

CURRICULUM VITAE



ASHRAFI HOSSAIN, Ph. D.

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Present Position : Professor (Grade 2), Department of Biochemistry and Molecular Biology

Office: Department of Biochemistry and Molecular Biology, Faculty of Agriculture, Sher-e-Bangla Agricultural University, Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh

QUALIFICATION

- INSA Fellow, CSIR-CFTRI, Mysore, India, 2022-23.
- Ph. D. CSIR-TWAS Fellow, AcSIR, CSIR-CFTRI, Mysore, India, 2019.
- MS (Biochemistry), Sher-e-Bangla Agricultural University, 2006 (Result published in 2008).
- B.Sc.Ag (Hons.), Sher-e-Bangla Agricultural University, 2001 (Final Examination held in 2004).
- Higher Secondary Certificate (H.S.C), Government Edward College Pabna, under the Board of Intermediate and Secondary Education, Rajshahi, (Education), (Bangladesh) .
- Secondary School Certificate (S.S.C), Pabna Government Girl' s High School, under the Board of Intermediate and Secondary Education, Rajshahi, (Education), (Bangladesh) .

RESEARCH INTEREST

Biochemistry
Food chemistry
Nutrition

EXPERTISE IN INSTRUMENTATION

HPLC
GC and GC-MS

EXPERTISE IN FOOD PROCESSING

1. Lab scale infrared (IR) heat processing
2. Lab scale Extrusion processing
3. Lab scale drum drying processing
4. Lab scale temperature-controlled roaster

ON-GOING RESEARCH PROJECTS

1. Evaluation of sea weeds for human consumption. (2023-2024), funded by SAURES, SAU, Dhaka, Bangladesh.

COMPLETED RESEARCH PROJECTS

1. Evaluation of Micronutrients Status of Newly Released Maize Variety (SAU Bhutta-3), (2021), funded by SAURES, SAU, Dhaka, Bangladesh.
2. Quality Evaluation of Newly Released Maize Variety (SAU Bhutta-3) For Human Consumption and Nutritional Security. (2021), funded by Ministry of Science and Technology, Bangladesh.
3. Determination of functional, nutritional and phytochemical properties of pigmented maize. funded by SAURES, SAU, Dhaka, Bangladesh. (2021-2022).
4. Development of beverage (green tea) from jute (*Corchorus spp.*) leaves and determination of health benefits of beverage. funded by Ministry of Science and Technology, Bangladesh. (2021-2022)
5. Determination of starch properties and anti-nutritional factors present in pigmented and non-pigmented maize. Funded by UNESCO-TWAS (2021-22).

PROFESSIONAL EXPERIENCE

- ❖ Editorial member (2023-26) of Indian Food Industry Mag (IFI Mag), a bi-monthly technology and trade journal published by Association of Food Scientists & Technologists (India).
- ❖ September 2022 to March 2023: Research fellow, Indian National Science Academy, CSIR-Central Food Technological Research Institute, Mysore, Karnataka, India.

- ❖ 1 July 2020 to 26 June 2022: Chairman, Department of Biochemistry, Faculty of Agriculture, Sher-e-Bangla Agricultural University, Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh.
- ❖ 31 July 2019 to Date: Professor, Full time, Department of Biochemistry, Faculty of Agriculture, Sher-e-Bangla Agricultural University, Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh.
- ❖ 01 June 2015 to 30 July 2019: Associate Professor, Full time, Department of Biochemistry, Faculty of Agriculture, Sher-e-Bangla Agricultural University, Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh.
- ❖ 01 June 2008 to 31 May 2015: Assistant Professor, Full time, Department of Biochemistry, Faculty of Agriculture, Sher-e-Bangla Agricultural University, Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh.
- ❖ November 2012 to February 2013: Adjunct faculty member, 10 (ten) hours per week, Bangabandhu Sheikh Mujibur Rahman Agricultural University, Bangladesh.
- ❖ December 2011 to March 2012: Adjunct faculty member, 9 (nine) hours per week, Bangabandhu Sheikh Mujibur Rahman Agricultural University, Bangladesh.
- ❖ 01 June 2006 to 31 May 2008: Lecturer, Full time, Department of Biochemistry, Faculty of Agriculture, Sher-e-Bangla Agricultural University, Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh.
- ❖ August 2005 to May 2006: Lecturer (Part Time), Department of Biochemistry, Faculty of Agriculture, Sher-e-Bangla Agricultural University, Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh.

TEACHING EXPERIENCE

Food Chemistry/Nutrition – Metabolism and food nutrition.

Biochemistry- Biochemical techniques, Bioenergetics, Advanced chemistry of protein and enzyme,

Chemistry of biomolecules (Protein, carbohydrate, lipid, enzyme, and vitamin and plant hormones).

Molecular Biology – Principles of recombinant DNA technology.

ENGLISH LANGUAGE PROFICIENCY:

IELTS (Academic) - Overall band score of 6.5 with speaking 7.0, listening and reading 6.5 and writing 6.0 in subtests. Exam date- 20th August 2011

RESEARCH SUPERVISION

Appointed as MS research supervisor of Biochemistry on 23 March 2011. I have supervised research students on following topics–

1. Biochemical and molecular Characterization of Bangladeshi wheat varieties for bread making purpose (Co-Supervisor, Sbatie Lama, 2013).
2. Effect of different saw dust on the growth, yield and proximate composition of Pink Oyster Mushroom (*Pleurotus djamor*) (Co-Supervisor, Md. Humaun Kabir, 2013).
3. Evaluation of physico-functional characteristics and nutritional status of some whole grain pigmented and non-pigmented maize and rice available in Bangladesh. (Supervisor, Sumaiya Subrin, December 2020)
4. Determination of phenolics, flavonoids and anthocyanins in pigmented and non-pigmented maize available in Bangladesh. (Co-Supervisor, Israt Jahan Preety, December 2020).
5. Determination of some nutritional properties of jute (*Corchorus* spp.) Leaves as a new alternative source of herbal tea (Co-Supervisor, Simana Bhuiya).
6. Physico-functional characterization and nutritional evaluation of edible sea weeds (Supervisor, Tohosina Arabi Totha).
7. Comparative study of different drying techniques on phytochemicals and antioxidant activity in edible seaweeds of bangladesh and its utilization in cookies preparation. (Supervisor, Tahmina Haque Urmi).
8. Evaluation of Starch Properties of Whole Grain Pigmented Maize. (Supervisor, Naoshin Tabassum).

PUBLICATIONS

1. Preety, I. J., Islam, M. A., Rahman, J., Ahmed, K. U., & **Hossain, A.** (2024). Comparison of phenolics, flavonoids and anthocyanins in pigmented and non-pigmented maize in Bangladesh. *Bangladesh J. Bot.* 53(3): 495-502, 2024 (September).
DOI: <https://doi.org/10.3329/bjb.v53i3.76262>
2. **Hossain, A.**, & Jayadeep, A. (2024). Drum drying of whole maize flour enhances bioaccessibility of zeaxanthin, α -tocopherol, phytosterols, phenolics and flavonoids. *Journal of Cereal Science*, 103879.

3. Sumaiya Subrin, M Faridul Islam, Mohammed A Satter, Jamilur Rahman, M Salma Zannat, MG Ferdous Chowdhury & **Ashrafi Hossain**. Physico-functional and nutritional properties of pigmented and non-pigmented maize available in Bangladesh. *Bangladesh J. Bot.* 51(3): 589-596, 2022 (September).
4. **Hossain, A.**, & Jayadeep, A. (2022). Impact of extrusion on the content and bioaccessibility of fat soluble nutraceuticals, phenolics and antioxidants activity in whole maize. *Food Research International*, 111821.
5. **Hossain, A.**, & Jayadeep, A. (2021). Infrared heating induced improvement of certain phytochemicals, their bioaccessible contents and bioaccessibility in maize. *LWT*, 142, 110912.
6. Shafiqul Islam, Nusrat Jahan Shely, **Ashrafi Hossain** and Kamal Uddin Ahmed (2020). Study on fatty acids profile and chemical constants of some oil seeds in Bangladesh. *J. Expt. Biosci.* 11(1):55-62, January.
7. **Hossain, A.**, & Jayadeep, A. (2020). Analysis of bioaccessibility of campesterol, stigmasterol, and β -sitosterol in maize by *in vitro* digestion method. *Journal of Cereal Science*, 102957. <https://doi.org/10.1016/j.jcs.2020.102957>
8. Kabir, H., **Hossain, A.**, & Nuruddin, M. M. (2019). Effect of different sources of sawdust on the growth, yield, proximate and mineral composition of pink oyster mushroom (*Pleurotus djamor*). *Journal of Experimental Bioscience*, 10(2), 41–50.
9. **Hossain, A.**, & Jayadeep, A. (2018). Determination of tocopherol and tocotrienol contents in maize by *in vitro* digestion and chemical methods. *Journal of Cereal Science*, 83, 90-95.
10. **Hossain, A.**, & Jayadeep, P. A. (2018). Comparison of total carotenoids, lutein, zeaxanthin, and β -carotene content in maize employing solvent extraction and *in vitro* physiological methods. *Journal of Food Biochemistry*, e12653.
11. **Hossain, A.**, Begum, P.R., Zannat, M.S., Rahman, M.H., Ahsan, M.M., & Islam, S.N. (2016). Nutrient composition of strawberry genotypes cultivated in a horticulture farm. *Food chemistry*, 199, 648-52.
12. Emdad, A., Baten, M. A., Hossan, M. I., & **Hossain, A.** (2013). Characterization and yield potential of strawberry genotypes. *Journal of Experimental Bioscience*, 4(2), 19–22.
13. Shajib, M. T. I., Kawser, M., Miah, M. N., Begum, P., Bhattacharjee, L., **Hossain, A.**, ... & Islam, S. N. (2013). Nutritional composition of minor indigenous fruits: Cheapest nutritional source for the rural people of Bangladesh. *Food chemistry*, 140(3), 466-470. <http://dx.doi.org/10.1016/j.foodchem.2012.11.035>.

14. Abedin, M. S., Nuruddin, M. M., Ahmed, K. U., & **Hossain, A.** (2012). Nutritive compositions of locally available jackfruit seeds (*Artocarpus heterophyllus*) in Bangladesh. *International Journal of Biosciences*, 2(8), 1-7. ISSN: 2220-6655 (Print) 2222-5234 (Online) <http://www.innspub.net>
15. **Hossain, A.**, Shahjahan, M., Ahmed, K.U., Chowdhury, M.G.F., & Nuruddin M. M. (2010) Biochemical compositions of newly introduced maize (*Zea mays* L.) varieties. *Journal of Science and Technology*. 8. pp: 177-182.
16. Nuruddin, M. M., Rahman, M. H., Ahmed, K. U., **Hossain, A.**, & Sultana, N. (2010). Effect of Cow Dung Supplements with Rice Straw on the Yield and Proximate Composition of Oyster Mushroom (*Pleurotus ostreatus*). *Bangladesh J. Mushroom*, 4(2), 45-52.
17. Kamal, M. M., Haque, A. H. M. M., Uddin, A. B. M. A., **Hossain, A.**, & Rahman, M. M. (2009). Management of Mung bean Yellow Mosaic Virus Through Vector Control Using Botanicals and Cultural Practices. *Eco-Friendly Agriculture Journal*. 2(7), pp: 691-694.
18. **Hossain, A.**, Shahjahan, M., & Ahmed, K.U. (2008) Study on carotene and mineral content of maize (*Zea mays*) popularly grown in Bangladesh, *Journal of Subtropical Agricultural Research and Development*. 6(2). PP: 502-505. Website: <http://www.gscience.net>
19. Hossain, M. S., Chowdhury, M. G. F., Islam, M. N., **Hossain, A.**, & Islam, M. S. (2007). Study on the effects of Jackfruit pulp on the quality of cake. *Journal of Science and Technology*. 5. pp: 35-43.
20. Ahmed, K. U., Yusuf, H. K. M., Nuruddin, M. M., Abedin, M. J., & **Hossain, A.** (2006) Evaluation of Substrate C/N Ratio Their Effect on the Production of Oyster Mushroom (*Pleurotus ostreatus*). *Journal of Agricultural Science and Technology*. 7(1&2), PP: 67-71.

Book: Ashrafi Hossain, Md. Shahjahan, Kamal Uddin Ahmed, Nutrient content of maize grown in Bangladesh, LAP LAMBERT Academic Publishing GmbH & Co. KG, Germany, (2011). <http://www.amazon.com>

Ph.D. Research Title:

Effect of processing of maize on nutraceutical properties and development of functional foods- thesis copy is available on ir.cftri.res.in

MS Research Title:

Evaluation of Physico-Chemical Properties and Nutritional Quality of Major Varieties/Cultivars of Maize (*Zea Mays* L.)

Workshop/Seminar/Training attended/Research experience

1. Research Training: Indian Science and Research Fellowship, CSIR-CFTRI, Mysore, India.
2. Hybrid (combining online and face-to-face participation) International short course on Food Systems for Healthier and Sustainable Diets, Wageningen Centre for Development Innovation (WCDI) and Wageningen University (WU), Wageningen, the Netherlands, 14 February - 8 March 2022.
3. Online short courses on OKP Bangladesh Distance Learning including Prerequisite programme, Principles of Food Hygiene, Auditing Skills, Precon learning, 2020, the Netherlands.
4. Online International short courses on Blended learning, Application of HACCP, Food hazards, Wageningen Center for Development Innovation, 2020, the Netherlands.
5. In-House Training for Animal Experimenters. November 6-10, 2017. CSIR-CFTRI. Mysore, India.
6. Training: Curriculum Development and Teaching-Learning Assessment. Duration: 17 to 21 December 2013. Sher-e-Bangla Agricultural University, Dhaka-1207. "CP2502: Improvement of Teaching-Learning Quality of Undergraduate and Postgraduate Studies of Faculty of Agriculture" sub-project (Under HEQEP).
7. Research Assistant: A food composition database for Bangladesh with special reference to selected ethnic foods – with the support of the NEPCSP, National food policy Capacity Strengthening Programme. 2010. www.nfpcsp.org/.../food-composition-database-bangladesh-special-refer
8. Training: Foundation training for university teachers. Duration: May 07 to June 20, 2011. Graduate Training Institute, Bangladesh Agricultural University, Mymensingh, Bangladesh .

ORAL/POSTER PRESENTATION:

1. Tahmina Haque Urmi, Naoshin Tabassum, Kazi Ahsan Habib and **Ashrafi Hossain**. Comparative study of different drying techniques on phytochemicals and antioxidant activity in edible seaweeds of bangladesh and its utilization in cookies preparation. 6th National Scientific Conference on Food Safety and Health. March 2, 2024, Dhaka, Bangladesh.
2. Naoshin Tabassum, Tahmina Haque Urmi, Jamilur Rahman, Md. Golam Ferdous Chowdhury, **Ashrafi Hossain**. Evaluation of Starch Properties of Whole Grain Pigmented Maize. 8th International botanical conference 2023, February 28-29, 2024, Dhaka Bangladesh.

3. Chandankumar K P, **Ashrafi Hossain**, Suresh Kumar G, Jayadeep A. Evaluation of carotenoid and phytosterol components and their bioaccessibility from differently milled proso millet. 9th International Food Convention. Organized by Association of Food Scientists & Technologists (India) (AFSTI), 7th -10th December 2023 at CSIR-CFTRI, Mysuru, Karnataka, India. (Prize winning poster)
4. Israt Jahan Preety, Sumaiya Subrin, MG Ferdous Chowdhury, Faridul Islam, Jamilur Rahman, Mohammed Ariful Islam, K U Ahmed, **Ashrafi Hossain**. Phenolics, Flavonoids, and Anthocyanin Rich Pigmented Maize to Boost Immunity of Its Consumers. 4th National Scientific Conference on Food Safety and Health. Organized by Bangladesh Society for Safe Food on 29 October 2021 at Bangladesh University of Health Sciences, Dhaka, Bangladesh.
5. **Ashrafi Hossain**, Jayadeep A. Health potentiality of colored maize: Phenolics and antioxidant activity assessed by two different methods. Oral presentation in 3rd International Scientific Conference on Food Safety and Health. Organized by Bangladesh Society for Safe Food on 22 February 2020 at BARC, Dhaka, Bangladesh.
6. **Ashrafi Hossain**, Jayadeep A. Effect of infrared heating on nutraceuticals, antioxidant activity and their bioaccessible content and percent bioaccessibility in maize. Poster presented in IFCoN2018, Organized by Association of Food Scientists & Technologists (India) (AFSTI), 12-15 December 2018 at CSIR-CFTRI, Mysore, India.
7. **Ashrafi Hossain**, Jayadeep A. Bio-accessible tocopherols and tocotrienols and their bio-accessibility in maize. Poster presented in “Indo-Finish International Workshop on Nutri-Concept: Innovative Food Concepts and Technologies for Global Nutrition and Business, on May 15-16, 2018 at CSIR-Central Food Technological Research Institute, Mysuru, India.
8. **Ashrafi Hossain**, Jayadeep A. Physiological method showed higher total carotenoid and its species in maize varieties than chemical method. Poster presented in “85th Annual Meeting of Society of Biological Chemists (India), on November 21-24, 2016 at CSIR-Central Food Technological Research Institute, Mysuru, India.
9. **Ashrafi Hossain**, Jayadeep A. Starch Digestibility of Maize Varieties and Factors Affecting the Digestibility. Poster presented in “30th Carbohydrate Conference, Carbo-XXX” Pondicherry, Tamil Nadu, India, on December 29-31, 2015.
10. **Ashrafi Hossain**, Jayadeep A. Nutraceutical properties of traditionally used maize. Poster presented in “International Conference on Recent Advance in Research and treatment of Human Diseases,” Hyderabad on January 9-11, 2015.
11. **Ashrafi Hossain**. Malnutrition and Fortification. First prize, Oral presentation competition organized by the SBC(I), Mysore chapter, CSIR-CFTRI, Mysore, on February 20th, 2015.

REFERENCES

1. Dr. Jayadeep A. (PhD Supervisor)
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2. Dr. Md. Shahjahan (MS Supervisor)
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