

DR. SYEDA SULTANA RAZIA
ASSOCIATE PROFESSOR

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Academic Appointments

July, 2007- to date

Associate Professor
Department of Chemical Engineering
Bangladesh University of Engineering & Technology

March, 2003-July, 2007

Assistant Professor
Department of Chemical Engineering
Bangladesh University of Engineering & Technology

July, 1995-April, 2003

*(On study leave
from Dec. 1996 - March 2003)*

Lecturer
Department of Chemical Engineering
Bangladesh University of Engineering & Technology

1999-2001

(Three terms)

Teaching Assistant
Department of Chemical & Materials Engineering
University of Alberta

Education

2003

Ph.D. , Chemical and Materials Engineering,
University of Alberta, Canada
Thesis: *Froth Structure and Mass Transfer on
Distillation Tray*
Supervisor: Dr. Karl T Chuang

1997

M.Sc. , Chemical Engineering, Bangladesh
University of Engineering and Technology
Thesis: *Preparation and Characterization of
Reforming Catalyst*
Supervisor: Dr. Dil Afroza Begum

1995

B.Sc. Chemical Engineering, Bangladesh University
of Engineering and Technology
Thesis: *A Study of the Absorption of CO₂ in
Ammoniated Brine Solution*
Supervisor: Dr. A.K.M.A. Quader

Scholarship

| | |
|-----------|---|
| 1997-2003 | CIDA scholarship for Ph.D. program under BUET-Alberta Linkage project |
| 1989-1995 | Merit Scholarship, BUET |
| 1986-1988 | Merit Scholarship, Dhaka Board |

Refereed Journal Papers

1. **Syeda, Sultana R.**, Artin Afacan and Karl T. Chuang, “A Fundamental Model for Prediction of Sieve Tray Efficiency”, **Trans IChemE Part A: Chemical Engineering Research and Design**, 2007, 85 (A2) 269-277.
2. Azam, Md. Ali, Md. Ahsanullah and **Sultana R. Syeda**, “Construction of a Downdraft Biomass Gasifier”, *Journal of Mechanical Engineering Division, Institution of Engineers, Bangladesh*, 2007, 34, 74-79.
3. Azad, M. A. K. and **Sultana R. Syeda**, “A Numerical Model for Bubble Size Distribution in Turbulent Gas-liquid Dispersions”, *Journal of Chemical Engineering Division, Institution of Engineers, Bangladesh* (Accepted: December, 2007).
4. **Syeda, Sultana R.**, Artin Afacan and Karl T. Chuang, “Effect of Surface Tension Gradient on Froth Stabilization and Tray Efficiency” **Trans IChemE Part A: Chemical Engineering Research and Design**, 2004, 82(A6), 762-769
5. **Syeda, Sultana R.**, Artin Afacan and Karl T. Chuang, “ *Prediction of Gas Hold-up in a Bubble Column Filled with Pure and Binary Liquids,*” **Canadian Journal of Chemical Engineering**, 2002, 80, 44-50.

National and International Conferences and Seminars

Proceedings:

1. Ferdousi, Shammi A., Fahmida Irin, Shaima Nahreen and **Sultana R. Syeda** “Decolorization of Wastewater by Adsorption on Activated Carbon in a

Liquid Solid Fluidized Bed” Proceedings of 2nd International Conference of Chemical Engineering, December 2008, **Dhaka, Bangladesh.**

2. Ansery , Ashfaq M. and **Sultana R. Syeda** “Effect of Jet Velocity and Nozzle Size on Stability of Submerged Air Jet” Proceedings of 2nd International Conference of Chemical Engineering, December 2008, **Dhaka, Bangladesh.**
3. Reza, Md. Jahangir and **Sultana R. Syeda**, “ Gas Hold-up in Aqueous Solutions of Surface Active Solutes”, Proceedings of the Eleventh Asian Congress of Fluid Mechanics, 22-25 May 2006, **Kuala Lumpur, Malaysia**, 989-996.
4. Hasan, M. M. Faruque, A. M. Wahidul Islam, and **Sultana R. Syeda**, “Formation and Disintegration of Air Jet in Liquids”, Proceedings of 5th IMEC conference and 10th Annual Paper Meet, 30 Sept.-2Oct, 2005, **Dhaka , Bangladesh**, 160-164.
5. Quddus, Mohammad R., Gautom K. Das and **Sultana R. Syeda**, “An Experimental Study of Bubble Diameter Detaching from a Nozzle in Liquids” Proceedings of 4th IMEC conference and 9th Annual Paper Meet, 29-31 December, 2004, **Dhaka, Bangladesh**, 326-329.

Presentations:

1. **Syeda, Sultana R.** and Ashfaq M. Ansery, “ *Stability of Air jets in Liquids,*” 57th Conference of Canadian Society of Chemical Engineers, October 19-22, 2007.
2. **Syeda, Sultana R.**, Artin Afacan and Karl T. Chuang, “ *Effect of concentration on clear liquid height and gas hold-up,*” 50th Conference of Canadian Society of Chemical Engineers, October 15-18, 2000.
3. **Syeda, Sultana R.**, Artin Afacan and Karl T. Chuang, “ *Effect of Concentration on Distillation Efficiency,*” 49th Conference of Canadian Society of Chemical Engineers, October 3-6, 1999.

Membership

Member (M 18037), The Institution of Engineers, Bangladesh (IEB)
Member, Chemical Engineering Alumni Association, Bangladesh (ChEAA)

Member, Women Architects, Engineers and Planners Association
(WAEPA), Bangladesh

Professional Work at National and International Levels

a) Academic/Research

Chairman

Session: Thermodynamics/Simulation and Modeling/General, 57th
Conference of *Canadian Society of Chemical Engineers*, October 19-22,
2007

Reviewer

- Research proposal, *University Grant Commission* (UGC), Bangladesh.
- ***Journal of Chemical Engineering Division***, Institution of Engineers, Bangladesh (2006)
- ***Journal of Mechanical Engineering Division***, Institution of Engineers, Bangladesh (2006).

Member

- Souvenir Sub-committee, ***International Conference of Chemical Engineering***, Dept. of Chemical Engineering, ICChE 2008, BUET
- Editorial board, ***Journal of Chemical Engineering Division***, Institution of Engineers, Bangladesh (2006).
- Technical Sub-committee, ***International Conference of Chemical Engineering***, Dept. of Chemical Engineering, ICChE 2003, BUET.

Designated discussant

National seminar on “*The problems of Small and Medium Industries in Bangladesh and their solutions*”, ***Mechanical Engineering Division , Institution of Engineers***, Bangladesh (2005)

Convenor

- Registration Sub-Committee, National Conference on “*Privatization of Chemical Industries and Entrepreneurship*”, (2005).
- Registration Sub-Committee, ***International Conference of Chemical Engineering***, Dept. of Chemical Engineering, ICChE 2003, BUET.

b) Organizations

- Member (elected), Central Council, Institution of Engineers, Bangladesh (IEB), 2009-2010
- Member (elected), Central Council, Institution of Engineers, Bangladesh (IEB), 2004-2005
- Member, Executive Committee, Chemical Engineering Division, Institution of Engineers, Bangladesh (IEB), 2006-2007
- Member, Membership Committee, Institution of Engineers, Bangladesh (IEB) 2004-2007

- Member, Equivalence Committee, Institution of Engineers, Bangladesh (IEB) 2004-2007
- Member Secretary, Chemical Engineering Alumni Association, Bangladesh (ChEAA) 2003-to date

Project

- Carried out a student project on Production of Bio-diesel from Biomass, supported by RahimAfrooz (2006-2007)
- Participated in Environmental Quality Survey for the feasibility study of Padma Bridge made by a team of faculties from Chemical Engineering department, BUET, in collaboration with Bangladesh Consultants Limited (2004)
- Participated in designing and setting up of a pilot plant for separating anesthesia mixtures received from operation theaters under Blue Zone Project, Edmonton, Canada (2001).

Trainings/workshops

- An ADB sponsored training workshop for Awareness Building & Motivation on Renewable Energy, Energy Efficiency and Greenhouse Gas Abatement (PREGA Phase 2) organized by Bangladesh Centre for Advanced Studies (BCAS) at LGED Bhaban, Dhaka, 1-2 June, 2005.
- A short course on heat exchanger design and fuel cells, jointly organized by BSME and ASME on 31 December, 2003-1 January 2004. BUET, Dhaka, Bangladesh.
- A workshop on *Hazard Evaluation in Process Industries* organized by the Directorate of Continuing Education, BUET, under the linkage program between BUET and North Carolina A & T State University, USA (May 27-28, 2003).
- A workshop on *Integration of Pollution Prevention Topics into the Science and Engineering Curriculum* organized by the Directorate of Continuing Education, BUET, under the linkage program between BUET and North Carolina A & T State University, USA (April 26-27, 2004).
- 47th Conference of Canadian Society of Chemical Engineers, October 1997, Edmonton, Canada.

Participation in National Commissions, Committees, etc

Member

- Committee formed by the Ministry of Health and Family Welfare, Government of Bangladesh for feasibility study to transfer technology for local production of Auto Disable Syringe. (February 2005)

- Committee formed by the Ministry of Science, Information and Communication Technology, Government of Bangladesh for preparing a list of engineering books and journals to be purchased by BANSDOC. (September 2005)

Supervision of Completed Graduate Research Work

| Program | Thesis Title | Year |
|-------------------------------|---|-------------|
| M.Sc. in Chemical Engineering | 1. <i>A New Model for Prediction of Tray Efficiencies in Cross Flow Sieve Trays</i> | August 2007 |
| M.Sc. in Chemical Engineering | 2. <i>A Numerical Model for Bubble Breakup and Coalescence in Turbulent Gas Liquid Dispersion</i> | April 2006 |
| M.Sc. in Chemical Engineering | 3. <i>Study of Gas hold-up in Aqueous Solutions of Surface Active Solutes</i> | August 2005 |

Currently supervising three M. Sc. Engineering thesis works.

- “*Effect of Surfactant Additives on Saturated Pool Boiling In Water*”
- “*Stability of Air Jets in Liquids*”,
- “*Dye Removal from Waste-water by Fluidized Bed of Activated Carbon*”

University Service

2008-present **Member Secretary**, Post-graduate Board of Studies, Department of Chemical Engineering, BUET.

2003-2007 **Member Secretary**, Undergraduate Board of Studies, Department of Chemical Engineering, BUET.

Examiner

1. Member: Question Moderation committee:
 - a. Department of Chemical Engineering and Polymer Science, Shahjalal University of Science and Technology (SUST)
 - b. Department of Biotechnology and Genetic Engineering, Khulna University
2. Chairman (Supervisor), Board of examiners
M.Sc. Engineering thesis titled “*A New Model for Prediction of Tray Efficiency in Cross flow Sieve Trayss*” of Fatema Begum, Roll no. 040402003 P of the Chemical Engineering, BUET. (August 2007)
3. Member, Board of examiners

M.Sc. Engineering thesis titled “*Modeling of Ambient air Pollution in a Cluster of Brick Fields*” of Shoeb Ahmed, Roll no. 040502005 P of the Department of Chemical Engineering, BUET. (April 2007)

4. Chairman (Supervisor), Board of examiners
M.Sc. Engineering thesis titled “*A Numerical Model for Bubble Breakup and Coalescence in Turbulent Gas Liquid Dispersions*” of Mohammad Abul Kalam Azad, Roll no. 040302012 F of the Chemical Engineering, BUET. (April 2006)
5. Chairman (Supervisor), Board of examiners
M.Sc. Engineering thesis titled “*Study Of Gas Hold Up in Aqueous Solutions of Surface Active Solutes*” of Mohammod Jahangir Reza, Roll no. 040302007 F of the Chemical Engineering, BUET. (August 2005)
6. Member (External), Board of examiners
M.Sc. Engineering thesis titled “*An Analytical Study of Critical heat Flux in Natural Convective Boiling in a Vertical Tube*” of Mohammad Mostafa Afroz, Roll no. 100110017 P of the Mechanical Engineering, BUET. (August 2004)
7. Member, Board of examiners
M.Sc. Engineering thesis titled “*Comparative Study of Prepared and Industrial Low Temperature Shift Catalyst*” of Mohammad Abdul Alim Dewan, Roll no. 040202010 P of the Department of Chemical Engineering, BUET. (February 2005)

Teaching

| <u>Undergraduate Course</u> | <u>Graduate Course</u> |
|--|--|
| ChE 205 Fluid Mechanics ChE 305 Mass Transfer I ChE 307 Chemical Engineering Thermodynamics I ChE 309 Particle Technology | ChE 6105 Mass Transfer ChE 6108 Equilibrium Stage Separations |

Other Service- Science and Engineering Outreach

- 2003-2004 **Member**, Gender Equality Policy group, BUET; A group working for developing the academic and professional environment and creating opportunities for female Engineers and Architects (funded by CIDA).

EXTRA-CURRICULAR ACTIVITIES

Has keen interest in religious, social, human rights and women rights issues

Talks /Lectures/Discussions/Articles

1. TV lectures: 2 to 3 lectures per week on social and religious issues on national 'BTV' (Bangladesh Television) and Private satellite channels (Dtv, nTV, Rtv, Boishakhi, BanglaVision).
2. Frequent paper presenter and designated discussant in seminars, symposiums and round table discussions on social, national and international issues
3. Member of Bangladeshi delegates formed at different times by Bangladesh Institute of International and Strategic Studies (BIISS) and American Center, US Embassy, Dhaka to address national and international socio-religious issues in meetings with foreign delegates.
4. Designated discussants in International seminars on Islamic Law, Economics and strategic issues
 - a. International Seminar on "*Islamic law and Its Application in the Contemporary Society*", organized jointly by Islamic Law research Centre & legal Aid Bangladesh (ILRCLAB) and Bangladesh Institute of Islamic Thought (BIIT), 11-12 January, 2008.
 - b. International Seminar on "*Islamic Alternative to Poverty Alleviation: Zakat, Awqaf and Microfinance*" Jointly organized by Islamic Development Bank (IDB), Islamic Bank Bangladesh Limited (IBBL), and Islamic Economics Research Bureau (IERB), 21-23 April, 2007.
 - c. International Conference on "*Religious Militancy and Security in South Asia*", organized by Bangladesh Institute of International and Strategic Studies (BIISS) in collaboration with German and French Embassy, October 10-13, 2004.
5. Social/Motivational lectures: Frequent Lectures addressing students of Secondary and Higher secondary schools and Universities.
6. Training programs: Resource person of training programs of different Islamic financial organizations i.e. Islamic Banks and Insurance companies.
7. Writer of many articles published in Bengali and English dailies on socio-religious, particularly women rights issues.

Affiliation

1. **Masjid Council for Community Advancements:** Member, Executive Committee
2. **Council for Interfaith Dialogue:** Member.
3. **Social Science Forum** (A Dhaka based organization that works for raising awareness about social issues): Founding member and Assistant General Secretary.
4. **Witness** (A Dhaka based study circle for girls): Founding member, General Secretary (1991-1996), Member of Executive Committee (2004-present)
5. **Assembly for Protection of Hijab** (An England Based organization formed in 2003 to protect Muslim women's right to wear head scarf): Assistant Secretary of Bangladesh Chapter.
6. **International Society for Peace and Human Rights** (A Canada based human rights organization): member (2000-present)
7. **Canadian Society for Peace in Chechnya** (A Canada Based human rights organization) – Founding member, President (2000-2001); signed “*Joint Committee PACE –letter*” along with the American Committee for Peace in Chechnya (Freedom House) and Danish and Polish support committee on January 18, 2001, sent to the President of Parliamentary Assembly, Council of Europe.
8. **Muslim Student Association** (University of Alberta, Canada): Member (1997-2003)
9. **Islamic Family and Food Service Association –IFFSA** (An Edmonton, Canada based Social Service Group): Volunteered in food drive, cloth collection, fund raising, Soup kitchen program etc (1999-2002).

Recognition

May 7, 2001 Recognition from University of Alberta senate (Canada) for community service.

Countries Visited

United Kingdom, United States, Canada, Japan and Kingdom of Saudi Arabia