

DR. NAHID SULTANA

Assistant Professor

Personal Data

Nationality | Canadian

Date of Birth | 16 June 1976

Department | Computer Science

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Language Proficiency

Language	Read	Write	Speak
Arabic	X	-	-
English	X	X	X
Bengali	X	X	X

Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
2006	PhD (Mathematics)	Kobe University	Kobe, Japan
2012	M. Sc. (Statistics)	McMaster University	Hamilton, Ontario, Canada
2011	Diploma (Programmer Analyst/Web developer)	Everest College	Hamilton, Ontario, Canada
2000	M.Sc (Applied Mathematics)	Rajshahi University	Rajshahi, Bangladesh
1998	B.sc. (mathematics)	Rajshahi University	Rajshahi, Bangladesh

PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions)

PhD	Constant mean curvature surfaces of revolution in spherically symmetric 3-manifolds, and their stability
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Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work			Date
Assistant Professor	Imam Abdulrahman Bin Faisal University	Dammam	Saudi Arabia	August 2012 to Present
Sessional Faculty and Visiting Researcher	McMaster University	Ontario	Canada	March 2009 to March 2012

Research Associate	Kanazawa University	Kanazawa	Japan	April 2008 to September 2008
Postdoctoral Fellow	Osaka City University	Osaka	Japan	April 2007 to March 2008
Teaching/Research Assistant	Kobe University	Kobe	Japan	October 2002 to September 2006
Lecturer	Khulna University of Engineering and Technology, Bangladesh	Khulna	Bangladesh	October 2000 to September 2002
Lecturer	Chalna K.C. Pilot Collegiate School, Khulna, Bangladesh	Khulna	Bangladesh	June 2000 to September 2000

Scientific Achievements

Published Refereed Scientific Researches

(In Chronological Order Beginning with the Most Recent)

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
1	Nahid Sultana	<i>Binary Logistic Regression, Artificial Neural Network and Support Vector Machine to predict the Willingness of Saudi residents towards Value Added Tax</i>	ICIC Express Letters Part B: Applications, Volume (12), 2019
2	D. Dustegor, N. Sultana , N. Felemban, D. Al-Qahtani	<i>A smarter electricity grid for the Eastern Province of Saudi Arabia: Perceptions and policy implications</i>	Utilities Policy, Volume 50, 2018
3	Hossain S. M. Z, Nouredine Mansour, Nahid Sultana	<i>Design of a Laboratory Experiment on Hot Air Drying in an Upgraded Tray Dryer</i>	Educ. Chem. Eng, Volume 18, 2017
4	Hossain, S. M. Z, Nahid Sultana , Muhammad Faisal Irfan, Elamin Mohammed Ali Elkanzi, Yousuf Ahmed Mirza Al-Aali, Ahmed Taha, Sk Manirul Haque	<i>Optimization of Biodiesel production from Spent Palm Cooking Oil Using Fractional Factorial Design Combined with the Response Surface Methodology</i>	Am. J. Appl. Sci., Volume 13(11), 2016
5	Hossain, S. M. Z, Sultana , N. Elkanzi , E. M. A., Habib, M. M. A. and Ahmed, N. E.	<i>Assessment of the Awareness, Acceptance, and Willingness of Bahraini Public to Consume Genetically Modified Food.</i>	Brit. J. App. Sci & Tech., Volume 14(5), 2016

6	M. Shahidul, N. Sultana , A. Ahmed	<i>Experimental and numerical investigations of the moisture content and wet density of soils</i>	Journal of Civil Engineering Research, Volume 5(1), 2015
7	D. Dustegor, N. Sultana , N. Felemban, D. Al-Qahtani	<i>On Renewable Energy for Sustainable Development-Public Acceptance of the Smart-Grid in Saudi Arabia</i>	8th IEEE GCC conference and exhibition, 2015 (conference paper).
8	H. Al-Harhi, N. Sultana , A. Waleed, A. Basudan,	<i>An Analytic Hierarchy Process based method to rank Critical Success Factors of implementing Pharmacy Barcode System, submitted</i>	Perspectives in Health Information Management, Winter 2015.
9	M. Shahidul, N. Sultana	<i>Prediction of the climatologically data</i>	The journal of Sustainable Development, 7(4), 2014
10	N. Sultana	<i>Instability of constant mean curvature surfaces of revolution in spherically symmetric spaces,</i>	Balkan Journal of Geometry and Its Applications, 13 (1) (2008)
11	W. Rossman and N. Sultana	<i>The spectra of Jacobi operators for constant mean curvature tori of revolution in the 3-sphere</i>	Tokyo Journal of Mathematics, 31 (2008)
12	W. Rossman and N. Sultana	Morse index of constant mean curvature tori of revolution in the 3-sphere	Illinois Journal of Mathematics, 51 (4) (2007),
13	S.M.Z. Hossain, N. Sultana , S.M.E. Babar and G.D. Haki	A new mathematical model for optimum production of neural stem cells in large-scale	Molecular and Cellular Toxicology, 3 (2) (2007)
14	N. Sultana	Explicit parametrization of Delaunay surfaces in space forms via loop group methods	Kobe Journal of Mathematics, 22 (2005)

Completed Research Projects

#	Name of Investigator(s) (Supported by)	Research Title	Report Date
1	Dr. Dilek (Düştegör) Tatar, Dr. Nahid Sultana (University of Dammam)	Towards Increased Integration of Renewable Energy: How Ready is the Society to that Transition in Saudi Arabia?	January, 2015

Membership of Scientific and Professional Societies and Organizations

- Canadian Mathematical Society (CMS)
- American Mathematical Society (AMS)
- Mathematical Society of Japan (MSJ)
- Bangladesh Mathematical Society (Life Member)

Teaching Activities

Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Introduction to Stats & Probability Theory	STAT 207	Lecture (2012-2019)
2	Discrete Mathematics	MATH 301	Lecture (2012-2019)
3	Logic and Proof Techniques	MATH 401	Lecture (2012-2014, 2017-2019)
4	Numerical Analysis	MATH 411	Lecture (2017—2019)

Brief Description of Undergraduate Courses Taught: (Course Title – Code: Description)

1	<u>Introduction to Stats & Probability Theory-STAT 207:</u> This course provides an elementary introduction to probability and statistics with applications. Topics include: graphical and numerical representation of data; Random variables; Introduction to probability; Conditional probability and statistical independence; Bayes theorem; Mathematical expectation; Variance; Covariance and the correlation coefficient for two random variables; Regression analysis; Some important discrete and continuous statistical distributions; hypothesis testing; confidence intervals. Statistical software (Minitab and SPSS) will be used to facilitate the analysis of data sets and understand statistical concepts. Emphasis will be placed on how to collect, analyze, and interpret data correctly. Students will also be trained on how to clearly and accurately present data to others.
2	<u>Discrete Mathematics-MATH 301:</u> The purpose of this course is to introduce the essential mathematical concepts and ideas in discrete mathematics, which are required for rigorous studies in most areas of computer science including Logic and Proof Techniques, Analysis of Algorithm, Digital Circuit, Network, Software Engineering, and Artificial Intelligence. Topics include: Propositional logic, logical equivalence, Quantifiers; Set theory, Mathematical induction; vector and matrices; Relations, Equivalence Relations, Partial Ordering Relations; Functions, Sequences, Indexed Classes of Sets, Recurrence Relations, Recursively defined functions, algorithms and complexity of algorithm; Properties of integers; Basic counting techniques, Binomial coefficients and Pascal triangle, Pigeonhole Principle; Graph theory, Tree graphs, Directed graphs; Boolean Algebra. Emphasis will be placed on providing a context for the application of discrete mathematics within computer science.
3	<u>Logic and Proof Techniques-MATH 401:</u> The course includes two formal systems: propositional logic (statements, connectives, conditionals, and negation) and predicate logic (quantifiers, occurrence, and free variables). The course starts by presenting a review of the basic concepts of set theory, functions, and relations. The emphasis is on types of proofs (direct, contra-positive, contradiction, counterexample, and existence). In addition, the course covers other proof techniques useful in computer science such as mathematical induction.
4	<u>Numerical Analysis-MATH 411:</u> Numerical analysis is concerned with finding numerical solutions to problems that analytical solutions do not exist or are not readily obtainable. This course provides an introduction to the subject and treats the topics of solving nonlinear equations in one variable, interpolation and approximation of functions by simpler computational building blocks, numerical differentiation and divided differences, numerical integration, numerical solutions of ordinary differential equations and boundary value problems, and direct methods for solving linear systems. These topics are of great practical importance in science, engineering, and also have intrinsic mathematical interest.

Course Coordination

#	Course Title and Code	Coordination	Co-coordination	Undergrad.	Postgrad.	From	to
	STAT 207-Introduction to Stats & Probability Theory	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		2012	--2016
	MATH 301-Discrete Mathematics	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		2012	--2018
	MATH 401-Logic and Proof Techniques	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		2012-2014,	2017, 2019
	MATH 411- Numerical Analysis	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		2017-2019	

Committee Membership

#	From	To	Position	Organization
1	2017	Present	CS Curriculum Committee	CCSIT, University of Dammam
2	2012	2017	Member of hiring Committee	CCSIT, University of Dammam
3	2012	Present	Coop program committee	CCSIT, University of Dammam
4	2013	2014	web development committee	CCSIT, University of Dammam
5	2013	2014	Social and Cultural activity committee	CCSIT, University of Dammam

Personal Key Competencies and Skills: (Computer, Information technology, technical, etc.)

1	Programming Languages: FORTRAN, LATEX, MATHEMATICA, MATLAB, CMCLab, classroom software called Blackboard, C#, JavaScript, VBScript , CSS, XML, HTML, DHTML, ASP.NET, SQL etc.
2	Graphics: Adobe Creative Suite (CS4) (especially Photoshop, Dreamweaver, Flash, ActionScript)
3	GUI/Tools: MS Office (Access, Word, Excel and PowerPoint), MS Visio, Microsoft Project, Visual Studio
4	Databases: MS Access, SQL, FileMaker Pro, SAS, R (Statistical software)

Last Update

10/11/2016