


Curriculum Vitae

Title	Dr.	First Name	Alka	Last Name	Marwaha	
Designation		Professor				
Department		Mathematics				
Institutional Email Address		amarwah@jmc.du.ac.in				
EDUCATION						
Degree		Institution		Year		Details
PhD		Dalhousie University, Halifax, Nova Scotia, Canada		1996		Thesis Title: Decomposability and Structure of Bands of Nonnegative Operators
MPhil		University of Delhi		1990		Dissertation Title: A Characterization of Volterra Type Integral Operators
CAREER PROFILE						
Organisation /Institution		Designation		Duration		Role
Jesus and Mary College, University of Delhi		1. Professor		01.06.2022 to present		
		2. Associate Professor		01.01.2006		
		3. Reader		27.07.98		
AREA OF INTEREST : Functional Analysis/Operator Theory						

TEACHING EXPERIENCE (Subjects/Courses taught)

- Undergraduate: 1. Multivariate Calculus 2. Metric Spaces 3. Real Analysis 4. Complex Analysis 5. Mechanics

- Postgraduate: 1. Measure and Integration 2. Functional Analysis 3. Operator Theory

PhD (Supervised) Guided a Ph.D student in Operator Theory in 2016

MPhil (Supervised) Guided an M.Phil student in Operator Theory in 2015

HONORS & AWARDS

1. Obtained 2nd position in Humanities in All India Senior School Certificate Examination in 1981.
2. Awarded All India Entrance Scholarship Examination held in 1981.
3. Obtained 2nd position in the B.A.(Honours) Examination held in 1984.
4. Awarded the M. Bholanath Gold Medal for being the best candidate knowing Sanskrit in the B.A. (Hons) Examination held in 1984.
5. Awarded the Ravi Kanta Devi Prize for being the best woman candidate in the B.A. (Hons) Examination held in 1984.
6. Obtained 2nd position in M.A. (Mathematics) Examination held in 1986.
7. Awarded Junior Research Fellowship of University Grants Commission in 1986 for three years for undertaking M.Phil Courses/Thesis programme of research in Mathematics.
8. Awarded Commonwealth Scholarship in 1996 to pursue Ph.D at Dalhousie University, Halifax, Nova Scotia, Canada
9. Awarded Izzak-Killam Scholarship by Dalhousie University, Halifax, Nova Scotia, Canada in 1997.

PUBLICATION DETAILS

- Published paper titled, "Decomposability and Structure of Nonnegative Bands in Finite Dimensions", Journal of Linear Algebra and its Applications, 1999, Vol. 291(1-3), pg. 63-82
- Published paper titled, "Decomposability and Structure of Nonnegative Bands in Finite Dimensions", Journal of Operator Theory, 2002, Vol. 47, pg. 37-61
- Published paper titled, "A Geometric characterization of Maximal, Rank- One Nonnegative Bands in Infinite Dimensions", Journal of Operator Theory, 2004, Vol. 47(2), pg. 257-263
- Published paper titled, "Decomposability of Non-negative r-Potent Matrices", International Journal of Pure and Applied Mathematics, 2014, Vol. 94(5), pg. 705-724
- Published paper titled, "Decomposability of Non-negative r-Potent Operators in $L^2(X)$ ", International Journal of Pure and Applied Mathematics, 2015, Vol. 100(1), pg. 29-52

- Published paper titled, “A Comparative Study of Buddha’s Law of Ephemerality and Heisenberg’s Uncertainty Principle”, Jamshedpur Research Review, 2022, Vol. 2(51), pg. 18-27
- Published paper titled, “Mathematics: A Prodigy of Nature”, Zeichen Journal, 2022, Vol. 8(3), pg. 76-89
- Published paper titled, “Spirituality: Through the Lens of Mathematics”, Zeichen Journal, 2022, Vol. 8(3), pg. 426-435
- Published paper titled, “Mathematics: The Search for Truth and Abstract Reasoning”, Jamshedpur Research Review, 2022, Vol. 3(52), pg. 26-35
- Published paper titled, “Finding the Mathematical Overlaps of the Axiom of Choice in Vipassana Meditation”, International Journal of Statistics and Applied Mathematics, 2022, Vol. 7(3), pg. 110-114
- Published paper titled, “Finding the Mathematical Overlaps of the Axiom of Choice in Vipassana Meditation”, International Journal of Statistics and Applied Mathematics, 2022, Vol. 7(3b), pg. 110-114
- Published paper titled, “A Canonical Representation of Maximal, Indecomposable semigroups of constant-rank Nonnegative r-Potent Matrices”, International Journal of Statistics and Applied Mathematics, 2022, Vol. 7(5b), pg. 103-107
- Published paper titled, "Decomposability and structure of semigroups of nonnegative r-potent operators on $L_2(X)$ ", Filomat 38:11,2024, 3731-3738.

Books:

1. Published a mathematics text-book titled “An Introduction to Linear Algebra” with PHI Learning, New Delhi, India
2. Published book on 'Mathematics and Vipassana’, titled the “Secret World of Vipassana and Mathematics- Zero to Infinity” with Wisdom Tree, New Delhi, India

Papers presented in Seminars/conferences:

- Presented a paper titled, “Decomposability of Nonnegative Operators” at 24th Canadian Operator Symposium, University of Saskatchewan, Saskatoon, Canada in 1996.
- Paper presented at International Conference of WSDC on 'Women Entrepreneurship' at Punjabi University, Patiala in 2010.
- Paper presented on 'Global Economization of Reproductive Health of Women' at International Conference of WSDC, Udaipur University in 2010.
- Paper presented on 'Women Mathematicians' at WSDC Conference organized by Benaras University in 2010.
- Paper presented titled Wheel of Dhamma at the conference of Indian Congress of Asian & Pacific Studies at Jaipur in 2011.
- Presented a paper on “Value Formation in Higher Education” at International Conference, organized by School of Human Excellence, Loyola College (Autonomous, Chennai), 2016.

Talks/Lectures:

- Invited lecture on “Decomposability of Nonnegative Bands” at Conference on Functional Analysis and Its Applications organized by Department of Mathematics, University of Delhi in 1999.
- Invited lecture on ‘Campus Violence and Decline in Academics’ at India International Centre in 2001.
- Invited lecture on “10 unsolved problems of Mathematics”, at the UGC sponsored Seminar, “From Pythagoras to Andrew Wiles: Tracing the path of mathematics”, organized by the Dept. of Mathematics, Jesus and Mary College, 2008.
- Invited lecture on History of Mathematics at Rukmini Devi Public School, Rohini in De 2016.
- Invited lecture on “Mind and Mathematics: In Search of Eternal Truth” at Samvaad: A Panel Discussion Series organized by Alumnae Association of JDMC, University of Delhi on Mathematics: In All Walks of Life in 2022.

Participation as Resource Person:

- Resource person for Professional Development Programme Refresher Course on Linear Algebra and Analysis organized by CPDHE, University of Delhi in 1999.
- Resource person for Professional Development Programme Refresher Course on Linear Riemann and Lebesgue Integration organized by CPDHE, University of Delhi in 2016.
- Resource person for Professional Development Programme Refresher Course on Linear Algebra organized by CPDHE, University of Delhi in 2017.
- Resource person for Orientation Programme on Mathematics and Spirituality organized by CPDHE, University of Delhi in 2019.

- Resource person for Professional Development Programme Refresher Course on Mathematics in Nature organized by CPDHE, University of Delhi in 2020.

Orientation and Refresher Courses:

1. Refresher Course in Mathematics titled “Differentiation and Integration in Real Analysis” conducted by CPDHE, University of Delhi in 1997.
2. Refresher Course in Mathematics titled “Analysis” conducted by CPDHE, University of Delhi in 1998.
3. Refresher Course in Mathematics organized by Jamia Milia University in 1998.