category: CSIR-Mission Mode (HCP-016)
   - Participating Agencies: CSIR

- Role: Co-PI

2. **Design and Development of Reactor for Processing of Coconut-Based Beverages with UV-C Irradiation**
   - Project Category: GAP-549
   - Participating Agencies: Coconut Development Board (CDB), Gov. of India.
   - Role: Co-PI
3. **CSIR Mission Mode Programme on Food and Consumer Safety Solutions (Advanced FOCUS)**
   - Project Category: CSIR-Mission Mode (HCP-031)
   - Participating Agencies: CSIR
   - Role: Co-PI
4. **CSIR Mission on Floriculture**
   - Project Category: CSIR-Mission Mode (HCP-037)
   - Participating Agencies: CSIR
   - Role: CO-PI
5. **Development of thermostable container for perishable food items**
   - Project Category: CLP0022
   - Participating Agencies: JustMyRoots Pvt. Ltd., Kolkata
   - Role: Co-PI
6. **CSIR Mission Mode Programme on Millet (SHRI ANNA)**
   - Project Category: CSIR-Mission Mode (HCP-052)
   - Participating Agencies: CSIR
   - Role: Co-PI

Member Projects:

1. **Exploring NMR as a tool for Quantification of Curcuminoids**
   - Project Category: MLP-219
   - Participating Agencies: CFTRI
   - Role: Member
2. **Leaching of heavy metals from stainless steel coupons/cookware in food simulants and food materials**
   - Project Category: SSP
   - Participating Agencies: Prestige Limited, Hosur, Tamil Nadu
   - Role: Member
3. **Development of hygienic technology for the preparation of Herbal/spice water**
   - Project Category: SSP0251
   - Participating Agencies: Lakshmi Srinivasan Private Limited, Bangalore
   - Role: Member
4. **Studies on the evaluation of biomolecules from Spices and Plantation crops for the prevention and control of COVID-19 with functional food approach**
   - Project Category: MLP-270
   - Participating Agencies: CSIR-CFTRI
   - Role: Member
5. **Development of active and smart packaging system, i.e., oxygen scavenger and paper-based colorimetric spoilage indicator**
   - Project Category: CLP 013
   - Participating Agencies: Drashan Flexibles Pvt. Ltd., Mysore

- Role: Member

6. **Characterization studies and preliminary evaluation of zero-circle film for their suitability to 4 different food groups and application**
    - Project Category: SSP 333
    - Participating Agencies: M/S Zero Circle Alternative Pvt. Ltd., Gurgaon
    - Role: Member
4. **Leaching of heavy metals from stainless steel coupons/cookware in food simulants and food materials**
    - Type: Sponsored Project
    - Funding Organization: Prestige Limited, Hosur, Tamil Nadu, India
    - Role on Project: Member

Teaching and Guidance

Composition Instructor

- Planned and taught an intensive course on NMR spectroscopy.
- Demonstration of CFTRI technologies and training session to farmer and industrials.
- Taught in part with an innovative, interdisciplinary team-teaching program design short term course on various aspects.

Teaching Assistance

- Facilitator for NMR section of Analytical techniques.
- Taught a section on NMR spectroscopy, theory and practical's
- Planned lessons and assignments, led discussion sections, graded papers and exams.

ISMT Course - Chemistry

M.Sc. Food Science and Technology: Plantation Product and Spice

- **Teaching and Role: Course Co-Coordinator**

Ph.D. Program

- **Course: Food Value Metabolites, Spectroscopy, Instrumentation Methods**

Guidance & Supervision Summary

- Ph.D. Student: 2 (Awarded)
- Currently Advising 4 Ph.D. Students
- Supervised 15 dissertation projects.
- Provided guidance to 16 project assistants under various funded project.

Presentations at Conferences and Symposia

1. Poster presented at the 17th Annual NMRS (National Magnetic Resonance Society) symposium, Guru Nanak Dev University, Amritsar, India, **2011**.
2. Attended workshop on Recent Advances in NMR Spectroscopy, organised by Tata Institute of Fundamental Research (TIFR), Hyderabad, India, **2011**.
3. Oral presentation at the Indo-Swiss Symposium on Recent Trends in NMR of Biomolecules and Advanced Materials, NCL (National Chemical Laboratory), Pune, India, **2012.**
4. Poster presented at the 18th Annual NMRS (National Magnetic Resonance Society) symposium, Indian Institute of Science, Bangalore, India **2012**.

5. Poster presented at the International conference EUROMAR-2012 (European Magnetic Society) held at the University of Dublin, Dublin, Ireland, **2012**.
6. Oral presentation at the 19th Annual NMRS (National Magnetic Resonance Society) Symposium, organised by TIFR and Indian Institute of Chemical Technology, Mumbai, India, **2013**.
7. Poster presented at the 19th Annual NMRS (National Magnetic Resonance Society) Symposium, Organised by TIFR and Indian Institute of Chemical Technology, Mumbai, India **2013**.
8. Poster presented at SMASH-2013 (Small molecule NMR conference) at Santiago the Compostela, Spain, **2013**.
9. Attended workshop on the Ultrafast NMR held at the Santiago de Compostela, Spain, **2013.**
10. Oral Presentation at the NCC-2013 (National Conference on Chirality), Symposium, organised by M. S. University of Baroda, Baroda, India, **2013**.
11. Invited guest lecture at the Government Science college for Women, Hindupur, Andhra Pradesh, India, December-**2013.**
12. Oral presentation at the 20th Annual NMRS (National Magnetic Resonance Society) symposium, organised by Tezpur University, Tezpur, India, **2014.**
13. Oral presentation at the 21th Annual NMRS (National Magnetic Resonance Society) symposium, organised by, Guru Nanak Dev University, India, **2015.**
14. Poster presented at the Eu-Cost Summer School On Nuclear Spin Hyperpolarization Techniques, organised by University of Southampton, UK and Goethe University Frankfurt, Southampton, UK, **2015**.
15. Poster presented at 9th the Alpine Conference on Solid State, NMR, organised under the auspices of the groupement Ampere and the International Society of Magnetic Resonance, Chamonix-Mont Blanc, France, **2015.**
16. Poster presented at 58th Annual Rocky Mountain Conference on Magnetic Resonance in Breckenridge, Colorado which endorsed by American Chemical and Applied Spectroscopy Society, **2016**.
17. Presented talk on Dynamic Nuclear Polarization under fast magic angle spinning conference 7th Asia Pacific NMR Conference (APNMR-2017) held in IISc, Bangalore, **2017**.
18. Presented talk on solvent suppression in MAS DNP meeting at Catalyst design by NMR, Lille, France, March-**2017**.
19. Oral presentation at IUPAC-**2017**, held at Hyderabad, India.

Invited Talks

1. Delivered talk at Mahatma Gandhi Senior Science College, Nagbhid, Maharashtra, India, **2014** under Inspire programme to graduate/postgraduate students**.**
2. Delivered talk at Nevajabai Hitkarni Senior Science College, Bramhapuri, Maharashtra, India, **2016,** under Inspire programme to graduate/postgraduate students**.**
3. Delivered tutorial lectures at the workshop on solid state NMR for materials and biomolecules organised by Institute of Organic Chemistry, Riga, Latvia, **2016**.
4. Delivered talk at Indian Institute of Science and Education Research, Mohali, Punjab, India. 21st August, **2016** on DNP Enhanced solid state NMR: The development and applications.
5. Departmental Seminar, (On Developments and Applications of New Methods for solution NMR & DNP Enhanced solid State NMR), IIT, Roorkee, August-24-**2016.**
6. Departmental Seminar, (On Developments and Applications of New Methods for solution NMR & DNP Enhanced solid State NMR), IIT, Ropar, August-29-**2016.**
7. Departmental Seminar, (On Developments and Applications of New Methods for solution NMR & DNP Enhanced solid State NMR), IIT, Mumbai, September-2-**2016.**
8. Departmental Seminar, (On Developments and Applications of New Methods for

solution NMR & DNP Enhanced solid State NMR), IIT, Patna, Jan-2-**2017.**

9. Departmental Seminar, (On Developments and Applications of New Methods for solution NMR & DNP Enhanced solid State NMR), IIT, Bhubaneshwar, Feb-10-**2017.**
10. Delivered talk at Sardar Patel Mahavidyalaya, Chandrapur, Maharashtra, India, **2017,** under Inspire programme to graduate/postgraduate students by Alumni.
11. Invited talk in the conference 7th Asia Pacific NMR Conference (APNMR-2017) held in IISc, Bangalore, **2017**.
12. Invited talk in the conference 5th Annual Conference of AnalytiX **2017** (AnalytiX-2017) Fukuoka, Japan, **2017**.
13. Invited talk in the 6th Annual World Congress of Advanced Materials-**2017** (WCAM-2017, Xi'an) Xi'an China, **2017**.
14. Invited Chair/Speakers in the 8th World Gene Convention-2017, Macao, China during November 13-15, **2017.**
15. Oral Speech Invited in the 15th Annual Congress of International Drug Discovery Science and Technology - Japan **2017** (IDDST-Japan 2017) held during July 25-27, **2017** in the city of Osaka in Japan.
16. Departmental Seminar, (On Developments and Applications of New Methods for solution NMR & DNP Enhanced solid State NMR), IIT, Indore, August-08-**2017.**
17. Delivered a guest lecture in Faculty development programme "Characterization of Materials by Advanced Analytical Techniques" organised by JSS College, Mysuru, 21st June **2019**.
18. Delivered a seminar in the Training Program theme on "Scientific Equipment's: Application and Data Analysis in Advanced Research" organised by University of Mysuru, Mysuru, 20th Sept. **2019**.
19. - Delivered a guest lecture at JSS College on faculty development programme.
20. Guest lecture at the workshop on Instrument Techniques organized by the University of Mysore, September 20, 2019.
21. Talk at Reva University on a one-day workshop on Instrumental Techniques for Materials Science, January 24, 2020.
22. Guest lecture and resource person for the International Webinar organized by St. Philomena's College, Mysore, under the theme of Trends in Chemical Science: Challenges and Opportunities.
23. Guest lectures at the workshop organized by the Department of Biochemistry, MMK & SDM Mahila Maha Vidyalaya, Mysore, and Ryan Publishers, Trichy, Tamil Nadu, under the theme of National Workshop on "Fundamentals of Interpreting NMR Spectra".
24. Webinar organized by Acharya University on a one-day workshop on Instrumental Techniques for Chemistry.
25. Webinar organized by the Department of Chemistry, Nevjabai Hitkarini College, Bramhapuri, on National Webinar on "Recent Research Trends in Chemistry".
26. Lecture delivered at IISF.
27. Lectures and resource person for the faculty development program organized by Acharya Institute of Technology, Bangalore, under the theme of "Insight into Analytical Techniques and Its Applications".
28. Guest lectures at the workshop organized by the Department of Food Technology, Karpagam Academy of Higher Education, on "National Seminar Series on Career Opportunities for Food Technologists" as the Lead speaker.
29. Lecture organized by the NMR Research Centre, Indian Institute of Science, Bangalore, on a virtual symposium on "Novel NMR Methods for the Investigation of Molecular Structure and Interactions".
30. Talk at NMRS-2022 Conference, Virtual Invited.
31. Talk on "NMR Spectroscopy" during the 61st National Pharmacy Week celebrations

at JSS College of Pharmacy in Mysuru, on November 16, 2022.

32. Lecture on NMR Spectroscopy during the 'Hands-on Training and Workshop on High-End Mass Spectrometry-Based Lipidomics for Food and Biomedical Sciences' event held from January 16th to 20th, 2023, at CSIR-CFTRI.

33. Talk on NMR Spectroscopy during the training program on 'Advanced Equipment Handling and Applications in Molecular Biology' held from April 25th, 2022, to May 1st, 2022, at Vijnana Bhavan University Mysore, Mysore, organized by the University of Mysore, JSS AHER, and DST-STUTI.

34. Talk and resource person on NMR Spectroscopy during the national workshop on 'NMR Spectra Interpretation' held from September 28th to 30th, 2022, organized by MMK & SDM Mahila Maha Vidyalaya, Mysuru.

Membership in Scientific Societies

1. Life member, National Magnetic Resonance Society of India, India.
2. Life member, Association of Food Scientists & Technologists India, India.
3. Life member, Indian Society of Spices.

Patent Applied for

1. Development of natural de based time temperature indicator. (Patent submitted, IPO application number: 202011049586; Date: 23-11-2020 and Inventors: Rajeshwar S. Matche, Sachin Chaudhary, Subhash V Pawde, Durga Prasad, Jaydeep Dave)

2. Thermos table containers for hot food supply chain of perishable products and the process thereof. (Patent submitted, Application submitted on: 16-11-2022; Patent number: 202211065792; Inventors: Rajeshwar S Matche, Sachin R Chaudhari, Suraj P, Creatcomm Tech Pvt Ltd)

3. Thermos table Containers for the Cold Supply Chain of Perishable Food Products and Process thereof. (Patent submitted, Application submitted on: 19-10-2022, Patent number: 202211059650 and Inventors: Rajeshwar S Matche, Sachin R Chaudhari, Thillai Natrajan, Suraj P, Creatcomm Tech Pvt Ltd)

4. Oxygen Scavenger Film from Natural Rubber-Based Material for Packaging Film and Process for Preparation Thereof. (Provisional application filed; IPO application number: 202311021355; Date: 24-03-2023; Inventors: Rajeshwar S. Matche, Sachin R. Chaudhari, Subhash V. Pawde)

5. Eco-friendly Oxygen Scavenger containing food grade catalyst with multifold improved oxygen scavenging. (Provisional application filed; IPO number: 202311057427; Date: 16-08-2023 and Inventors: Rajeshwar S. Matche, Sachin R. Chaudhari, Subhash V. Pawde)

6. A Process for Isolation of Isomahanimbine from Murraya koenigii, Application Number: IN 202411058258, Filing Date: 31 July 2024, Inventors: Syed Musthapa Meeran, Priya Mondal, Sachin Rama Chaudhari.

7. A Dipping Solution for Enhancing Vase Life of Cut Flowers, Inventors: Rajeshwar S. Matche, Sachin Rama Chaudhari, Sachin Shinde, Application Number: IN 20241111062425, Date of Filing: 6 August 2024

8. A Composition for Improving the Shelf Life of Cut Gerbera Flower, Inventors: Rajeshwar S. Matche, Sachin Rama Chaudhari, Sachin Shinde, Application Number: IN 20241111059523 Date of Filing: 6 August 2024
9. Sustainable Active Packaging Carrier and Method for Preparation of the Same. **Application Number:** 0188NF2024. **Inventors:** Rajeshwar S. Matche, Sachin R. Chaudhari, Rajat Chandel.

Technology and Process (Innovative Technologies and Processes in Food Preservation)

1. Ethylene Scavenging from Industrial Waste for Ethylene-Sensitive Fruits
2. Development of Thermos table Containers for Hot Food Supply Chain of Perishable Products and Associated Processes
3. Design and Production of Thermos table Containers for the Cold Supply Chain of Perishable Food Products, Including Process Development
4. Freshness Paper for Shelf Life Enhancement of Fresh Rose Flowers
5. Oxygen Scavenger Film for Extending the Shelf Life of Packaged Products
6. Instant Masala Tea premix

List of Publications

1) Naresh K. S., Ansari, Santosh Mogurampelly, and Sachin R. Chaudhari. Investigating Curcuminoid Encapsulation in β-Cyclodextrin: Insights from NMR Spectroscopy and MD Simulations, Food Hydrocolloids, 2024, Just accepted.

2) A Biswas, BB Borse, SR Chaudhari, Quantitative NMR analysis of sugars in natural sweeteners: Profiling in honey, jaggery, date syrup, and coconut sugar, Food Research International, 2024, 115358.

3) Sachin P. Shinde, Digvijay T. Wagai, Ganesh R. Hon, Suraj P, Sachin R. Chaudhari, Rajeshwar S. Matche, ***ACS Food Science & Technology,*** 2024, XXXX, XXX, XXX-XXX, https://doi.org/10.1021/acsfoodscitech.4c00619

4) Akanksha Singh, Deependra Rajoriya, Indudhar S. Obalesh, K.V. Harish Prashanth, Sachin R. Chaudhari, Sarma Mutturi, Koushik Mazumder, Sachin M. Eligar. Arabinoxylan from pearl millet bran: Optimized extraction, structural characterization, and its bioactivities. *International Journal of Biological Macromolecules*, Volume 279, Part 2, 2024, 135247. DOI: 10.1016/j.ijbiomac.2024.135247.

5) Pawde, S.; Chaudhari, S. R.; Matche, R. S. Active Packaging for Strawberry and Coriander: A Natural Extract Impregnated Paper. *ACS Food Science and Technology*, 2024, 4, 1166-1178. DOI: 10.1021/acsfoodscitech.4c00001.

6) Bharadwaj, M. R.; Prasad, H. B.; Chaudhari, S. R. Understanding the Maturity of Coconut Water through 1H NMR Profiling and MPAES Analyses. Food Chem . 2024 Oct 1:454:139748.doi: 10.1016/j.foodchem.2024.139748.

7) Shinde, S. P.; Hon, G. R.; Suraj, P.; Chaudhari, S. R.; Matche, R. S. Revamping Ethylene Absorption Utilizing Brick Ash in Packaging for Prolonging the Freshness of Banana Leaves. *ACS Food Science and Technology*, 2024. DOI: 10.1021/acsfoodscitech.4c00333.

8) Praveen, A.; Hitlamani, V.; Nagarajan, S.; Matche, R. S.; Chaudhari, S. R. Enrichment of Peanut Butter Using Curcuma Longa (Turmeric) Industrial Byproducts and Its Impact on Shelf Life. *Food Chemistry*, 2024, 461, 140839-140844. DOI: 10.1016/j.foodchem.2024.140839.

9) Biswas, A., & Chaudhari, S. R. (2024). Exploring the role of NIR spectroscopy in quantifying and verifying honey authenticity. *Food Chemistry*, Elsevier, 445, 138712. DOI: 10.1016/j.foodchem.2024.138712.

10) Pawde, S., Chaudhari, S. R., Prabhasankar, P., & Matche, R. S. (2024). LDPE-Natural Rubber Composite Film as Active Packaging: A Paradigm Shift in Oxygen Scavengers. *ACS Applied Materials and Interfaces*, ACS, 15, 38729-38740. DOI: 10.1021/acsami.3c05168.

11) Aswathi, K. N., Shirke, A., Praveen, A., Chaudhari, S. R., & Murthy, P. S. (2023). Pulped natural/honey robusta coffee fermentation metabolites, physico-chemical and sensory profiles. *Food Chemistry*, Elsevier, 429, 136897. DOI: 10.1016/j.foodchem.2023.136897.

12) Mohapatra, S., Halder, S., Chaudhari, S. R., Netz, R. R., & Mogurampelly, S. (2023). Insights into the structure and ion transport of pectin-[BMIM][PF6] electrolytes. *Journal of Chemical Physics*, API, 159, 154902. DOI: 10.1063/5.0158127.

13) Biswas, A., Hazra, S. K., & Chaudhari, S. R. (2023). Detection of barley malt syrup as an adulterant in honey by ^{1}H NMR profile. *Food Chemistry*, Elsevier, 429, 136842. DOI: 10.1016/j.foodchem.2023.136842.

14) Biswas, A., Naresh, K. S., Jaygadkar, S. S., & Chaudhari, S. R. (2023). Enabling honey quality and authenticity with NMR and LC-IRMS based platform. *Food Chemistry*, Elsevier, 416, 135825. DOI: 10.1016/j.foodchem.2023.135825.

15) Shinde, S. P., Chaudhari, S. R., & Matche, R. S. (2023). A way forward for a sustainable active packaging solution for prolonging the freshness and shelf life of *Rosa hybrida* L. cut flowers. *Postharvest Biology and Technology*, Elsevier, 204, 112475. DOI: 10.1016/j.postharvbio.2023.112475.

16) Suraj, P., Shantanu, M., Patil, S. P., Chaudhari, S. R., & Matche, R. S. (2023). Ethylene scavenger from brick ash: A sustainable alternative. *ACS Sustainable Chemistry and Engineering*, ACS, 1, 8764-8773. DOI: 10.1021/acssuschemeng.2c07467.

17) Anisha Biswas, Naresh K. S., Samiksha S. Jaygadkar, Sachin R. Chaudhari. (2023). Enabling honey quality and authenticity with NMR and LC-IRMS based platform. *Food Chemistry*, Elsevier, 416, 135825. DOI: 10.1016/j.foodchem.2023.135825.

18) Subhash V. Pawde, Sachin R. Chaudhari, Rajeshwar S. Matche. (2023). Micro perforation based smart label to guide freshness of pasteurized milk packet. *Food Control*, Elsevier, 151, 109783. DOI: 10.1016/j.foodcont.2023.109783.

19) Pawde, S., Chaudhari, S. R., Prabhasankar, P., & Matche, R. S. (2024). Accelerating the Oxygen Scavenging of Natural Rubber with Food-Grade Catalysts Impregnated on Silica-Based Platform. ACS Sustainable Chemistry and Engineering, 12, 263-274. DOI: 10.1021/acssuschemeng.3c05562

20) Das, A., Gogoi, S., Chaudhari, S. R., & Nath, N. (2022). Pure shift NMR and DFT methods for revealing long-range heteronuclear couplings. Chemical Physics Letters, 807, 140079. DOI: 10.1016/j.cplett.2022.140079

21) Naresh K. S., Theerthan N. Kumar, Siva Sankara Reddy Singam, and Sachin R. Chaudhari. "Selective Homodecoupled 1D-1H NMR Experiment for Unravelling Enantiomers." ACS Analytical Chemistry, 2022. 94, 10299-10303. [DOI: 10.1021/acs.analchem.2c01020]

22) Durga Prasad, Naresh KS, Aishwarya Praveen, Siva Sankara Reddy Singam, Sachin R. Chaudhari. "Direct 1H-NMR method for simultaneous determination of total and individual curcuminoids." Food Chemistry Advances, Volume 1, Year 2022, Pages 100020.

23) Jayapala N., Toragall V., Gnanesh G.K., Chaudhari S.R., Baskaran V. "Preparation, characterization, radical scavenging property and antidiabetic potential of laminarioligosaccharides derived from laminarin." Algal Research, Volume 63, Year 2022.

24) Shubhashini A., Prabha N., Monica P., Chaudhari S.R., Kapoor M. "Short-chain Œ≤-manno-oligosaccharides from copra meal: structural characterization, prebiotic potential and anti-glycation activity." Food and Function, Year 2022.

25) Prasad D., Praveen A., Mahapatra S., Mogurampelly S., Chaudhari S.R. "Existence of Œ≤-diketone form of curcuminoids revealed by NMR spectroscopy." Food Chemistry, Volume 360, Year 2021.

26) Maguluri R.K., Nettam P., Chaudhari S.R., Yannam S.K. "Evaluation of UV-C LEDs efficacy for microbial inactivation in tender coconut water." Journal of Food Processing and Preservation, Volume 45, Year 2021.

27) Aishwarya Praveen, Durga Prasad, Soumya Mishra, S. Nagarajan, **Sachin R. Chaudhari,** Facile NMR approach for profiling curcuminoids present in turmeric, *Food Chemistry,* 2020, Article in Press https://doi.org/10.1016/j.foodchem.2020.128646.

28) Chemical composition, nutraceuticals characterization, NMR confirmation of squalene and antioxidant activities of Basella rubraL. seed oil, Kumar, SS (Manasa, V, Tumaney, AW, Bettadaiah, BK, Chaudhari, SR, Giridhar, P, *RSC Advances,* 10, 31863-31873, **2020.**

29) Maity, A., **Chaudhari, S.,** Titman, J.J., Poleshettiwar, V., Catalytic nanosponges of acidic aluminosilicates for plastic degradation and CO2 to fuel conversion. *Nat Commun* 11, 3828, **2020**.

30) D. Prasad, S. Mogurampelly, **Sachin R. Chaudhari**, R-VAPOL-phosphoric acid based 1H and 13C-NMR for sensing of chiral amines and acids, *RSC Adv.*, 10, 2303-2312, **2020**.

31) S.P. Kalarikkal, D. Prasad, R. Kasiappan, **Sachin R. Chaudhari**, G. M. Sundaram, A cost-effective polyethylene glycol-based method for the isolation of functional edible nanoparticles from ginger rhizomes. *Sci Rep* **10,** 4456, 2020.

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