

Name : Usha Antony

Designation : Dean

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Qualification : M. Sc., M Phil., Ph D.

Field of Specialization : Food Technology

Major : Food & Nutritional Sciences

Specializing field Millet Fermentation

Experience (in years) : 38

Projects:

S.No.	Title of the project	Year	PI and Co-PI of the project	Funds (in Rs.)	Funding agency
1.	Freshness indicators for poultry meat packages by inkjet printing to ensure food safety	2015-2017	PI- Dr B. Kumar, Prof Printing Technology, Anna University Co-PI Usha Antony	63,37, 000	DBT-GoI
2	Prebiotic efficacy of Xylooligosaccharides (XOS) and their food applications	2013 - 2014	PI- Usha Antony	18,79,200	Ministry of Food Processing Industries, SERB- DST, GoI
3.	EASTWEST FOOD In International Research Staff Exchange Scheme (IRSES)	2010 - 2014	Usha Antony Coordinator for Anna University	€ 127800 (Total) € 25,200 (AU)	European Union
4.	Enhancing Research Capacity building and Initiating Integrated M. Tech & Ph D programme in the area of Food Technology	2008-2013	Co- Coordinator, Dr R.B. Narayanan C Centre for Biotechnology Anna University Co-Coordinator Usha Antony	753.93 Lakhs	DBT- GoI

5.	Evaluation of the Immunoprophylactic efficacy of recombinant Infectious Bursal Disease Virus (IBDV) capsid protein in cell line & animal model	2007-2010	PI	14,00,000	CSIR -GoI

Publications:

1. Jaiswal S, Pant T, Suryavanshi M **and Usha Antony** 2023, , Microbiological diversity of fermented food Bhatti Jaanr and its antioxidant and anti-inflammatory properties: Effect against colon cancer, *Food Bioscience,* 55 (2023) 102822, https://doi.org/10.1016/j.fbio.2023.102822

2. Hema K, Brimapureeswaran R and **Usha Antony**, 2022, Fish based paneer and surimi products, *EC Nutrition*, 17 (11), 26-30.

3. Jaiswal S, Pradhan S N, Jain D, Peter M P D and **Usha Antony**, 2022, Probiotic and Functional Characterization of *Pediococcus acidilactici* Isolated from *Bhaati jaanr*, Traditional Fermented Rice Porridge*, Applied Biochemistry and Biotechnology*, https://doi.org/10.1007/s12010-022-04041-0

4. Sudha Rani Ramakrishnan, **Usha Antony** and Soo-Jung Kim, 2022, Non-thermal process technologies: Influences on nutritional and storage characteristics of millets, *Journal of Food Process Engineering,* https://doi.org/10.1111/jfpe.14215.

5. Nivedita V, Srisowmeya G, Chakravarthy M, **Usha Antony** and G. Nandhini Devi, 2022, Effects of Microbial polysaccharides on the oil absorption and quality characteristics of a deep-fried snack Namkeen, European Journal of Lipid Science and Technology, 124 (1): 1-11, https://doi.org/10.1002/ejlt.202000404.

6. Shalini R, Jayachandran Krishna, Meenakshisundaram Sankaranarayanan, **Usha Antony,** 2021**,** Enhancement of fructan extraction from garlic and fructooligosaccharide purification using an activated charcoal column, *LWT - Food Science and Technology* 148, 111703, https://doi.org/10.1016/j.lwt.2021.111703.

7. Ayyappan Palaniappan, **Usha Antony** b, Mohammad Naushad Emmambux, 2021, Current status of xylooligosaccharides: Production, characterization, health benefits and food application, *Trends in Food Science & Technology*, 111 (2021) 506 – 519, https://doi.org/10.1016/j.tifs.2021.02.047. Impact Factor 11.077.

8. Ilango S and **Antony U,** 2021**,** Probiotic microorganisms from non-dairy traditional fermented foods, *Trends in Food Science & Technology,* 118 Part A (2021) 617-638, https://doi.org/10.1016/j.tifs.2021.05.034

9. Balsubramaniam GV, Sukumar S, Alagarsamy M, Velpandi PSD, Palaniappan A, Roy LM and **Antony U**, 2021, Inhibition of lipid oxidation in mayonnaise by finger millet seed coat polyphenols, *Journal of the American Oil Chemist's Society*, 2021, 1-12, DOI: 10.1002/aocs.12557

10. Charupriya TS, Geethanjali K, Kauser S, Nelosn, ARLE, Ravichandran K, Manjula C and **Antony U**, 2021, Comparison of nutrient composition of wild *Dioscorea* species consumed by ethnic groups of Odisha in India with commercially cultivated roots and tubers, Indian *Journal of Traditional Knowledge*, 20 (3) 2021, 799-802.

11. Nivedita V, Srisowmeya G, Chakravarthy M, **Antony U** and Nandhini Devi G, 2021, Effects of microbial polysaccharides on the oil absorption and quality characteristics of a deep-fried snack namkeen, European Journal of Lipid Science and Technology, 2021, 2000404, DOI: 10.1002/ejlt.202000404

12. Nithya Bala Sundari, S, Nivedita, V, Chakravarthy, M, Srisowmeya, G, **Usha, Antony**., Nandhini, D G, 2020, Characterization of microbial polysaccharides and prebiotic enrichment of wheat bread with pullulan, *LWT - Food Science and Technology,*122 (2020), doi: https://doi.org/10.1016/j.lwt.2019.109002.

13. Balasubramaniam V. G., Saravanapandian S. Palaniappan A. and **Usha Antony**, 2019, Improved oxidative stability of peanut oil through addition of finger millet (*Eleusine coracana*) seed coat polyphenols, *Journal of Food Process Engineering,* 2019; e13194. wileyonlinelibrary.com/journal/jfpe https://doi.org/10.1111/jfpe.13194 .

14. Nelson A. R. L. E, Ravichandran, K and **Usha Antony**, 2019, The impact of the Green Revolution on indigenous crops of India, *Journal of Ethnic Foods* (2019) 6:8 https://doi.org/10.1186/s42779-019-0011-9

15. Rathna Priya T. S., Nelson A. R. L. E., Ravichandran K. and **Usha Antony, 2019,** Nutritional and functional properties of coloured rice varieties of South India: A Review, *Journal of Ethnic Foods* (2019) 6:11, https://doi.org/10.1186/s42779-019-0017-3

16. Chelliah R, Chandrashekar S, Sravanakumar K, Ramakrishnan S R, Rubab M, Daliri E B-M, Barathikannan K, Tyagi A, Ofosu F K, Chen X, Kim Se-H, Elahi F, NaKyeong H, Wang M-H, Raman V, **Antony U** and Oh D-H, 2019, Effect of rice processing towards lower rapidly available glucose (RAG) favors *idli*, a south Indian fermented food suitable for diabetic patients. *Nutrients*, 11, 1497, pp.16, doi:10.3390/nu11071497.

17. Raghunath S, Govindarajan G, Sri Durga Devi N, **Usha Antony** and Christopher Vimalson D, 2019, Utilization of food wastes to prepare film forming biomolecules, *International Journal of Advanced Educational Research*, 4 (2), 15 -19.

18. Kanagaraj S P, Ponnambalm D, **Usha Antony,** 2019**,** Effect of dry heat treatment on the development of resistant starch in rice (*Oryza sativa*) and Barnyard millet (*Echinochloa furmantacea*), *Journal of Food Processing and Preservation,* DOI: 10.1111/jfpp.13965.

19. Balasubramaniam, V.G., Ayyappan, P., Sathvika, S. **Usha Antony**, 2019, Effect of enzyme pretreatment in the ultrasound assisted extraction of finger millet polyphenols, *Journal of Food Science and Technology,* 56 (3), 1583-1594. https://doi.org/10.1007/s13197-019- 03672-2.

Book Chapters

1. V. Geetha Balasubramaniam, Sudha Rani Ramakrishnan and Usha Antony, CHAPTER 13 Opportunities and challenges of plant extracts in food industry, pp 295-315, in Plant Extracts- Applications in Food Industry, Mir SA, Manickavasagam A, and Shah MA (Eds) Academic Press, Elsevier, UK, ISBN: 978-0-12-822475-5, 2022.

2. Chapter 19 *Red Beet* by Kavitha Ravichandran, Iryna Smetanska and Usha Antony, Section 1 Vegetables, Part 5 Roots and Tubers, Nutritional Composition and Antioxidant properties of Fruits and Vegetables, Ed. Amit K Jaiswal, Academic Press, Elsevier pp 315-322, ISBN: 978-0-12-812780-3, 2020.

3. Chapter 7 Impact of Sequencing and Bioinformatics Tools in the Area of Food Microbiology, by Ramachandran Chelliah, Fazle Elahi, Eric Banan Mwine Daliri, Imran Khan, Shuai Wei, Su-Jung Yeon, Kandasamy Saravanakumar, Inamul Hasan Madar, Sumaira Miskeen, Marie Arockianathan, Shanmugarathinam Alagarsamy, Thirumalai Vasan, Myeong-Hyeon Wang, Usha Antony and Deog Hwan Oh, Section I - Introduction, Genomics, Proteomics and Bioinformatics, *in* Sequencing Technologies in Microbial Food Safety and Quality, CRC Press, Taylor & Francis, 2020.

4. Chapter 20 Application of Next-Generation Sequencing Techniques in Food Related Microbiome Studies by Ramachandran Chelliah, Fazle Elahi, Eric Banan Mwine Daliri, Imran Khan, Shuai Wei, Su-Jung Yeon, Kandasamy Saravanakumar, Inamul Hasan Madar, Sumaira Miskeen, Marie Arockianathan, Shanmugarathinam Alagarsamy, Thirumalai Vasan, Myeong-Hyeon Wang, Usha Antony and Deog Hwan Oh. Section III – High Throughput Sequencing Technologies Applications for Food Safety and Quality, *in* Sequencing Technologies in Microbial Food Safety and Quality, CRC Press, Taylor & Francis, 2020.

5. Chapter 11 *Ethnic Fermented Foods and Beverages of Tamil Nadu* by Usha Antony, Shankar Ilango, Ramachandran Chelliah, Sudha Rani Ramakrishnan and Kavitha Ravichandran in Ethnic Fermented Foods and Beverages of India: Science, History and Culture, Ed. Jyoti Prakash Tamang, pp. 539-560, Springer ISBN: 978-981-15-1485-2, ISBN: 978-981-15-1486-9 (eBook), 2020.

6. Chapter 6 *Millets* by Sudha Rani Ramakrishnan, Kavitha Ravichandran and Usha Antony in Whole Grains – Processing, Product Development and Nutritional Aspects, Eds. Mir SA, Manickavasagan A and Shah MA, 2019, pp. 103-128, CRC Press, Taylor & Francis, ISBN: 13:978-0-8153-8242-3 (Hardback).

Patents granted

1. Ramachandran C, Sudha Rani R**,** Usha Antony, 2014
   A process for the preparation of biofortified batter for shelf life enhancement, Application No: 354/CHE/2014, 26/12/2014, Patent No. 364797, 16/04/2021

Patents Filed

1. J K Pallavi, R Sangeetha, **Usha Antony**
   Dia-dahi: a prebiotic formulation of milk/curd/yoghurt/buttermilk that can regulate blood glucose**,** Application No.201741032819 A, 22/09/2017

2. Sudha Rani R, Ramachandran C, **Usha Antony**
   Incorporation of heat stable probiotics and bioactive compounds into semi-dried ready-to-cook food, Application No. 201641040751,29/11/2016.

3. Sudha Rani R, Ramachandran C, **Usha Antony**
   Ready-to-Cook, bio-fortified, fermented batter with extended shelf-life and heat-stable Probiotics**,** Application No 201641040736, 29/11/2016.

4. Sudha Rani R, Ramachandran C, **Usha Antony**
   Semi-cooked and dried ready-to-cook porridge from processed finger millet (*Eleusinecoracana*), Application No. 201641040735, 29/11/2016

Awards

UGC JRF for PhD studies at IIT Madras, 1991

Whole Grains Researcher (South Asia), Whole Grains Research Foundation, Canada, 2017