

Profile of Professor (Dr.) Pankaj Jain

CURRENT POSITION AND CONTACT

Professor
Department of Mathematics
South Asian University
Akbar Bhawan, Chanakya Puri
New Delhi-110021, India

Emails : pankaj.jain@sau.ac.in and pankajkrjain@hotmail.com

EXPERIENCE

Teaching – 30 years Research – 32 yrs

EDUCATION

- Bachelors (Hans Raj College, DU, 1984)
- Masters (Hans Raj College, DU, 1986)
- M.Phil (DU, 1987)
- Ph.D. (DU, 1996)

RESEARCH INTERESTS

- Function Spaces (with and without weights) : Lebesgue Spaces, Grand Lebesgue Spaces, Lorentz Spaces, Grand Lorentz Spaces, Orlicz Spaces, Banach Function Spaces, Sobolev Spaces and their variants.
- Weighted Norm Inequalities
- Integral Operators
- Fourier Analysis
- Numerical Analysis
- Quantum Calculus

BOOKS

- P.K. Jain, V.P. Gupta and Pankaj Jain, *Lebesgue Measure and Integration*, New Age International Publishers, 2nd Edition, 2011.
- D. Edmunds, P.K. Jain, **Pankaj Jain**, A. Kufner L.E. Persson and S. Saitoh, *Function Spaces and Applications*, CRC Press, New York/Narosa Publishing House, New Delhi, 2000. For European community the book has also been published by Alpha Science International Ltd., U.K.
- P.K. Jain and **Pankaj Jain**, *General Measure and Integration*, New Age International Publishers, 2013.
- **Pankaj Jain**, H.J. Schmeisser, *Function Spaces and Applications*, Springer, 2017.

COLLABORATORS

From Outside India

1. Chet Raj Bhatta (Nepal)
2. Prem bahadur Chand (Nepal)
3. Victor Burenkov (UK)
4. Francisco I. Chicharro (Spain)
5. David Edmunds (UK)
6. Alberto Fiorenza (Italy)
7. Henryk Hudzik (Poland)
8. Jivandhar Jnawali (Nepal)
9. Alois Kufner (Czech Kufner)
10. Dag Lukkassen (Norway)
11. Lars-Erik Persson (Sweden)
12. Saburoh Saitoh (Japan)
13. Hans Juergen Schmeisser (Germany)
14. Vladimir Stepanov (Russia)
15. Nils Svanstedt (Sweden)
16. Tamara Tarraykova (UK)
17. Elena Ushakova (Russia)
18. Anna Wedestig (Sweden)

From India

1. Bindu Bansal
2. Babita Gupta
3. Ved P Gupta
4. Rajesh Hassija
5. Pawan K Jain
6. Sandhya Jain
7. Saikat Kanjilal
8. Rajender Kumar
9. Santosh Kumari
10. Suket Kumar
11. Kriti Sethi
12. Arun P Singh
13. Monika Singh
14. Priti Upreti
15. Daulti Verma

Ph.D. STUDENTS

1. Bindu Bansal, 2002.
2. Arun Pal Singh, 2002.
3. Rajesh Hassija, 2003.
4. Babita Gupta, 2004.
5. Daulti Verma, 2009.
6. Suket Kumar, 2010.
7. Priti Upreti, 2011.
8. Sandhya Jain, 2015.
9. Monika Singh, 2017.
10. Santosh Kumari, 2018.
11. Jivan Jnawali, 2018.
12. Kriti Sethi, 2018.

RESEARCH PAPERS 69

Some Selected Recent Research Publications

1. Pankaj Jain, Santosh Kumari and Monika Singh, *Mixed norm inequalities for Lebesgue spaces*, Proc. National Acad. Sc. India, Section A, to appear.

2. Pankaj Jain, Saikat Kanjilal and Lars-Erik Persson, *Hardy-type inequalities over balls in R^N for some bilinear and iterated operators*, J. Ineq. Special Funct., to appear.
3. Prem Bahadur Chand, Francisco I. Chicharro, Pankaj Jain and Kriti Sethi, *Optimal fourth order Weerakoon-Fernando type methods for multiple roots and their dynamics*, Medit. J. Math., to appear.
4. Pankaj Jain, Rajender Kumar and Akhilesh Prasad, *Generalized Schwartz Type Spaces and LCT Based Pseudo Differential Operator*, Trans. A Razmadze Math. Inst., to appear.
5. Pankaj Jain, Arun Pal Singh, Monika Singh and Vladimir D. Stepanov, *Sawyer duality principle in grand Lebesgue spaces*, Math. Nachr. 292 (2019), 841-849.
6. Pankaj Jain, Saikat Kanjilal, Vladimir D. Stepanov and Elena Ushakova, *Bilinear Hardy Steklov operators*, Math. Notes, 104 (2018), 223-232.
7. Pankaj Jain, Saikat Kanjilal, Vladimir D. Stepanov and Elena Ushakova, *On Bilinear Hardy Steklov operators*, Dokl. Math., 98 (2018), 634-637.
8. Pankaj Jain, Prem Bahadur Chand and Kriti Sethi, *Efficient numerical methods of Aitken type and their dynamics*, Eurasian Math. J., 9 (2018), 58-72.
9. Henryk Hudzik, Pankaj Jain and Rajender Kumar, *On generalized fractional cosine and sine transforms*, Georgian Math. J., 25 (2018), 259-270.
10. Pankaj Jain, Arun Pal Singh, Monika Singh and Vladimir D. Stepanov, *Sawyer duality principle in grand Lebesgue spaces*, Dokl. Math., 97 (2018), 18-19. Russian version: Dokl. Akad. Nauk., 478 (2018), 131-132.
11. Pankaj Jain and Kriti Sethi, *Aitken type methods with high efficiency*, Trans. A Razmadze Math. Inst., 172 (2018), 223-237.
12. Pankaj Jain and Monika Singh, *Hilbert inequality on grand function spaces*, Ricerche Mat., 67 (2018), 481-490.
13. Pankaj Jain and Sandhya Jain, *Generalized convolution inequalities and application*, Medit. J. Math., (2017), 14: 159. doi.org/10.1007/s00009-017-0961-3.
14. Pankaj Jain, Babita Gupta, *Mapping properties of Hardy-type operators involving general functions*, J Math. Ineq., 11 (2017), 551-564
15. Pankaj Jain, Monika Singh and Arun P. Singh, *Integral operators on fully measurable weighted grand Lebesgue space*, Indag. Math., 28 (2017), 516-526.
16. Pankaj Jain, Monika Singh and Arun P. Singh, *Duality of fully measurable grand Lebesgue space*, Trans. A Razmadze Math. Inst., 171 (2017), 32-47.
17. Pankaj Jain and Kriti Sethi, *Newton-type iterative methods for finding zeros Having higher multiplicity*, Cogent OA 3 (2016).
18. Pankaj Jain, Monika Singh and Arun P. Singh, *Hardy type integral inequalities for quasi-monotone functions*, Georgian Math. J., 2016.
19. Pankaj Jain, Chet Raj Bhatta and Jivandhar Jnawali, *Newton Type Iterative Methods with High Efficiency*, J. Num. Anal. Approx. Theory, 45 (2016), 14-26,
20. Pankaj Jain and Sandhya Jain, *O'Neil type convolution inequalities in Lorentz spaces*, Proc. National Acad. Sc. India, Section A, 86 (2016), 267-271.
21. Pankaj Jain, Monika Singh and Arun P. Singh, *Hardy type operators on grand Lebesgue spaces for non-increasing functions*, Trans. A Razmadze Math. Inst., 170 (2016), 34-46.
22. Pankaj Jain, Chet Raj Bhatta and Jivandhar Jnawali, *Modified Newton type methods with higher order convergence*, Jordanian J. Math. Stat., 8 (2015), 327-341.
23. Pankaj Jain, Sandhya Jain and Rajender Kumar, *On fractional convolutions and distributions*, Integral Transform and Special Functions, 26 (2015), 885-899.

24. Pankaj Jain and Sandhya Jain, *Weighted spaces related to Bochner integrable functions*, Georgian Math. J, 22 (2015), 71-79.
25. Pankaj Jain and Sandhya Jain, *Normability and duality in the two-dimensional Lorentz spaces*, Eurasian Math J., 5 (2014), 79-91.
26. Pankaj Jain and Sandhya Jain, *On Young type inequalities for generalized convolution*, Proc. A. Razmadze Math. Inst., 164 (2014), 45-61.
27. Pankaj Jain and Sandhya Jain, *On Anisotropic Weighted Sobolev Inequalities*, Proc. A. Razmadze Math. Inst., 158 (2012), 57-65.
28. **Pankaj Jain**, Lars-Erik Persson and Priti Upreti, *On Products of Generalized Orlicz Spaces*, Math. Ineq. Appl., 12 (3) (2012), 663-674.
29. **Pankaj Jain** and Santosh Kumari, *On grand Lorentz spaces and the maximal operator*, Georgian Math. J., 19 (2) (2012), 235-246.
30. Alberto Fiorenza, Babita Gupta and **Pankaj Jain**, *Hardy inequalities in Lebesgue space with mixed norm*, Canadian Math. Bull., 54 (4) (2011), 630-644.
31. Victor Burenkov, **Pankaj Jain** and Tamara Tararykova, *On boundedness of the Hardy operator in Morrey-type spaces*, Eurasian Math J., 2 (1) (2011), 52-80.
32. **Pankaj Jain** and Suket Kumar, *Weighted inequalities of Hardy-type on amalgams*, Real Analysis Exchange, 34 (2) (2009), 483-499.
33. Alberto Fiorenza, Babita Gupta and **Pankaj Jain**, *Maximal theorem for weighted grand Lebesgue spaces*, *Studia Math.*, 188 (2) (2008), 123-133.
34. **Pankaj Jain** and Daulti Verma, *Multidimensional Mean inequalities in certain Banach functions spaces*, *Real Analysis Exchange*, 33 (1) (2008), 125-141.
35. Alberto Fiorenza, Babita Gupta and **Pankaj Jain**, *Compactness of integral operators in Lebesgue space with mixed norm*, Math. Ineq. Appl., 11 (2) (2008), 335-348.
36. **Pankaj Jain**, Lars-Erik Persson and Priti Upreti, *Inequalities and properties of some generalized Orlicz classes and spaces*, Acta Math. Hungar., 117 (1-2) (2007), 161-174.
37. **Pankaj Jain**, *Steffensen-type methods for solving non-linear equations*, Appl. Math. Comp., 194 (2) (2007), 527-533.

INVITED TALKS

Outside India

1. Luleå University of Technology, Sweden, March 1999.
2. Narvik University of Technology (HIN), Norway, September 1999.
3. Luleå University of Technology, Sweden, December 1999.
4. University of Barcelona, Spain, March, 2000.
5. Academy of Sciences, Czech Republic, July 2002.
6. Istituto per le Applicazioni del Calcolo "Mauro Picone" - Sezione di Napoli, Consiglio Nazionale delle Ricerche (C.N.R.), Italy, June 2003.
7. Dipartimento di Costruzioni e Metodi Matematici in Architettura, Università di Napoli, Italy, June 2003.
8. University of Sevilla, Spain, June 2003.
9. Academy of Sciences, Czech Republic, May 2006.
10. Luleå University of Technology, Sweden, June 2009.
11. University of Vienna, Austria, July 2009.

12. University of Oulu, Finland, June 2010.
13. University Federico II of Naples, Italy, May/June 2011.
14. Alfred Renyi Institute of Mathematics, Budapest, Hungary, June 2011.
15. Friedrich Schiller University of Jena, Germany, September 2011.
16. Southern Illinois University, USA May 2014.
17. Vanderbilt University, USA, May 2014.
18. Vienna University, Austria, June 2014.
19. Czech Academy of Sciences, Czech Republic, June 2014.
20. Babes-Boylai University, Romania, July 2015.
21. Adam Mickiewicz University, Poland, June 2016.
22. Charles University, Prague, Czech Republic, July 2016.
23. Charles University, Prague, Czech Republic, May - June 2017.
24. Novosibirsk State University, Novosibirsk, Russia, August 2017.
25. Adam Mickiewicz University, Poznan, Poland, September 2017.
26. University of Nis, Serbia, May 2018.
27. University of Kragujevac, Serbia, May 2018.
28. Vienna University, Austria, June 2018.
29. Tribhuvan University, Butwal, Nepal, January 2019.
30. Kutahya Dumlupinar University, Turkey, July 2019.

In India

1. University of Jammu, February 1995.
2. University of Jammu, February 1996.
3. Jamia Millia Islamia, August 1996.
4. University of Delhi, December 1997.
5. Banaras Hindu University, March 1998.
6. Government Autonomous Model Science College, Gwalior, March 1995.
7. IMS Conference, Aligarh Muslim University, December 1995. (*Paper Presentation*)
8. University of Delhi, November 1996. (*Paper Presentation*)
9. University of Calcutta, November 2002.
10. University of Jammu, February 2004.
11. University of Jammu, February 2005.
12. University of Gwalior, July 2009.
13. Calcutta Mathematical Society Conference, Kolkata, December 2010.
14. Indian Society of Mathematics and Mathematical Sciences Conference, Gorakhpur February 2011.
15. Calcutta Mathematical Society Conference, Kolkata, September 2011.
16. Indian Mathematical Society Conference, Varanasi, (to take place in January 2013)
17. Indian Society of Mathematics and Mathematical Sciences, Gorakhpur, February 2013.

18. Aligarh Muslim University, Aligarh, February 2014.
19. Aligarh Muslim University, Aligarh, December 2015.
20. MD University, Rohtak, March 2017.
21. Aligarh Muslim University, Aligarh, November 2017.
22. Indian Mathematical Society Conference, Shri Venkateshwara University, Tirupati, December 2017.
23. Central University of Jammu, Jammu, October 2018.
24. Indian Mathematical Society Conference, Shri Mata Vaishno Devi University, Jammu, November 2018.
25. Calcutta Mathematical Society Conference, Kolkata, December 2018.

GRANTS AND FELLOWSHIPS

International Grant

1. Indo-Russian S&T Project Grant – **DST** (2016-2019) (on going)

Research Grants

2. Research Grant – **UGC** (1997-99) (Project Completed)
3. Research Grant – **UGC** (2002-04) (Project Completed)
4. Research Grant for Three years (2005-07) – **DST** (Project Completed)
5. Research Grant for Three years (2005-08) – **CSIR** (Project Completed)
6. Research Grant for Three years (2009-12) – **NBHM** (Project Completed)
7. Research Grant for Three years (2010-13) – **DST** (Project Completed)
8. Research Grant for Three years (2015-18) – **CSIR** (Project Completed)
9. Research Grant MATRICS (2018-2021) – **DST** (On going)

Fellowships

10. Exchange Programme to U.K. – **Royal Society and INSA** (1998, 3 months)
11. BOYSCAST Fellowship for Sweden – **DST** (1999, 1 year)
12. Exchange Programme to U.K. – **Royal Society and INSA** (2003, 3 months)
13. Indo-UK Network Programme – **Royal Society and DST** (2006, 3 months)
14. Exchange Programme to Germany – **INSA**
15. Exchange Programme to Poland – **INSA, Polish Academy** (2016, one month)

Travel Grants

16. Travel Grant for International Conference at Czech Republic – **NBHM** (1998)
17. Travel Grant for International Conference at Memphis, USA – **NBHM** (2001)
18. Travel Grant for International Conference at Czech Republic – **DST, CSIR** (2002)
19. Travel Grant for International Conference at Spain – **NBHM** (2003)
20. Travel Grant for International Conference at Czech Republic – **DST, UGC** (2006)
21. Travel Grant for International Conference at Croatia – **CSIR** (2008)
22. Travel Grant for international Conference at Finland – **DST** (2010)
23. Travel Grant for International Conference at Germany – **University of Delhi** (2011)
24. Travel Grant for International Conference at Romania – **DST** (2015)
25. Travel Grant for International Conference at Czech Republic – **CSIR** (2017)

(* Due to certain reasons, I could not travel)

EDITORIAL BOARD MEMBERSHIP

- International Journal of Applied Mathematical Sciences
- Eurasian Mathematical Journal
- Journal of Inequalities and Special Functions
- Advances in Inequalities and Applications

MATHEMATICAL GENEALOGY

Banach – Mazur – Orlicz – Maligranda – Persson – Pankaj Jain

MEMBERSHIP OF THE LEARNED SOCIETIES

- Indian Mathematical Society - Life Member
- Allahabad Mathematical Society - Life Member
- Jammu Mathematical Society - Life Member
- American Mathematical Society (2003 – Till Date)