

### Dr. Yasir Ali Arfat

#### Researcher

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#### Personal Information:

Date of Birth : 29<sup>th</sup> July 1985  
Gender : Male  
MaritalStatus : Married  
Occupation : Consultant/Researcher  
Nationality : Indian  
PassportNo. : Z4825209  
Languages : English,Hindi,Urdu,Kashmiri

#### Areas of Specialization in Research

- Biopolymer based Packaging, Active Packaging, Nano-Packaging
- Food Biopolymer, Food Chemistry, Functional Foods
- Food processing, High pressure processing, Extrusion processing
- Post-harvest technology

#### Fellowships and Awards

- Recipient of **“Alltech Young Scientist Award-2012-USA”** for paper entitled- “Undesirable enzymatic browning in crustaceans: causative effects and its inhibition by phenolic compounds.”
- Recipient of Agro-Industry Academic Council Association (AIAC) **“Best Thesis Award-2015”** in Thailand in Food Science and Technology.
- Recipient of **“Best Thesis Award”** by faculty of Agro-Industry, Prince of Songkla University (PSU), Hat Yai, Songkhla, Thailand.
- Recipient of **“Best paper Award”** (Oral presentation) at 1st International Conference on Food Properties, Kuala Lumpur, Malaysia (Jan 24-26, 2014).
- Recipient of **“International Graduate Scholarship”** awarded by Prince of Songkla University (PSU), Hat Yai, Songkhla, Thailand for pursuing doctoral studies in Food Science and Technology (2011 –2014).

#### Work Experience

- **Researcher/Consultant:** November 9, 2014 –May 8, 2018.  
Biopolymer Processing and Functional Food Lab, Environment & Life Sciences Research Centre, Kuwait Institute for Scientific Research, Kuwait.

### Membership of Important Scientific Organizations

- Institute of Food Technologists (IFT), Chicago, Illinois, USA. (Membership ID: 00713443)

### Academic Background

- Highest Qualification : Ph.D. (Food Science and Technology) from Prince of Songkla University, Thailand, 2014.
- Title of the Ph.D thesis : Impact of zinc on gelling and film forming properties of muscle proteins from yellow stripe trevally (*Selaroidesleptolepis*).
- Bachelor of Education (B.Ed.) : University of Kashmir, India, 2011.
- Master of Science (M.Sc.) : Bundelkhand University, India, 2008.  
(Biotechnology)
- Bachelor of Science (B.Sc.) : University of Kashmir, India, 2006.

### Research Techniques and Skills

- **Biophysical and Biochemical Techniques:**Mechanical properties of food and biopolymeric materials, Barrier properties of biomaterials, High pressure processing, Extrusion processing, Attenuated total reflectance-Fourier transforms infrared (ATR-FTIR) spectroscopy, Differential scanning calorimetry (DSC), Scanning electron microscopy (SEM), X-ray diffraction (XRD), Transmission electron microscopy (TEM), Thermo-gravimetric analysis, (TGA), Zeta potential and particle size analysis, Chromatography techniques, Electrophoresis (SDS-PAGE), Enzyme activities, Surface hydrophobicity, Disulphide bond and –SH contents, protein aggregation studies, DNA, RNA and protein estimation using colorimetric, fluorometric and UV-spectrophotometric studies. Antimicrobial and antioxidative assays.
- **Molecular Biology & Genetic Engineering:**DNA extraction, Plasmid isolation, PCR, Cloning, Restriction, Ligation, Gel electrophoresis.
- **Immunology & Microbiology:**ELISA, Immuno-cytolocalization, Isolation& enumeration of microbes from various sources, antimicrobial assays, staining techniques (Bacteria, Fungi).
- **Statistical analysis:**Statistical analysis of raw data; Student's t-test, ANOVA and post ANOVA tests and other statistical calculations.

### Computer Knowledge and Writing Skills

- Proficiency in MS-office, Statistical Packages (SPSS for Windows).
- Manuscripts accepted in reputed international Journals.

### Reviewer for International Journals

International Journal of Biological Macromolecules, Food Microbiology, Food Chemistry, Food Hydrocolloids, International Journal of Food Properties, Journal of Food Processing and Preservation, Journal of Food Science and Technology, Korean Journal of Chemical Engineering, Food Packaging and Shelf Life.

### Publications

#### Book Chapters

1. **Arfat, Y. A. (2017)**.Plasticizers for biopolymer films. *In: Glass Transition and Phase Transitions in Food and Biological Materials*, John Wiley & Sons. Page: 159-182.
2. Fatimah, M., Thomas, L., **Arfat, Y. A.** and Ahmed, J. **(2017)**. Thermal properties of gelatin and chitosan. *In: Glass Transition and Phase Transitions in Food and Biological Materials*, John Wiley & Sons. Page: 281-304.
3. Ahmed, J. and **Arfat, Y. A. (2016)**. Polylactides, properties and applications. *In Kirk-Othmer Encyclopedia*. Page: 1-18.

#### Original Research Papers in Refereed International Journals

1. Ahmed, J., Thomas, J. and **Arfat, Y.A.** 2018. Functional, rheological, microstructural and antioxidant properties of quinoa flour in dispersions as influenced by particle size. ***Food Research International*** (Accepted).
2. Ahmed, J., Thomas, J., **Arfat, Y.A.** and Joseph, A. 2018. Rheological, structural and functional properties of high-pressure treated quinoa starch in dispersions. ***Carbohydrate Polymers***, 197, 649-657.
3. Ahmed, J., Mulla, M., **Arfat, Y.A.**, Bher, A., Jacob, H. and Auras, R. 2018. Compression molded LLDPE films loaded with bimetallic (Ag-Cu) nanoparticles and cinnamon essential oil for chicken meat packaging applications. ***LWT - Food Science and Technology***, 93, 329-338.

4. Ahmed, J., **Arfat, Y.A.**, Bher, A., Mulla, M., Jacob, H. and Auras, R. 2018. Active chicken meat packaging based on polylactide films and bimetallic Ag-Cu nanoparticles and essential oil. *Journal of Food Science*(Accepted).
5. Ejaz, M., **Arfat, Y.A.**, Mulla, M. and Ahmed, J. 2018. Zinc oxide nanorods/clove essential oil incorporated Type B gelatin composite films and its applicability for shrimp packaging. *Food Packaging and Shelf Life*, 15, 113-121.
6. Ahmed, J., Luciano, G., Schizzi, I., Maggiore, S., **Arfat, Y.A.** and Arockia Thai T, L. 2018. Non-isothermal crystallization behavior, rheological properties and morphology of poly( $\epsilon$ -caprolactone)/graphene oxide nanosheets composite films. *Thermochimica Acta*, 659, 96-104.
7. **Arfat, Y.A.**, Ahmed, J., Ejaz, M. and Mulla, M., 2017. Polylactide/graphene oxide nanosheets/clove essential oil composite films for potential food packaging applications. *International Journal of Biological Macromolecules*, 107, 194-203.
8. Ahmed, J., Mulla, M. and **Arfat, Y.A.**, 2017. Mechanical, thermal, structural and barrier properties of crab shell chitosan/graphene oxide composite films. *Food Hydrocolloids*, 71, 141-148.
9. **Arfat, Y.A.**, Ahmed, J., Al Hazza, A., Jacob, H. and Joseph, A., 2017. Comparative effects of untreated and 3-methacryloxypropyltrimethoxysilane treated ZnO nanoparticle reinforcement on properties of polylactide-based nanocomposite films. *International Journal of Biological Macromolecules*, 101, 1041-1050.
10. Ahmed, J., **Arfat, Y.A.**, Al-Attar, H., Auras, R. and Ejaz, M., 2017. Rheological, structural, ultraviolet protection and oxygen barrier properties of linear low-density polyethylene films reinforced with zinc oxide (ZnO) nanoparticles. *Food Packaging and Shelf Life*, 13, 20-26.
11. **Arfat, Y.A.**, Ahmed, J. and Jacob, H., 2017. Preparation and characterization of agar-based nanocomposite films reinforced with bimetallic (Ag-Cu) alloy nanoparticles. *Carbohydrate Polymers*, 155, 382-390.
12. Ahmed, J., Mulla, M. and **Arfat, Y.A.**, 2017. Application of high-pressure processing and polylactide/cinnamon oil packaging on chicken sample for inactivation and inhibition of *Listeria monocytogenes* and *Salmonella* Typhimurium, and post-processing film properties. *Food Control*, 78, 160-168.
13. **Arfat, Y.A.**, Ejaz, M., Jacob, H. and Ahmed, J., 2017. Deciphering the potential of guar gum/Ag-Cu nanocomposite films as an active food packaging material. *Carbohydrate Polymers*, 157, 65-71.

14. Mulla, M., Ahmed, J., Al-Attar, H., Castro-Aguirre, E., **Arfat, Y.A.** and Auras, R., 2017. Antimicrobial efficacy of clove essential oil infused into chemically modified LLDPE film for chicken meat packaging. *Food Control*, 73, 663-671.
15. **Arfat, Y.A.**, Ahmed, J., Hiremath, N., Auras, R. and Joseph, A. (2017). Thermo-mechanical, rheological, structural and antimicrobial properties of bionanocomposite films based on fish skin gelatin and silver-copper nanoparticles. *Food Hydrocolloids*, 62, 191-202.
16. Ahmed, J., Mulla, M.Z. and **Arfat, Y.A.**, 2016. Particle size, rheological and structural properties of whole wheat flour doughs as treated by high pressure. *International Journal of Food Properties*, 20, 1829-1842.
17. Ahmed, J., Mulla, M.Z. and **Arfat, Y.A.**, 2016. Thermo-mechanical, structural characterization and antibacterial performance of solvent casted polylactide/cinnamon oil composite films. *Food Control*, 69,196-204.
18. Ahmed, J., Thomas, L. and **Arfat, Y. A.**, 2016. Effects of high hydrostatic pressure on functional, thermal, rheological and structural properties of  $\beta$ -D-glucan concentrate dough. *LWT - Food Science and Technology*, 70, 63-70.
19. Ahmed, J., Mulla, M.Z., **Arfat, Y.A.** and Kumar, V., 2016. Effects of high-pressure treatment on functional, rheological, thermal and structural properties of Thai Jasmine rice flour dispersion. *Journal of Food Processing and Preservation*.doi:10.1111/jfpp.12964.
20. Ahmed, J., **Arfat, Y.A.**, Castro-Aguirre, E. and Auras, R., 2016. Mechanical, structural and thermal properties of Ag-Cu and ZnO reinforced polylactide nanocomposite films. *International journal of Biological Macromolecules*, 86, 885-892.
21. Ahmed, J., Al-Attar, H. and **Arfat, Y.A.**, 2016. Effect of particle size on compositional, functional, pasting and rheological properties of commercial water chestnut flour. *Food Hydrocolloids*, 52, 888-895.
22. Ahmed, J., **Arfat, Y.A.**, Castro-Aguirre, E. and Auras, R., 2016. Thermal properties of ZnO and bimetallic Ag–Cu alloy reinforced poly (lactic acid) nanocomposite films. *Journal of Thermal Analysis and Calorimetry*, 125, 205-214.
23. **Arfat, Y.A.**, Benjakul, S., Prodpran, T., Sumpavapol, P. and Songtipya, P., 2016. Physico-mechanical characterization and antimicrobial properties of fish protein isolate/fish skin gelatin-zinc oxide (ZnO) nanocomposite films. *Food and Bioprocess Technology*,9, 101-112.
24. Srivastava, S., Vishwakarma, R. K., **Arfat, Y. A.**, Gupta, S. K., and Khan, B. M. (2015). Abiotic stress induces change in Cinnamoyl CoA Reductase (CCR) protein abundance and lignin

deposition in developing seedlings of *Leucaena leucocephala*. *Physiology and Molecular Biology of Plants*, 21, 197-205.

25. Nirmal, N. P., Benjakul, S., Ahmad, M., **Arfat, Y. A.** and Panichayupakaranant, P. (2015). Undesirable enzymatic browning in crustaceans: causative effects and its inhibition by phenolic compounds. *Critical Reviews in Food Science and Nutrition*. 55,1992-2003.
26. **Arfat, Y. A.**, Benjakul, S., Vongkamjan, K., Sumpavapol, P. and Yarnpakdee, S. 2015. Shelf-life extension of refrigerated sea bass slices wrapped with fish protein isolate/fish skin gelatin-ZnO nanocomposite film incorporated with basil leaf essential oil. *Journal of Food Science and Technology*, 52, 6182-6193.
27. **Arfat, Y. A.**, Benjakul, S., Prodpran, T., Sumpavapol, P. and Songtipya, P.2014. Properties and antimicrobial activity of fish protein isolate/fish skin gelatin film containing basil leaf essential oil and zinc oxide nanoparticles. *Food Hydrocolloids*, 41, 265-273.
28. **Arfat, Y. A.**, Benjakul, S., Prodpran, T. and Osako, K. 2014. Development and characterisation of blend films based on fish protein isolate and fish skin gelatin. *Food Hydrocolloids*, 39, 58-67.
29. **Arfat, Y. A.** and Benjakul, S. (2013). Effect of zinc sulphate on gelling properties of phosphorylated protein isolate from yellow stripe trevally. *Food Chemistry*, 141, 2848-2857.
30. **Arfat, Y. A.** and Benjakul, S. (2013). Gel strengthening effect of zinc salts in surimi from yellow stripe trevally. *Food Bioscience*,3, 1-9.
31. **Arfat, Y. A.** and Benjakul, S. (2012). Impact of zinc salts on heat-induced aggregation of natural actomyosin from yellow stripe trevally. *Food Chemistry*, 135,2721-2727.
32. **Arfat, Y. A.** and Benjakul, S. (2012). Gelling characteristics of surimi from yellow stripe trevally (*Selaroides leptolepis*). *International Aquatic Research*,4, 1-3.

### Conferences Attended and Papers Presented

- 1.1<sup>st</sup> International conference on Food Properties (2014).**Arfat, Y. A.**, Benjakul, S., andProdpran, T. Development and characterisation of blend films based on fish protein isolate and fish skin gelatin.
- 2.3<sup>rd</sup> International conference on Food Properties (2018).**Arfat, Y. A.**, and Ahmed, J. Tailoring properties of compression molded polylactide films by nanoparticles and cinnamon essential oil incorporation and its potential application in chicken meat packaging.

3. **3<sup>rd</sup> International conference on Food Properties (2018)**.Ejaz, M., Ahmed, J., and **Arfat, Y. A.**Effect of high-pressure treatment on structural, thermal and rheological properties of gelatin extracted from Hamour fish (*Epinephelus diacanthus*) skin.

4. **Kuwait Conference of Chemistry (KCC-2018)**.**Arfat, Y. A.**, and Ahmed, J. Biodegradable polylactide-based films incorporated with bimetallic Ag-Cu nanoparticles and essential oil for food packaging applications.

All the above information provided in this CV is correct and can be supported by documents as and when required.

**Yasir Ali Arfat**