UNIVERSITÀ DEGLI STUDI DI MILANO

TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO **ID CODE: 4639**

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di Filosofia "Piero Martinetti**" dell'Università degli Studi di Milano.

Scientist- in – charge- **Prof. D'Agostino Marcello – Prof. Hosni Hykel – Prof. Primiero Giuseppe**

ANAND PRATAP SINGH

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	SINGH
Name	ANAND PRATAP
Date of birth	05/07/1992

PRESENT OCCUPATION

Appointment	Structure
Aug 01, 2018	Junior Researcher (Postdoc)

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree	B.Sc. (Science)	University of Allahabad	2010
Specialization			
PhD	Applied Mathematics	Indian Institute of Technology (ISM) Dhanbad, INDIA	2018
Master	Mathematics & Scientific Computing	MNNIT, Allahabad, INDIA	2012
Degree of medical specialization			
Degree of European specialization			
Other			

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REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City
April 23, 2020	EUSFLAT (Annual Member)	Zittau
Dec 15, 2013	International Rough Set Society (Life Member)	
Aug 22, 2016	Calcutta Logic Circle (Life Member)	Kolkata (INDIA)
Mar 2018	Society of Applied Mathematics (Life Member)	Dhanbad (INDIA)

FOREIGN LANGUAGES

Languages	level of knowledge
English	Fluent
Czech	Beginner

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2012	**Gold Medal** for standing 1st at Master of Science (M.Sc.)
2013	**INSPIRE Fellowship** for Doctoral Program by Dept. of Science and Technology (DST), INDIA
2015	**Student Grant** from **EUSFLAT** to attend Summer school on Logic and its Applications
2015	Student Travel Grant from **ISM Alumni Association** to attend EUSFLAT 2015 conference.
2015	International Travel Grant from **DST** to attend EUSFLAT 2015 conference.
2015	President of **SIAM** (Society of Industrial and Applied Mathematics) IIT (ISM) Student Chapter
2017	International Travel Grant from **DST** to attend IFSA-SCIS 2017 conference.
2017	International Travel Grant from **CSIR HRDG** to attend IEEE-SSCI 2017 conference.
2018	Postdoctoral fellowship offered by IRAFM, University Of Ostrava, Czechia.

TRAINING OR RESEARCH ACTIVITY

For my Postdoctoral research I am working on a project entitled \complex topological structures" where I am focused on the categorical relationships among the various mathematical structures (e.g. fuzzy approximation spaces, fuzzy topology, fuzzy interior/closure operators, space with fuzzy partitions etc.). As a outcome of this study we have published a work which establish a Galois connection between the fuzzifying rough set and fuzzifying pretopological spaces. In another direction we have defined a subset-hood measure on lattice-valued F-transforms and shown that the measure of lattice-valued F-transform operators determines the Alexandroff fuzzy topological (co-topological) spaces. Such study has been done through the viewpoint of category theory.

The goal of my Ph.D. thesis was to study the theory of lattice-valued F(fuzzy)-transform. We have established an interrelationship between F-transforms and fuzzy topologies as well as studied this theory in the framework of different lattice structures. A close look to F-transform leads us to think a relationship of

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this concept to fuzzy rough set theory. Also, as fuzzy rough set theory is closely related with fuzzy topologies, we have tried to elaborate the theory of F-transforms in the framework of fuzzy rough set theory and fuzzy topologies. We begin by showing that F-transforms are particular cases of upper and lower fuzzy approximation operators studied in fuzzy rough set theory. Moreover, every F-transform component induces a continuous map between two associated fuzzy topological spaces and fuzzy co-topological spaces. Further, it is shown that every F-transform uniquely determines a fuzzy pretopology/co-pretopology. Interestingly, we have shown that the existence of F-transforms for given fuzzy pretopology/co-pretopology depends on a solvability of certain system of fuzzy relation equations. In another direction, we have studied the F-transform theory based on integral and complete generalized residuated lattices and generalized notion of a fuzzy partition. We showed that the F-transforms can be used in determination of non-trivial fuzzy preorders on the set of (L-valued) fuzzy sets.

PROJECT ACTIVITY

Year	Project
2018-Till date	Complex Topological Structure

PATENTS

Patent
NA

CONGRESSES AND SEMINARS

Date	Title	Place
Dec. 14-17, 2016.	International Conference of The Indian Mathematics Consortium in association with American Mathematical Society".	DST CIMS, BHU, Varanasi, India.
June 27-30, 2017	Joint 17th World Congress of International Fuzzy Systems Association and 9th International Conference on Soft Computing and Intelligent Systems	Otsu, Japan.
July 01-04, 2019	10th International Summer School on Aggregation Operators	Olomouc, Czech Republic.
Sep 09-13, 2019	11th Conference of the European Society for Fuzzy Logic and Technology.	Prague, Czech Republic
Nov 11-12, 2019	35th Annual Conference of the Mathematical Society of BHU.	Institute of Science, BHU Varanasi, India.
June 15-19, 2020.	18th International Conference on Information Processing and Management of Uncertainty in	Lisbon Portugal.

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	Knowledge-Based Systems.	

PUBLICATIONS

Books
1. I. Perfilieva, S. P. Tiwari and A. P. Singh "Lattice-valued F-transforms as interior operators of L-fuzzy pretopological spaces" Communications in Computer and Information Science, 854 (2018) 163-174.
2. I. Perfilieva, A. P. Singh and S. P. Tiwari "Aggregation through composition: Unification of three principal fuzzy theories" Advances in Intelligent Systems and Computing book series, 981 (2019) 63-74.
3. Abha Tripathi, S. P. Tiwari and A. P. Singh "On LM-valued F-transforms and LM-valued fuzzy rough sets" Atlantis Studies in Uncertainty Modeling, 1 (2019) 220-226.
4. A. P. Singh and I. Perfilieva "On the relationship between L-fuzzifying approximation spaces and L-fuzzifying pretopological spaces" Atlantis Studies in Uncertainty Modeling, 1 (2019) 764-769.
5. A. P. Singh and I. Perfilieva "Measure of lattice-valued direct F-transforms and its topological interpretations" Communications in Computer and Information Science, 1239(2020) 240-253
6. A. P. Singh and I. Perfilieva 'On categories of L-fuzzifying approximation spaces, L-fuzzifying pretopological spaces and L-fuzzifying closure spaces" Communications in Computer and Information Science, 1239 (2020) 226-239.

Articles in reviews
1. I. Perfilieva, A. P. Singh and S. P. Tiwari "On the relationship among F-transform, fuzzy rough set and fuzzy topology" Soft Computing 21 (2017) 3513-3523.
2. S. P. Tiwari, I. Perfilieva and A. P. Singh "Generalized residuated lattices based F-transform" Iranian Journal of Fuzzy Systems 15 (2018) 165-182.
3. A. P. Singh and I. Perfilieva "M-fuzzifying approximation spaces, M-fuzzifying pretopological spaces and M-fuzzifying closure space" New Mathematics and Natural Computations, Accepted (2020).
4. A. P. Singh and S. P. Tiwari "Lattice F-transform for functions in two variables" Journal of Fuzzy Set Valued Analysis 3 (2016) 185-195
5. Abha Tripathi, S. P. Tiwari and A. P. Singh "On LM-valued F-transforms, LM-valued fuzzy rough sets and LM-valued fuzzy transformation systems" New Mathematics and Natural Computations, Accepted (2020)

Congress proceedings
1. A. P. Singh and S. P. Tiwari "F-Transform based on Generalized Residuated Lattices" Decision making and soft computing 9 (2014) 720-725.
2. I. Perfilieva, A. P. Singh and S. P. Tiwari "On the relationship among F-transform, fuzzy rough set and fuzzy topology" Proceedings of IFSA-EUSFLAT, 2015 89 (2015) 1324-1330.
3. A. P. Singh and S. P. Tiwari "On residuated lattice based fuzzy variable precision F-transform" Proceedings of IFSA-SCIS 2017 (2017) 1-6.
4. I. Perfilieva, A. P. Singh and S. P. Tiwari "On F-transforms, L-fuzzy partitions and L-fuzzy pretopological spaces" in Proceedings of IEEE SSCI (2017) 1-8.

OTHER INFORMATION

Presently I am working as Postdoctoral Research at the IRAFM, University of Ostrava, Czechia.

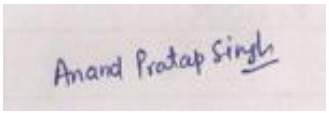
Declarations given in the present curriculum must be considered released according to art. 46 and 47 of

DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Place and date: Ostrava, Czechia, 03/09/2020

SIGNATURE



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