SWAPAN RAHA
CURRICULUM VITAE

1. Profile :

Name	:	Swapan Raha
Designation	:	Professor of Mathematics
Qualification	:	B.Sc.(Hons) in Mathematics; St. Paul's C M C; Calcutta University; 1982
		M.Sc. in Applied Mathematics; Calcutta University; 1984
		M.Tech in Computer Science; Calcutta University; 1987
		MCA TTP, IIM, Joka, Kolkata; 1989
		Ph.D. in Computer and Communication Sciences; ISI; 2000
Address	:	Department of Mathematics; Siksha-Bhavana (Institute of Sciences); Visva-Bharati (,a Central University); Santiniketan 731235; District-Birbhum; West-Bengal; 09433525447;
e-mail	:	swapan.raha@visva-bharati.ac.in
Date of birth	:	May 01, 1960
Expertise	:	Fuzzy logic based approximate reasoning and applications;
Dissertations	:	M.Sc. --- On Probabilistic machines; 1984
		M.Tech. -- - On Design and implementation of Financial Accounting System through personal computer; 1987
Thesis	:	Ph.D. --- Similarity based Approximate Reasoning; 2000

2. Fellowship/ Award :

INSA-visiting fellowship 1996
SERC-visiting fellowship 1997

3. Research Project :

UGC-MRP 2009, Role of similarity in approximate reasoning

4. Research experience :

33 years at Visva-Bharati, Santiniketan
Guided six students leading to award of Ph.D. degree of Visva-Bharati
Abul Hossain --- Qualitative modeling of dynamical system, 2008
Dipankar Mazumdar --- Mathematical models for Biological sequence analysis, 2010
Banibrata Mondal - Similarity based inverse approximate reasoning, 2012
Himadrishekhar Gupta -- A study on fuzzy mathematical machines, 2015
Sibasis Bandyopadhyay --- A study on games with uncertainty, 2016
Asim Pal --- Approximate reasoning in fuzzy control, 2020

5.	**Research students**	:	Arpita Kabiraj --- Approximate reasoning in fuzzy optimization

5. **Research students** : Arpita Kabiraj --- Approximate reasoning in fuzzy optimization
   Injamam Ul Karim **---** A study on fundamental group structure in the context of soft set settings
   Md. Fazlay Akkash --- A theory of approximate reasoning with fuzzy soft set
   Priya Dey --- On complex fuzzy logic

6. **Research interests** : Fuzzy logic in approximate reasoning; Fuzzy control, Fuzzy optimization

7. **Teaching experience** : 6 months as part-time lecturer in Mathematics at St. Paul's C M College, Kolkata; March 1988 – August 1988;
   8 years as lecturer in the Department of Mathematics at Visva-Bharati, Oct 1988 – Sept 1996
   6 years as Senior lecturer in the Department of Mathematics at Visva-Bharati, Oct 1996 – March 2002
   3 years as Reader in the Department of Mathematics at Visva-Bharati, March 2002 – May 2005
   16 years as Professor in the Department of Mathematics at Visva-Bharati, since May 2005

8. **Courses taught :**
   Teaching post-graduate students the use of symbolic logic in mechanical theorem proving, Boolean algebra in the design of combinatorial and sequential circuits; use of algebraic structure in automata theory, formal language and formal grammar; Turing machine --- Turing computability, topics of discrete mathematics --- graph theory and combinatorics; theory of optimization --- linear and non-linear models; Mathematical probability and statistics; Logic and Reasoning; Fuzzy set, Fuzzy logic

9. **Administrative experience** :
   Acted as Vice-Principal, Siksha-Bhavana; 2002-2003
   Acted as Head of the Department of Mathematics, 2006-2007; 2012-2015
   Acted as Co-ordinator SAP-DRS Phase – II programme; 2009-2014
   Acted as member of ICC for PSHWW; 2016-2020
   Acted as Chairman of the committee for the formation of M.Phil, Ph.D. regulations, ordinances
   Acted as member of the working committee for Visva-Bharati Computer Centre

10. **Select list of publications** **:**

S. Raha, K. S. Ray, Analogy between approximate reasoning and the method of interpolation, Fuzzy Sets and Systems, vol. 51, no. 3, 1992, 259-266.

S. Raha, K. S. Ray, Approximate reasoning based on generalized disjunctive syllogism, Fuzzy Sets and Systems, vol. 61, no. 2, 1994, 143-151.

S. Raha, K. S. Ray, On extended fuzzy reasoning, Fuzzy Sets and Systems, vol. 62, no. 1, 1994, 121-125.

S. Raha, K. S. Ray, Reasoning with vague default, Fuzzy Sets and Systems, vol. 91, no. 3, 1997, 327-338.

S. Raha, K. S. Ray, Reasoning with vague truth, Fuzzy Sets and Systems, vol. 105, no. 3, 1999, 385-399.

S. Raha, K. S. Ray, Approximate reasoning with time, Fuzzy Sets and Systems, vol. 107, no. 1, 1999, 59-79.

S. Raha, S. Hossain, Fuzzy set in default reasoning, N.R. Pal and M. Sugeno (Eds.): AFSS 2002, LNAI 2275, 2002, 27–33.

S. Raha, N. R. Pal and K.S.Ray, Similarity based approximate reasoning: methodology and application, IEEE Transactions on Systems, Man and Cybernetics --- Part A, Systems and Humans, vol. 32, no. 4, 2002, 541-547.

H. Gupta, S. Raha, Fuzzy Mathematical Machine as Fuzzy System, International journal of computational cognition, vol. 6, no. 3, 2008, 13-22.

S. Raha, A. Hossain and S. Ghosh, Similarity based approximate reasoning: fuzzy control, Journal of Applied Logic, vol. 6, no. 1, 2008, 47-71.

B. Mandal, S. Raha, Similarity based inverse approximate reasoning, IEEE Transactions on Fuzzy Systems, vol. 19, no. 6, 2011, 1058-1071.

B. Mandal, S. Raha, Approximate reasoning in fuzzy resolution, International Journal of Intelligence Science, vol. 3, no. 1, 2013, 86-98.

H. Gupta, S. Raha, Fuzzy flip-flop as fuzzy systems, Annals of Fuzzy Mathematics and Informatics, vol. 7, no. 4, 2014, 579–606.

A. Pal, B. Mandal, N. Bhattacharyya and S. Raha, Similarity in fuzzy systems, Journal of uncertainty analysis and applications, vol. 2, no. 1, 2014, 1-28.

H. Gupta, S. Raha, Some algebraic properties of fuzzy mathematical machine and fuzzy automata, Annals of Fuzzy Mathematics and Informatics, vol. 9, no. 5, 2015, 719–732.

H. Gupta, S. Raha, Clinical monitoring using fuzzy system, Annals of Fuzzy Mathematics and Informatics, vol. 9, no. 6, 2015, pp. 901–916.

B. Mondal, S. Raha, Approximate reasoning in management of hypertension, M.K.Chakraborty et.al. (eds.), Facets of uncertainty and applications, Springer Proceedings on Mathematics and Statistics, vol. 125, 2015, 225-234.

J. Pal, D. Mazumdar, S. Raha, An algebra for biological sequences, International Journal for Computational Biology, vol. 5, no. 2, 2016, 28-40.

A. Kabiraj, P.K. Nayak and S. Raha, Solving Intuitionistic Fuzzy Linear Programming Problem, International Journal of Intelligence Science, vol. 9, no. 1, 2019, 44-58.

A. Kabiraj, P.K. Nayak and S. Raha, Solving Intuitionistic Fuzzy Linear Programming Problem I, International Journal of Intelligence Science, vol. 9, no. 4, 2019, 93-110.

S. Mandal, I.U. Karim and S. Raha, A theory of approximate reasoning with type-2 fuzzy set, Journal of Indonesian Mathematical Society, vol. 27, no. 1, 2021, 09-28.