



**MANAV RACHNA UNIVERSITY, FARIDABAD**

Sector 43, Aravalli Hills, Manav Rachna Campus Rd, Faridabad, Haryana 121004

### Dr. Aparna Vyas

**Designation:** Associate Professor

**Qualifications:** Ph.D. (Mathematics), Post Doc., Seoul South Korea

**Email:** aparna@mru.edu.in

**Experience:** 14 Years

[Google Scholar Profile](#)

[https://scholar.google.com/scholar?q=Aparna+Vyas&hl=en&as\\_sdt=2007&as\\_vis=1](https://scholar.google.com/scholar?q=Aparna+Vyas&hl=en&as_sdt=2007&as_vis=1)



**Research Interest:** Wavelet Analysis

#### + Journal Publication Details:

Vyas A., Kim G., Minimally Supported Frequency (MSF) d-Dilation Wavelets, Mathematics 2021, 9, 1284. <https://doi.org/10.3390/math9111284>, June 2021.(Scopus)

Yadav A., Fagna R., Vyas A., “Image Denoising Using Hard Threshold Techniques on Wavelet Transform and Shearlet Transform”, International Journal of Technical Research & Science (IJTRS), Volume VI Issue V, May 2021.

**DOI Number:** <https://doi.org/10.30780/IJTRS.V06.I05.003>

Bhatnagar R., Vyas A. (2021) “Comparative Study of Wavelet Transform and Wavelet Packet Transformation in Image Denoising using Thresholding Technique”, **International Journal of Technical Research & Science (IJTRS)**, Volume VI, Issue I, pp. (10-15) DOI: <https://doi.org/10.30780/IJTRS.V06.I01.002>

Sharma P., Dagar A., Sapna, Vyas A., Sand A. (2020) “Superabsorbent composites (SACs) based on Xanthan Gum -g-poly (Itaconic acid)/Kaolinite”, **Polymer Bulletin (Springer)** ISSN (e) 1436-2449 (p) 0170-0839 (**IF-1.8**) **In Press** UGC Journal No. 38108 DOI: <https://doi.org/10.1007/s00289-020-03436-5> (Scopus)

Sand A., Vyas A. (2020) “Superabsorbent Polymer based on Guar Gum-g-Acrylamide: Solution Polymerization”, **Journal of Polymer Research (Springer)** ISSN (e) 1572-8935, Volume 27, 43 pp. 1-10 (**IF-1.5**) DOI: <https://doi.org/10.1007/s10965-019-1951-x> (Scopus)

Vyas A and Joonki Paik, (2018) “**Applications of Multiscale Transforms to Image Denoising: Survey**” proceedings of “International Conference on Electronics, Informations and Communication” published by IEEE Explore, Hawaii, USA, January 24-27, 2018. (Scopus)

Vyas A. Kim G. (2017) “**Non-MSF MRA Wavelets**”, International Journal of Pure and Applied Mathematics, ISSN(p) 1311-8080, ISSN(o) 1314-3395, Vol. 115, No. 1, pp. (1-12), (2017). (SCI, Scopus Index) (Impact Factor: 0.635) **DOI:** <http://dx.doi.org/10.12732/ijpam.v115i1.1>

Sand A., Vyas, A., Gupta A. K., (2017) Synthesis and Characterization of Graphene Based Hydrogels: A Review BAOJ Chemistry, 2017, 3: 2 3: 025

<p>Vyas A. Paik J., (2016) "<b>Review of the Application of Wavelet Theory to Image Processing</b>", IEIE Transactions on Smart Processing and Computing, Vol. 5, No. 6, pp. (403-417), (KSCI, Scopus Index), eISSN: 2287-5255 DOI: <a href="https://doi.org/10.5573/IEIESPC.2016.5.6.403">https://doi.org/10.5573/IEIESPC.2016.5.6.403</a></p>
<p>Sand A., Vyas A., Gupta A. K., (2016) "<b>Graft copolymer based on (sodium alginate-g-acrylamide): Characterization and study of Water swelling capacity, metal ion sorption, flocculation and resistance to biodegradability</b>", International journal of biological macromolecules (Elsevier Ltd), 90 37-42 (IF- 5.1) DOI: <a href="https://doi.org/10.1016/j.ijbiomac.2015.11.085">https://doi.org/10.1016/j.ijbiomac.2015.11.085</a> (Scopus)</p>
<p>Vyas A. Shukla N. K. (2015) "<b>Multiresolution Analysis through low-pass filter on local fields of positive characteristic</b>", Complex Analysis and Operator Theory (Springer), ISSN: 1661-8254 (p) 1661-8262 (e) Vol. 9, No. 3 (2015), 631-652. (SCI, Scopus Index) DOI 10.1007/s11785-014-0396-9. (Impact Factor: 0.739) DOI: <a href="https://doi.org/10.1007/s11785-014-0396-9">https://doi.org/10.1007/s11785-014-0396-9</a></p>
<p>Vyas A., Dubey R. (2011) "<b>Non-MSF wavelets from six interval MSF wavelets</b>", International Journal of Wavelets, Multiresolution and Information Processing, (World Scientific), ISSN: 0219-6913 (o) 1793-690X (p) Vol. 9, No. 3 (2011), 375 – 385. (SCI, Scopus Index) (Impact factor: 1.32) DOI: <a href="https://doi.org/10.1142/S021969131100416X">https://doi.org/10.1142/S021969131100416X</a></p>
<p>Dubey R., Vyas A. (2010) "<b>Wavelets and the complete invariance property</b>", Matematicki Vesnik, Published by Drustvo Matematicara Sr Srbije, ISSN 0025-5165 (print), ISSN 2406-0682 (online) Vol. 62, No. 2 pp (183 -188). (SCI, Scopus Index) (Impact Factor: 0.37) DOI: <a href="http://emis.impa.br/EMIS/journals/MV/102/mv10209.pdf">http://emis.impa.br/EMIS/journals/MV/102/mv10209.pdf</a></p>
<p>Vyas A., Dubey R, (2010) "Wavelet sets accumulating at the origin", <b>Real Analysis Exchange</b>, Published by <b>Michigan State University Press, USA</b>, ISSN: 1930-1219, 0147-1937, Vol. 35, No. 2 pp (463 – 478). (SCI, Scopus Index) (<b>Impact Factor: 0.14</b>) <b>UGC Journal No. 10045</b> DOI: <a href="https://doi.org/10.14321/realanalexch.35.2.0463">https://doi.org/10.14321/realanalexch.35.2.0463</a></p>
<p>Vyas A. (2009), "Construction of non-MSF non-MRA wavelets for L2<sup>®</sup> and H2<sup>®</sup> from MSF wavelets", Bulletin of the Polish Academy of Sciences, Mathematics, Poland, ISSN: 0239-7269(p) 1732-8985(e) Vol. 57, No. 1 pp (33 – 40). (SCI, Scopus Index) (Impact Factor: 0.26) DOI: <a href="https://yadda.icm.edu.pl/baztech/element/bwmeta1.element.baztech-article-BAT5-0036-0004">https://yadda.icm.edu.pl/baztech/element/bwmeta1.element.baztech-article-BAT5-0036-0004</a></p>

+ **Conference Publications:**

<p>Fagna R., Yadav A., <b>Vyas A.</b>, Noise Removal from Images Using Shearlet Transform, published in conference proceeding <b>International 19 May Innovative Scientific Approach Congress-V, Turkey</b> on 19 May, 2021, ISBN:978-605-74407-7-8</p>
<p>Yadav A., Fagna R., Vyas A. (2020) "<b>Image Denoising using wavelet Transform and Shearlet Transform</b>" <b>published in conference proceedings</b> "Middle East International Conference On contemporary scientific studies- IV, held at Beirut, Lebanon, Turkey between November 1-3 ,2020, ISBN No.: 978-625-7279-29-1.</p>
<p>Nehra R., Joseph R., and Vyas A. (2020) "<b>Comparison of Image Denoising Using Wavelet Transform and Wavelet Packet Transform</b>" published in conference proceedings Tokyo Summit II: 2nd International Conference on Innovative Studies of Contemporary Sciences, Tokyo, Japan, pp. 108-115, August 2020, ISBN No. 978-625-7139-21-2</p>

Bhatnagar R., Vyas A. (2020) “**Image Processing using Multiscale Transform: A Review**” published in conference proceedings Tokyo Summit II: 2nd International Conference on Innovative Studies of Contemporary Sciences, Tokyo, Japan, pp. 108-115, August 2020, ISBN No. 978-625-7139-21-2

**+ Book/Chapter Publications:**

Text Book: “**Multiscale Transforms with Application to Image Processing**”, eBook ISBN:978-981-10-7272-7 Hardcover ISBN: 978-981-10-7271-0, published by - Springer Nature Singapore Pte Ltd., Year:2018, Authors- **Aparna Vyas**, Soohwan Yu, Joonki Paik

Text Book: “**Non-MSF Wavelets**”, DOI:978-620-010318-5, published by - Lambert Academy Publishing, Year: 2019, Authors: Aparna Vyas

Introductory Chapter: Organic Polymer-Graft Copolymers in **Organic Polymers" ISBN Number 978-1-78984-573-0** published by-Intechopen London United Kingdom Year: 2020 Authors: Sand A., Vyas A.

**+ Administrative Responsibilities:**

“R&D Team” in MRU from July, 2018 to Till date

“MRU Magazine” in MRU from July, 2020 to Till date

“MRU Ph.D. Co-coordinator ” in MRU from July, 2018 to September, 2019.

“Associate HOD” in Department of Mathematics, MRU from 01-06-2019 to till Now.

BOS, BOF, DRC member since 2018 to till date

**+ Professional Affiliation:**

Life Member of Indian Mathematical Society(IMS)

Life Member of Ramanujan Mathematical Society (RMS)

Life member of GCNC, India

International associations for Engineers (IAENG) Societies membership.

Life member of the IAENG Society of Imaging Engineering.

Annual member of the IEEK.

Editorial Board Member of Research World Committee

[<http://researchworld.org/committee.php>]

Advisory Board Member, Mathematics and Applied Mathematics, Cambridge Scholars

Publishing [<http://www.cambridgescholars.com/t/AdvisoryBoardAparna>]

Member of the Editorial Manager online submission and peer review tracking system for International Journal of Wavelets, Multiresolution and Information Processing.

**+ Expert Talk Delivered**

Invited as speaker in “Applications of Wavelets” to Talk on “Introduction to Wavelets” on May 05, 2014 in the Department of Mathematics, Manav Rachna College of Engineering, Haryana.

**+ Event Organized (Conference/Seminar/FDP/Workshops)**

Conducted FDP on “Applications of Wavelets” From May 05-06, 2014, at Department of Mathematics, Manav Rachna College of Engineering, Haryana.

**+ Awards**

Research World Excellent Paper Award in the “International Conference on Applied Physics and Mathematics” organized by research world, Seoul, South Korea, on August 18-19, 2017.

BK21 Plus Fellowship, Seoul, South Korea[2016-2018]