

Prof. Dr. TARIQ IQBAL

PERSONAL DETAILS:

Work address: Department of Food Engineering, Faculty of Chemical and Process Engineering,
NED University of Engineering and Technology, Karachi, Pakistan

Current position: Professor

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Email: tariq.faiq@gmail.com

EDUCATION DETAILS:

2003- 2008 University College Cork, Cork, Ireland

- **Doctor of Philosophy (PhD) in Process & Chemical Engineering (Food Process Engineering- Food Packaging)**

Research area: Food Process Engineering (Food Packaging-Modified atmosphere packaging).

Thesis Title: Analysis and mathematical modeling of O₂ consumption and CO₂ production rates of fresh produce in dynamic conditions”

2000- 2002 University College Cork, Cork, Ireland

- **Master of Engineering Science (MEngSc) in Food Process Engineering**

Research area: Food Process Engineering (Food Powders Handling and Processing).

Thesis Title: Flow properties of milk, flour, tea and whey permeate powders: Effect of storage conditions and application to flow from silo”

1998- 2000 University of Peshawar, Peshawar, Pakistan

- **Master of Arts (MA) in Economics**

Subjects Year 1 (M.A Previous): Advanced Micro Analysis, Advanced Macro Analysis, Mathematics for Economic, Statistics, Agricultural Economic Analysis

Subjects Year 2 (M.A Final): Econometrics, Monetary Economics, Economy of Pakistan, Labour Economics, Economic Analysis of Project Planning

1992- 1997 N.W.F.P University of Engineering and Technology Peshawar, Peshawar, Pakistan

- **Bachelor of Science (BSc) in Agricultural Engineering Honours**

Subjects Year 1: Mathematics, Applied Mechanics, Soil & Water Conservation Engineering, Engineering Materials, Engineering Drawing & Graphics, Computer Programming, Workshop Practice, Islamiyat & Pakistan Studies, Basic Agricultural Engineering

Subjects Year 2: Soil Physics, Mathematics, Surveying-1, Fluid mechanics-1, Principles & Practices of Water Management, Strength of Materials, Machine Drawing & Design, Rural Electrification

Subjects Year 3: Agricultural Process Engineering, Mathematics, Fluid Mechanics-2, Farm Irrigation System, Surveying-2, Farm Machinery and Earth Moving Equipments, Structural Engineering, Plain and Re-inforced Concrete, Project Planning & Management and

1990- 1992 University of Peshawar, Peshawar, Pakistan▪ **Bachelor of Science (BSc) in Physics, Mathematics****Subjects:** Mathematics A, Mathematics B, Physics, Islamic study, Pakistan study***ACADEMIC DETAILED RECORDS:***

Qualifications	University / Board	Year	Marks obtained	% Marks	Division
Doctor of Philosophy (PhD) Process & Chemical Engineering	University College Cork Ireland	2003-2008	Degree awarded (by research)	1 st	1 st class
Master of Engineering Science (MEngSc) Food Process Engineering	University College Cork Ireland	2000-2002	Degree awarded (by research)	75	1 st
Master of Arts (MA) Economics	University of Peshawar Pakistan	1998-2000	693/1100	63	1 st
Bachelor of Science (BSc) Agricultural Engineering Honours	N.W.F.P University of Engineering and Technology Peshawar Pakistan	1992-97	Final year: 886/1200 3 rd year : 785/1200 2 nd year : 845/1200 1 st year : 774/1150	73.83 65.41 70.41 67.30	1 st class honours 1 st 1 st 1 st
Bachelor of Science (BSc) Physics & Double Maths	University of Peshawar Pakistan	1990-92	335/550	60.90	1 st
FSc Pre-Engineering group (Equal to Senior Certificate)	Education Board Peshawar, Pakistan	1987-90	749/1100	68.09	1 st
SSc Matric (Equal to Junior Certificate)	Education Board Peshawar, Pakistan	1985-87	586/850	68.94	1 st

WORK EXPERIENCE:

November 2019 – Present: NED University of Engineering and Technology Karachi, Pakistan

Position: Professor

Address: Department of Food Engineering, Faculty of Chemical and Process Engineering, NED University of Engineering and Technology, Karachi, Pakistan

○ **Major Duties:**

- Teaching to undergraduate (Food Engineering) students
- Research in Food Engineering: Food Packaging, Food Powders Handling and Processing, Renewable Energy (Biomass storage and drying)
- Collaborations with different Research Groups
- Supervision of Final year students Projects
- Examiner and Evaluator for Final year students projects
- Examiner and Evaluator for Master (Food Engineering) students projects
- Examiner and Evaluator for PhD (Food Engineering) students projects
- Exams invigilator

○ **Teaching activities with Postgraduate and Undergraduate students (Details):**

- Taught Subject to Postgraduate Students (Food Engineering):
- Taught Subjects to Undergraduate Students (Food Engineering):

○ **Research activities with Postgraduate and Undergraduate Students (Details):**

Research Interests: Food Process Engineering (Food Packaging, Fresh produce processing, Food Powders Handling and Processing), Renewable Energy (Biomass storage and processing, Bioenergy etc), Agricultural, Chemical and Environmental Engineering research areas.

- **Supervision of Postgraduate Students:**
- **Supervision of Undergraduate Students:**
- Final year Food Engineering Research Projects:

May 2015 – DEC 2018: University of Putra Malaysia, Serdang, Malaysia

Position: Senior Lecturer (Assistant Professor)

Address: Department of Process and Food Engineering, Faculty of Engineering, University of Putra Malaysia, Serdang, Malaysia.

○ **Major Duties:**

- Teaching to undergraduate (Process and Food Engineering) students
- Research in Food Packaging, Food Powders Handling and Processing, Renewable Energy (Biomass storage and drying)
- Head of Food Packaging Group
- Research with Final year students Projects

- Examiner and Evaluator for Final year students projects
- Examiner and Evaluator for Master (Process and Food Engineering) students projects
- Examiner and Evaluator for PhD (Process and Food Engineering) students projects
- Final Exam invigilator
- International Research Exchange Coordinator between University of Putra Malaysia and University of Agriculture Faisalabad Pakistan

○ **Teaching activities with Undergraduate students (Details):**

- EPF3101. Introduction to Process and Food Industries
- EPF4602. Biomaterial Polymer Technology
- EPF4603. Biomaterials Processing Systems
- EPF4607. Rice Processing
- EPF3501. Waste Treatment and Utilisation
- EPF4999A. Final Year Student Project
- EPF4999B. Final Year Student Project
- ECC3004. Engineering Statistics

○ **Research activities with Postgraduate and Undergraduate students (Details):**

● **Research Group Leader: Food Packaging Research Group**

Research Interests: Food Process Engineering (Food Packaging, Fresh produce processing, Food Powders Handling and Processing), Renewable Energy (Biomass storage and processing, Bioenergy etc), Agricultural, Chemical and Environmental Engineering research areas.

● **Supervision of Undergraduate students:**

➤ **Final year Process and Food Engineering Research Projects:**

- Modelling the effect of temperature on the respiration rate of selected fresh produce. Supervising student (Farahana Zainal).
- Effect of composition on the mechanical response of agglomerates of infant formula. Supervising student (Ikmal Soadah)

April 2012 – April 2015: University of Technology Malaysia, Johor Bahru, Malaysia

Position: Senior Lecturer (Assistant Professor)

Address: Department of Bioprocess Engineering, Faculty of Chemical Engineering, University of Technology Malaysia, Skudai, Johor Bahru, Malaysia.

○ **Major Duties:**

- Teaching to undergraduate (Bioprocess Engineering) students
- Research in Food Packaging, Food Powders Handling and Processing, Renewable Energy (Biomass storage and drying)
- Works with Food and Biomaterials Research Group
- Research with Final year students Projects
- Examiner and Evaluator for Final year students projects
- Examiner and Evaluator for Master (Bioprocess Engineering) students projects
- Examiner and Evaluator for PhD (Bioprocess Engineering) students projects
- Final Exam invigilator

○ **Teaching activities with Postgraduate and Undergraduate students (Details):**

● **Taught Subject to Postgraduate Students (Masters in Bioprocess Engineering):**

- MKB1113. Industrial Bioprocessing (Which includes major topics):

- Introduction to Industrial Bioprocesses (Historical overview of industrial fermentation products, comparison between traditional and modern methods of fermentation, industrially useful microorganisms and its products).
 - Overview of Fermentation processes and Production of Primary and Secondary Metabolites
 - Bioprocessing of Natural & Renewable Resources: Bioproducts bioprocessing (Solid Waste Bioprocessing), Wastewater bioprocessing and Renewable Bio-Energy Resources.
- **Taught Subjects to Undergraduate Students (Chemical-Bioprocess Engineering):**
 - SKKB3113. Bioreactor Analysis and Design
 - SKF3032. Engineering Economy
 - SKKK4173. Engineering Economy and Project Management
 - SKKB1133. Industrial Microbiology
 - SKF3751. Chemical Reaction Engineering Laboratory
 - SKKK3731. Separation Processes Laboratory I
 - SKKB4824. Plant Design Project
 - SKKB3212. Undergraduate Project I
 - SKKB4114. Undergraduate Project II
- **Research activities with Postgraduate and Undergraduate Students (Details):**
 - **Research Group: Food and Biomaterial Research Group (FoBERG)**
Research Interests: Food Process Engineering (Food Packaging, Fresh produce processing, Food Powders Handling and Processing), Renewable Energy (Biomass storage and processing, Bioenergy etc), Agricultural, Chemical and Environmental Engineering research areas.
 - **Supervision of Postgraduate Students:**
 - **Masters in Bioprocess Engineering:** Master's thesis (Enhancement of membrane packaging material based on Poly (Vinyl Alcohol)). Completed under my supervision with student (Maliheh Sadeghi).
 - **Masters in Bioprocess Engineering:** Master's thesis (Food Process Engineering research area). The project will be completed under my supervision with student (Ramzi Ata ABD Alsaheb).
 - **PhD and Masters in Bioprocess Engineering:** Engage in different research activities with students and staff of Food and Biomaterial Research Group (FoBERG) and acting as Co-supervisor for the Food Packaging research areas students.
 - **Supervision of Undergraduate Students:**
 - **Final year Bioprocess Engineering Design Project:**
 - Production of 40,000 MTA Refined Glycerin “ By-product to prerequisites Project”. Completed with a group of 5 final year students (Mohammad Hafiz Bin Mat Amin, Wan Nur Ain Nabila Wan Nain, Nur Mizatul Hidayah Ismail, Nor Armalina Che Awang, Junaida Binti Lamase).
 - **Final year Bioprocess Engineering Research Projects:**
 - Effect of storage conditions on the flow ability of different milk powders for hopper design. Completed with student (Nur Ajeera Binti Isa).
 - Silo design data analysis for selected food powders based on Jenike procedure. Completed with student (Mohammad Izzat Bin Yazin).
 - Microcrystalline Chitin reinforced PLA composites. The project will be completed in the current semester with student (Mohammad Hakim Ramadhan Bin Mustaffa Kamal).

- Analysis of the effect of storage conditions on the respiration rates of selected fresh produce. Completed semester with student (Muhammad Shahrul Bin Azaman).
- Sensitivity of Jenike's Silo design method to the measured values of known powders flow properties. Completed with student (Nurulhuda Binti Abdullah).

March 2010- March 2012: University of Illinois at Urbana-Champaign, Illinois, USA

Position: Postdoctoral Research Associate

Address: Energy Biosciences Institute and Department of Agricultural and Biological Engineering, University of Illinois at Urbana-Champaign, Illinois, USA.

Research Project: Engineering Solutions for Biomass Feedstock Production

- To develop a covered storage facility for biomass that could be used to evaluate the full scale storage properties for miscanthus, switchgrass, energy cane, sweet sorghum and other energy crops
- Forced air drying of baled (round and square) and chopped biomass (Miscanthus, Energy sorghum etc)
- Develop Shedd's curves (resistance to airflow) for miscanthus and energy sorghum
- Establish Biomass quality descriptors
- Field testing of feedstock quality change over time in storage facility
- Develop guidelines for biomass storage facilities
- Assist in improvement and evaluation of storage systems with EBI (Energy Bioscience Institute) partners in large scale operations

July 2008- June 2009 University College Cork, Cork, Ireland

Position: Postdoctoral Researcher

Address: Environmental Research Institute and Department of Civil and Environmental Engineering, University College Cork, Cork, Ireland.

Research Project: European Union Project, under EU 7th Framework Programme (ICT-2007.6.3 ICT for Environmental Management and Energy Efficiency)

- Research in Renewable Energy Sources (Biomass, Geothermal, Photovoltaic and Wind Energy) for improving Energy Efficiency in Buildings as to reduce EU dependency on imported Energy and to reduce CO₂ emissions for improving environmental conditions
- Deliverable (D2.1) Work Package 2: Analysis of existing business models for energy (renewable energy) information service provision in intUBE (Intelligent Use of Building Energy Information) project
- Lectures to Master class: Course Virtual Enterprises, Module LE_VE_06: Business models for Energy Management (EM) and Module LE_VE_05: Business models for Facility Management (FM)
- Presentation on D2.1 work package 2 for intUBE project: General meeting 3, Delft, Netherlands, 3-4th December 2008
- Research in Energy Profiling and Simulation for buildings (supervising master student group)

October 2007- May 2008: University College Cork, Cork, Ireland

Position: Research Assistant

Address: Department of Process and Chemical Engineering, University College Cork, Cork,

Ireland.

Research Project: Food Packaging Group (Modified Atmosphere Packaging, microbial tests, spectroscopy etc)

November 2000- May 2008: University College Cork, Cork, Ireland

Position: Research Student

Address: Department of Process and Chemical Engineering, University College Cork, Cork, Ireland.

• **Research experience during PhD and MEngSc study period:**

PhD Thesis: Analysis and mathematical modeling of O₂ consumption and CO₂ production rates of fresh produce in dynamic conditions

MEngSc Thesis: Flow properties of milk, flour, tea and whey permeate powders: Effect of storage conditions and application to flow from silo

• **Laboratory practical and Teaching experience during PhD and MEngSc study period:**

- University College Cork Annual Examination (May each year) General Invigilator (2001-2007)
- Undergraduate and Master (Process & Chemical Engineering, Food & Nutritional Sciences, Biotechnology, Food Business) practical laboratory demonstration (16 – 24 weeks/academic year) and marking lab reports for the following topic:
 - Engineering measurements
 - Powder properties (physical)
 - Powder flowability (shear)
 - Sieve analysis
 - Heat conduction
 - Spectrometer
 - Radial heat flow
 - Plate heat exchanger
 - Relationship between temperature and pressure of saturated steam
 - The thermal coefficient of linear expansion
 - Calibration of pressure gauges
 - To verify Boyle's law
 - Filtration
 - Friction in pipes and fittings
 - Venturi calculations
 - Aeration
 - Sedimentation studies
 - Three term control (P.I.D: proportional, integral, derivative) processes

May 1997- November 1997: Pak-Swiss Agricultural Light Engineering Programme Mardan, Pakistan

Position: Trainee Engineer

Address: Pak-Swiss Agricultural Light Engineering Programme Mardan, Pakistan

Projects:

- Testing and uses of Agricultural Implements
- Development and promotion of Agricultural Implements
- Workshop and measurement practice

1996- 1997: Salinity Control and Reclamation Project (SCARP), Mardan, Pakistan

Position: Final year student (Agricultural Engineering)

Address: Department of Agricultural Engineering and Mardan Scarp, Mardan, Pakistan

Project: Final year research project (BSc Honours Agricultural Engineering)

- Evaluation of Hydraulic Conductivity at selected area in Mardan SCARP (Salinity Control and Reclamation Project), Pakistan

AWARDS / SCHOLARSHIPS:

- Scholarship for PhD under the Food Institutional Research Measure (FIRM) Program of the Department of Agriculture, Food and the Marine, Ireland (Financial support from the Irish Government under the National Development Plan 2000 – 2006).
- Scholarship for MEngSc under the Food Institutional Research Measure (FIRM) Program of the Department of Agriculture, Food and the Marine, Ireland.
- Best Science Student Certificate during HSC science (Physics, Chemistry, Biology) tests, PSM High School Mardan, Pakistan

JOURNAL REVIEWER:

- Computers and Electronics in Agriculture
- Environmental Science & Technology

PROFESSIONAL MEMBERSHIPS:

- Engineers Ireland
- Institution of Chemical Engineers UK
- Institution of Food Technologists (IFT) USA
- American Society of Agriculture Engineering (ASAE)
- Pakistan Engineering Council

COMPUTER SKILLS, LANGUAGES AND INTERESTS:

- MS Office (Word, Excel, Power Point), Statistica etc
- English, Urdu
- Teaching, Scientific Research, Travelling, Photography, Sports

PUBLICATIONS:

Scientific Peer-reviewed Papers

1. Fitzpatrick, J.J., Iqbal, T., Delaney, C., Twomey, T. and Keagh M.K. (2004). Effect of powder properties and storage conditions on the flowability of milk powders with different fat contents. **Journal of Food Engineering, 64, 435-444.**
(**Impact Factor: 3.625** , **Rank: Q1**)
2. Fitzpatrick, J.J., Barringer, S.A. and Iqbal, T. (2004). Flow property measurement of food powders and sensitivity of Jenike's hopper design methodology to the measured values. **Journal of Food Engineering, 61, 399-405.**

- (**Impact Factor: 3.625** , **Rank: Q1**)
3. Iqbal, T., Oliveira F.A.R., Mahajan, P.V., Gil, L., Manso, M.C. and Cunha, L.M. (2005). Modelling the Influence of Storage Time on the Respiration Rate of Shredded Carrots at Different Temperatures under Ambient Atmosphere. **Acta Horticulturae**. **674**, ISHS, **105-111**. (**SCOPUS**)
 4. Iqbal T. and Fitzpatrick, J.J. (2006). Effect of storage conditions on the wall friction characteristics of three food powders. **Journal of Food Engineering**, **72**, **273-280**. (**Impact Factor: 3.625** , **Rank: Q1**)
 5. Fitzpatrick, J.J., Barry, K., Cerqueira, P.S.M., Iqbal, T., O'Neill, J. and Roos, Y.H. (2007). Effect of composition and storage conditions on the flowability of dairy powders. **International Dairy Journal**, **17**, **383-392**. (**Impact Factor: 2.735** , **Rank: Q2**)
 6. Iqbal T., Rodrigues F.A.S., Mahajan P.V., Kerry J.P., Gil L., Manso M.C., and Cunha L.M. (2008). Effect of Minimal Processing Conditions on Respiration Rate of Carrots. **Journal of Food Science**, **73**, **396-402**. (**Impact Factor: 2.081** , **Rank: Q2**)
 7. Iqbal T., Rodrigues F.A.S., Mahajan P.V., Kerry J.P. (2009). Effect of Time, Temperature and Slicing on Respiration Rate of Mushrooms. **Journal of Food Science**, **74**, Issue **6**, **298-303**. (**Impact Factor: 2.081** , **Rank: Q2**)
 8. Iqbal T., Rodrigues F.A.S., Mahajan P.V., Kerry J.P. (2009). Mathematical Modeling of O₂ consumption and CO₂ production rates of whole mushrooms accounting for the effect of temperature and gas composition. **International Journal of Food Science and Technology**, **44**, **1408-1414**. (**Impact Factor: 2.281**, **Rank: Q2**)
 9. Iqbal T., Rodrigues F.A.S., Mahajan P.V., Kerry J.P. (2009). Mathematical Modeling of the Influence of Temperature and Gas Composition on the Respiration Rate of Shredded Carrots. **Journal of Food Engineering**, **91**, **325-332**. (**Impact Factor: 3.625** , **Rank: Q1**)
 10. T. Iqbal, S. Eckhoff, A. F. Syed, AS. Nizami, Y. Sadeq. (2015). Airflow Resistance of Chopped Miscanthus on Drying Platform. **Transactions of ASABE**, Vol. **58(2)**, ISSN **2151-0032** DOI **10.13031/trans.58.10827**. (**Impact Factor: 1.153** , **Rank: Q2**)
 11. Iryatie Ishak, Ida Idayu Muhamad, Aishah Mohd Marsin, Tariq Iqbal. (2015). Development of purple sweet potato starch base biodegradable film. **Jurnal Teknologi (Sciences & Engineering)** **77:31**, (2015) **75 –78**. (**SCOPUS**)
 12. AS Nizami, M Rehan, OKM Ouda, K Shahzad, Y Sadeq, T Iqbal, IMI Ismail. (2015). An Argument for Developing Waste-to-Energy Technologies in Saudi Arabia. **Chemical Engineering Transactions**, **45:337-342**. doi:**10.3303/CET1545057**. (**Impact Factor: 1.03** , **Rank:)**
 13. Y Sadeq, TG Poulsen, K Habib, T Iqbal, AS Nizami. (2016). Comparative study based on stochastic modeling for measuring uncertainty in degradation of organic micro-pollutants. **Waste Management**. doi: **10.1016/j.wasman.2016.06.018**. (**Impact Factor: 5.431** , **Rank: Q1**)
 14. Shahzad K, Čuček L, Sagir M, Nizami AS, Tariq I, Almeelbia T, Ismail IMI. (2016). A case study for developing eco-efficient street lighting system in Saudi Arabia. **Chemical Engineering Transactions**, ISBN **978-88-95608-42-6**. (**Impact Factor: 1.03** , **Rank:)**
 15. M Rehan, AS Nizami, K Shahzad, OKM Ouda, IMI Ismail, T Almeelbi, T Iqbal, A Demirbas. (2016). Pyrolytic liquid fuel: a source of renewable electricity generation in Makkah. **Energy Sources, Part A: Recovery, Utilization, and Environmental Effects**. DOI. **10.1080/15567036.2016.1153753**.

(**Impact Factor: 0.894** , **Rank: Q4**)

16. T. Iqbal, A.S. Nizami, S. Eckhoff, M.L.A. Barreto, Y. Sadaf, M. Rehan, ,W.M.Budzianowski, O.K.M. Ouda and K.Shahzad. (2017). Biomass Conservation using an Optimized Drying Process for Energy Sorghum Bagasse. **Renewable Energy Focus. Vol. 19-20.**
(**Impact Factor: 0.1** , **Rank:**)

International Conferences Papers

1. Iqbal, T., Oliveira, F.A.R, Quintas, R.M. and Kerry, J.P. (2004). Influence of low O₂ and high CO₂ on the respiration rate of shredded carrots at different temperatures. **ICEF 9 (9th International Congress on Engineering and Food), Montpellier, France, April 7-11 2004.**
(**International Conference Paper**)
2. Iqbal, T, Oliveira F.A.R., Mahajan, P.V., Kerry, J. P, Gil, L., Manso, M.C and Cunha, L. M (2005). Analysis of the effect of temperature, storage time and type of cut on the respiration rate of fresh carrots. **7° Encontro de Química dos Alimentos, Viseu, Portugal.**
(**International Conference Paper**)
3. Tariq Iqbal, Steven Eckhoff, Mary-Grace Danao, K C Ting. (2011). Aeration of baled and chopped miscanthus in a covered test facility. **International Annual Meeting, American Society of Agricultural and Biological Engineers (ASABE), Louisville, Kentucky, USA.**
(**International Conference Paper**)
4. AS Nizami, M Rehan, J Gardy, A Hassanpour, T Iqbal, Iqbal MI Ismail. (2014). The Potential of Natural Zeolites in Energy Recovery Technology from Waste Plastic. **The 7th International Conference on Sustainable Energy & Environmental Protection (SEEP), the British University in Dubai- UAE November 23-25, 2014. doi: 10.13140/2.1.1227.1680.**
(International Conference Paper)
5. T Iqbal, AS Nizami, S Eckhoff, MLA Barreto, Y Sadaf, M Rehan, K Shahzad. Biomass conservation using an optimized drying process for energy sorghum bagasse. (2016) **Conference: Renewable Energy Sources - Research and Business (RESRB2016), 23-24 June, Wroclaw, Poland.**
(**International Conference Paper**)

International Conferences (Oral Presentations)

1. T Iqbal, AS Nizami, S Eckhoff, MLA Barreto, Y Sadaf, M Rehan, K Shahzad. Biomass conservation using an optimized drying process for energy sorghum bagasse. (2016). Conference: Renewable Energy Sources - Research and Business (RESRB2016), 23-24 June, Wroclaw, Poland.
2. AS Nizami, M Rehan, J Gardy, A Hassanpour, T Iqbal, Iqbal MI Ismail. (2014). The Potential of Natural Zeolites in Energy Recovery Technology from Waste Plastic. 7th International Conference on Sustainable Energy & Environmental Protection (SEEP), November 23-25, The British University in Dubai, UAE.
3. T. Iqbal, M. Barreto, and M.C. Danao. (2012). Drying and airflow resistance of miscanthus and energy sorghum bagasse. International Annual Meeting, American Society of Agricultural and Biological Engineers (ASABE), Dallas, Texas, USA.
4. Tariq Iqbal, Steven Eckhoff, Mary-Grace Danao, K.C. Ting. (2011). Aeration of baled and chopped miscanthus in a covered test facility. International Annual Meeting, American Society of Agricultural and Biological Engineers (ASABE), Louisville, Kentucky, USA.
5. Iqbal, T., Oliveira, F.A.R, Mahajan, P.V., Gil, L., Manso, M.C. and Cunha, L.M. (2005). Modeling the influence of time on the respiration rate of shredded carrots at different temperatures under ambient atmosphere. Applications of modeling as an innovative technology in the Agri-Food chain. Leuven, Belgium.

7. Iqbal, T., Oliveira, F.A.R, and Kerry, J. (2004). Effect of temperature and cutting on the respiration rate of mushrooms. Annual Meeting of Institute of Food Technologists. Las Vegas, USA.
8. Iqbal, T., Oliveira, F.A.R, Mahajan, P.V. and Kerry, J. (2004). Comparison of O₂ consumption and CO₂ production rates of whole, sliced, baton and shredded carrots at different temperatures under ambient atmosphere. 34th Annual Food Science and Technology Research Conference, September, University College Cork, Cork, Ireland.
9. Delaney, C.B., Fitzpatrick, J.J. and Iqbal, T. (2002). Effect of storage conditions and particle size on the flowability of milk powders. 32nd Annual Food Science and Technology Research Conference, September, University College Cork, Cork, Ireland.

International Conferences (Poster Presentations)

1. T.Iqbal, M.C. Danao, K.C. Ting, S.R. Eckhoff. (2012). Airflow Resistance of Chopped Miscanthus. 17th Annual Conference, Institute of Biological Engineers (IBE), Indianapolis, Indiana, USA.
2. Tariq Iqbal, Pramod Mahajan, Mohsen Esmaili. (2011). Analysis of respiration rate of sliced cucumber as a function of time stored at ambient conditions. International Annual meeting, American Society of Agricultural and Biological Engineers (ASABE), Louisville Kentucky, USA.
3. Tariq Iqbal, Pramod Mahajan, Joseph Kerry. (2011). Analysis of the effects of gas composition and storage time on the respiration rate of whole mushrooms at constant low temperature. International Annual meeting, American Society of Agricultural and Biological Engineers (ASABE), Louisville Kentucky, USA.
4. Iqbal, T., Oliveira, F.A.R, Mahajan, P.V. and Kerry, J.P. (2005). Effect of gas composition and storage time on the respiration rate of fresh mushrooms. 35th Annual Food Science and Technology Research Conference, September, University College Cork, Cork, Ireland.
5. Iqbal, T., F.A.R, Oliveira, Mahajan, P.V., Kerry, J. P, Gil, L., Manso, M.C and Cunha, L. M. (2005). Analysis of the effect of temperature, storage time and type of cut on the respiration rate of fresh carrots. 7^o Encontro de Quimica dos Alimentos, Viseu, Portugal.
6. Iqbal, T., Oliveira, F.A.R, Quintas, R.M. and Kerry, J.P. (2004). Influence of low O₂ and high CO₂ on the respiration rate of shredded carrots at different temperatures. International Congress on Engineering and Food. Montpellier, France.
7. Iqbal, T., Oliveira, F.A.R, Mahajan, P.V. and Kerry, J.P. (2004). Effect of low O₂ and high CO₂ atmosphere on the respiration rate of mushrooms at low temperature. 34th Annual Food Science and Technology Research Conference, September, University College Cork, Cork, Ireland.
8. Iqbal, T., Oliveira F. A. R., Torrieri, E. and Sousa, M. J. (2003).Mathematical modeling of the influence of temperature on the respiration rate of shredded carrots stored in ambient air. 12th World Congress of Food Science & Technology. Chicago, Illinois, USA.
9. Iqbal, T., Oliveira, F.A.R, Quintas, R.M., Mahajan, P.V. and Kerry, J.P. (2003).The effect of cutting on the respiration rate of fresh mushrooms. 33rd Annual Food Science and Technology Research Conference, September, University College Cork, Cork, Ireland.
10. Iqbal, T., Barry, K., Cerqueira, P. and Fitzpatrick, J.J. (2003). Effect of fat and lactose content on the cohesiveness of milk powders. 33rd Annual Food Science and Technology Research Conference, September, University College Cork, Cork, Ireland.

Practical Publications

- Oliveira, F.A.R., Mahajan, P.V., Iqbal, T. and Montanez, J.C. (2004). Development of modified atmosphere packaging system for mushrooms. A report submitted to Walsh Mushrooms, Athlone.

REFERENCES:

- Dr. John Fitzpatrick
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- Dr. Joseph Kerry
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