

Sachi Srivastava

Professor
Department of Mathematics
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- **Employment:**

- Feb 2017 onwards. Professor, Department of Mathematics, University of Delhi, Delhi
- Feb 2010 - Feb 2017. Associate Professor, Department of Mathematics University of Delhi, Delhi.
- Feb 2007 - Jan 2010. Reader, Department of Mathematics University of Delhi, Delhi.
- Jul 2002 to Jan 2007. Senior Lecturer, Department of Mathematics Lady Shri Ram College, University of Delhi.
- Jul 1995 to Jul 2002. Lecturer, Department of Mathematics Lady Shri Ram College, University of Delhi. (On study leave from Oct 1998 to July 2002)

- **Education:**

Degree	University	Year	Percentage
D.Phil	University of Oxford	2002	N.A.
M.Phil	University of Delhi	1995	First Class
MA	Lady Shri Ram College, Univ. of Delhi	1994	93
BA(H)	Lady Shri Ram College, Univ. of Delhi	1992	92.3

- **Professional recognition, awards, fellowships:**

- Indian National Science Academy Teachers Award 2020
- Grant from the London Mathematical Society under Scheme 2 to visit the UK, June 2015.

- Commonwealth Research Award Association of Commonwealth Universities, UK, 1998.
 - National Board for Higher Mathematics Research Award Department of Atomic Energy, Government of India, 1994.
 - National Board for Higher Mathematics Award for Masters program Department of Atomic Energy, Government of India, 1992.
 - 1991 - 1994 Best Student in Mathematics (four consecutive years) Lady Shri Ram College.
- **Specialization and Area of Interest:** Functional Analysis, Operator Theory, Abstract Differential Equations.
 - **Professional training and research experience:**
 - July 2022, Invited Visitor, Department of Mathematics, Newcastle University, Newcastle, UK.
 - March 2019 to May 2019, Visiting researcher, Department of Mathematics, University of California, Berkeley, USA.
 - June 2015. Invited visitor, Mathematical Institute, University of Oxford, UK.
 - Dec 2005 to Nov 2006, Post doctoral fellow, Department of Mathematics Indian Institute of Science, Bangalore. (On academic leave from Lady Shri Ram College)
 - April 2005 to May 2005, Visiting scholar, Department of Mathematics, University of Berkeley,US.
 - May 2004 to July 2004, Invited visitor, Mathematical Institute, University of Oxford, UK.
 - May 2003 to July 2003. Visiting research scholar, Department of Applied Analysis, University of Ulm, Germany.
 - **Administrative Duties**
 - Jul 2012 - Jun 2015, April 2018 - June 2021 : Incharge, Department of Mathematics, University of Delhi South Campus, New Delhi.

- Convener, Pre-PhD Seminars
- Convener, Committee for PhD admissions
- Convener, Committee for Recognition of Supervisors
- Member, Empowered committee, M.Phil programme, 2014
- Convenor, Analysis syllabus committee, 2013

- **Projects**

- August 2021 -: DST-SERB VAJRA Faculty Scheme.
- April 2021-March 2022: Institute of Eminence Faculty Research Grant *Semigroups of positive operators on C^* algebras and derivations.*
- April 2020-March 2021: Institute of Eminence Faculty Research Grant *Composition operators that are close to isometry.*
- Dec 2020 -: SERB Core Research Grant *Asymptotics of Solutions of Linear and Non-Linear Delay Differential Equations.*
- February 2020 -: DST-SERB MATRICS grant *Quantum Dynamical Semigroups and perturbations.*
- Jan 2014 - Jan 2017: DST FAST Track Scheme *Semigroups on non-commutative L_p spaces.*

- **Research Supervision**

Supervision of PhD thesis

1. Mahesh Kumar. Asymptotics of composition operators on Banach spaces of holomorphic functions. May 2019.
2. Shard Rastogi. Operator Semigroups for Delay Differential Equations. October 2019.
3. Abhay Kumar. Supercyclic C_0 semigroups. 2021.
4. Tarachand Prajapati. Operator semigroups on non-commutative L_p spaces. August 2021.
5. Dharmendra Kumar. Conservativity, Stability and Perturbations of Quantum Dynamical Semigroups. April 2022.
6. Jatin Anand. Composition Operators and Invariant subspaces. March 2022.

7. Pappu Anuragi. Positive C_0 -semigroups. (Ongoing)
8. Praveen Sharma. Non-linear Semigroups. (Ongoing)
9. Pooja. (ongoing)

Supervision of awarded M.Phil dissertations

1. Sahiba Arora. Eventually positive C_0 semigroups. March 2019.
2. Himani Sharma. Semigroups of Composition Operators. December 2017.
3. Geeta. Isometries and Semigroups of Isometries on Hilbert C^* Modules. August 2017.
4. Reena. Quasi Hyperbolic Semigroups of Operators. December 2016.
5. Rachna Shokhanda. Cayley Transform of the Generator of a C_0 Semigroup. Oct 2015.
6. Mahesh Kumar. Norm Continuity of C_0 Semigroups, June 2011.

• **Association with professional bodies**

- Member, Executive Committee, Ramanujan Mathematical Society , 2022 -
- Convener, Research Publications Committee, Ramanujan Mathematical Committee, 2022 -
- Member, Executive Committee, Indian Women in Mathematics, NBHM sponsored project, 2016-
- Core Member, Center for Indo-Canadian Studies, University of Delhi, 2022-
- Member,
 - * American Mathematical Society and
 - * Ramanujan Mathematical Society

• **List of publications**

1. Shard Rastogi, Sachi Srivastava. *Polynomial Stability for abstract damped wave equations with delay.* (2023) Under communication.

2. Ralph Chill, Praveen Sharma, Sachi Srivastava. *Real interpolation of functions with applications to accretive operators on Banach spaces*. arXiv:2206.13400
3. Dharmendra Kumar, Kalyan B. Sinha, Sachi Srivastava. *Quantum dynamical semigroups and stability*. J. Math. Anal. Appl. 516 (2022), no. 1, Paper No. 126492, 21 pp.
4. Jatin Anand and Sachi Srivastava. *A Class of Invariant Subspaces of weighted composition operators on Hardy-Hilbert Spaces*. Anal. Math. 48 (2022), no. 4, 925-937.
5. Jatin Anand, Niteesh Sahani and Sachi Srivastava. *On extension of Beurling Helson Lowdenslager theorem*. Advances in Operator Theory. 6(4) 2021.
6. Franco Fagnola, Dharmendra Kumar and Sachi Srivastava. *A Quantum Laugerre Semigroup*. Indian Journal of Pure and Applied Mathematics. 52, (2021), 1201-1200.
7. Shard Rastogi and Sachi Srivastava. *Strong and Polynomial Stability for Delay Semigroups*. Journal of Evolution Equations. 21 (2021), no. 1, 441-472.
8. Dharmendra Kumar, Kalyan B. Sinha and Sachi Srivastava. *Stability of the Markov (Conservativity) Property under Perturbations*. Infin. Dimens. Anal. Quantum Probab. Relat. Top. 23 (2020), no. 2, 2050009, 20 pp.
9. Abhay Kumar and Sachi Srivastava. *Supercyclicity Criteria for C_0 -Semigroups*. Adv. Oper. Theory 5 (2020), no. 4, 1646-1666.
10. Anand, J., Bhattacharyya, T. and Srivastava, S. *Some thoughts on composition operators on subspaces of the Hardy space*. Arch. Math. (Basel) 114, no. 4, 431-444, 2020.
11. Isabelle Chalendar, Wolfgang Arendt, Mahesh Kumar and Sachi Srivastava. *Powers of composition operators: Asymptotic behaviour on Bergman, Dirichlet and Bloch spaces* J. Aust. Math. Soc. 108, no. 3, 289-320, 2020.
12. Tarachand Prajapati, K.B. Sinha and Sachi Srivastava. *Lyapunov property of positive C_0 semigroups on non-commutative L_p spaces*. Operators and Matrices, Volume 13, Number 4 (2019), 907-919.

13. Abhay Kumar and Sachi Srivastava. *Supercyclic C_0 semigroups, stability and somewhere dense orbits*. Journal of Mathematical Analysis and Applications, 476, 539-548, 2019.
14. Shard Rastogi and Sachi Srivastava. *Non-analytic growth bound and delay semigroups*. Semigroup Forum 99, no. 3, 788-813, 2019.
15. Mahesh Kumar and Sachi Srivastava. *Convergence of powers of composition operators on certain spaces of Holomorphic functions defined on the right half plane*. Archiv der Mathematik, 110(5), 487-500, 2018.
16. Isabelle Chalendar, Wolfgang Arendt, Mahesh Kumar and Sachi Srivastava. *Asymptotic behaviour of powers of composition operators on Banach spaces of Holomorphic functions*. Indiana Univ. Math. J. 67 (2018), 1571-1595
17. K.B. Sinha and Sachi Srivastava. *Theory of Semigroups and Applications*. TRIM series, Hindustan Book Agency, 2017. Electronic version published by Springer.
18. Sharad Rastogi and Sachi Srivastava. *Quasi-hyperbolicity and delay semigroups*. Abstract and Applied Analysis. Article ID 1984874. 2016.
19. C.J.K. Batty, R. Chill and S. Srivastava. *Maximal Regularity for some Interpolation Sapces*. *Operator semigroups meet Complex Analysis, Harmonic Analysis and Mathematical Physics* Operator Theory: Advances and Applications, Vol 250, 49-66, Birkhauser, 2015.
20. B.V.R. Bhat and S. Srivastava. *Stability of Quantum dynamical semigroups*. *Operator semigroups meet Complex Analysis, Harmonic Analysis and Mathematical Physics* Operator Theory: Advances and Applications, Vol 250, 67-85, Birkhauser, 2015.
21. C.J.K.Batty, R. Chill and S.Srivastava. *Maximal regularity for certain non-autonomous second order Cauchy problems*. Studia Mathematica. no. 256, (2008), 205 - 223.
22. R. Chill and S. Srivastava. *L_p Maximal regularity for second order Cauchy problems is independent of p* . Boll. Unione Mat. Ital., Series IX, Vol. 1 - 1, (2008), 147 - 158.

23. R. Chill and S. Srivastava. *Lp Maximal regularity for second order Cauchy problems*. M. Zeitschrift, 251 (2005), No. 4, 751 -781.
24. C.J.K. Batty and S. Srivastava. The non-analytic growth bound of a C_0 semigroup and inhomogeneous Cauchy problems. Journal of Differential Equations, 194 (2003) 300-327.
25. C.J.K. Batty, M. Blake and S. Srivastava. A non-analytic growth bound for semigroups of operators and Laplace transforms. Integral Equations and Operator Theory, Vol. 45 (2003), No. 2, 1251-54.

• **Conferences Organised**

- July 2023: Organiser, Annual Conference of Indian Women in Mathematics, held at IISER Bhopal.
- December 2022: Member, Scientific Committee, Annual Conference of Indian Women in Mathematics, held at IISER Pune.
- January 2022: Convener, Organising Committee, Annual conference of Indian Women in Mathematics held in collaboration with Banasthali Vidyapeeth, Rajasthan.
- June 2018: Member, Scientific Committee, Annual conference of Indian Women in Mathematics, held at Shiv Nadar University, Gautam Buddh Nagar.
- June 2018: Member, Organising Committee, Annual Conference of the Ramanujan Mathematical Society, held at University of Delhi, Delhi.
- December 2017: Convener, International Workshop on Recent Advances in Operator Semigroups, held at University of Delhi, Delhi.
- April 2015: Convener, Conference on Indian Women and Mathematics, held at University of Delhi South Campus, Delhi.
- Sept 2013: Convener, Organising Committee, National Research scholars Seminar, Department of Mathematics, University of Delhi, Delhi.
- July 2012 - Jun 2015: Organiser, *South Campus Colloquium Lectures in Mathematics* monthly series.

- July 2015 - present, Member, Seminar Committee, Department of Mathematics, University of Delhi, Delhi.
- Oct 2009, Member, Organising Committee, Conference on *Advances in Mathematics - Focus on Women In Mathematics* Jawaharlal Nehru University, New Delhi.

- **Special Lectures/Talks/Outreach**

- May 2023: Workshop session for Mathematics teachers, Delhi Public Schools Society, HRDC, Greater NOIDA
- September 2022: Centre for Professional Development in Higher Education (CPDHE), UGC-HRDC, University of Delhi, Refresher Course in Mathematics on the theme *Mathematics with an Emphasis on Topology, Analysis and Applications* for University and College teachers.
- December 2021: Advanced Foundation School II, National Centre for Mathematics, held at Shiv Nadar University, U.P.
- November 2021: Alumna Retreat, Lady Shri Ram College.
- September 2021: Refresher Course in Mathematics, organised by Teaching Learning Centre, Ramanujan College, University of Delhi.
- June 2017: ICTP-EAUMP Summer School on Modern Functional Analysis, Nairobi, Kenya.
- May 2015: Advanced Foundation School in Functional Analysis, held at Shiv Nadar University, U.P.

- **Conference and Seminar participation**

- February 2023: Invited Speaker, Shivaji College University of Delhi, Analysis and its Applications. 27-28 February 2023.
- July 2022: Invited Speaker, New Challenges in Operator Semigroups, St. John's College Oxford, University of Oxford, 18 -22 July 2022.
- December 2021: Invited Speaker, 87th Annual Conference of the Indian Mathematical Society, MGM University, 4-7 Dec. 2021.

- June 2021: Invited Speaker, Symposium on Operator Semigroups and Evolution Equations, 8th European Conference of Mathematics, Portoroz, Slovenia, 22 - 26 June 2021.
- February 2021: Invited Speaker, Analysis Seminar, University of Newcastle, Newcastle, UK.
- February 2021: Invited Speaker, Luma Day on Semigroups and Differential Equations, Universidad de Zaragoza, Zaragoza, Spain.
- February 2019: Invited Speaker, IWM Regional Conference, HBCSE Mumbai.
- August 2016: Invited speaker, International Conference on recent Advances in Mathematics and Applications, University of Rajasthan, Jaipur.
- June 2016: Invited Speaker, Annual conference of Indian Women in Mathematics, University of Hyderabad, Hyderabad.
- December 2015: Invited Speaker, 14th Discussion meeting on Harmonic Analysis, University of Delhi, Delhi.
- November 2015: Pure Mathematics Seminar, Department of Mathematics, University of New South Wales, Sydney, Australia.
- June 2015: Invited Speaker, Pure Mathematics Seminar, Department of Mathematics, University of Newcastle, U.K.
- June 2015: Invited Speaker, Pure Mathematics Colloquium, Lancaster University, U.K.
- June 2015: Invited Speaker, Analysis Seminar, Leeds University, U.K.
- June 2015: Invited Speaker, Functional Analysis Seminar, Oxford University, UK.
- June 2013, Invited Speaker, Symposium *Operator semigroups meet Mathematical Physics, Complex Analysis and Harmonic Analysis* held at Hernhut, Germany. Talk title *Stability of Quantum Dynamical Semigroups*.
- May 2009, Invited Speaker, Analysis Symposium, 24th Annual Conference of Ramanujan Mathematical Society, held at ISI Bangalore.

- Nov 2007, Invited Speaker, Mathematics Colloquium, Tata Institute of Fundamental Research, CAM, Bangalore.
- Dec 2006, Invited Speaker, Department Seminar, Department of Mathematics, Indian Institute of Science, Bangalore.
- Dec 2005, Conference on Operator Theory and Operator Algebras III, Bangalore, Lecture title *Non analytic bounds for semigroups*
- May 2005, Invited speaker, Analysis seminar, Department of Mathematics, University of California, Berkeley, USA.
- June 2004, Invited speaker, Functional Analysis seminar, Mathematical Institute, Oxford, U.K.
- June 2003, Invited speaker, Department of Applied Analysis, University of Ulm, Ulm, Germany.
- June 2003, TULKA Seminar on Semigroups of operators, Blaubeuren, Germany.
- May 2002, Invited speaker, Functional Analysis seminar, Department of Pure Mathematics, Bordeaux, France.
- May 2002, Invited speaker, Functional Analysis seminar, Mathematical Institute, Oxford, U.K.
- Sep 2001, Second International Conference on Semigroups of Operators : Theory And Applications, Rio de Janeiro, Brazil. Lecture title *A non-analytic Growth bound for C_0 semigroups*.
- Jun 2001, Conference on Evolution Equations and Semigroups, Blaubeuren, Germany. Lecture title *Laplace transforms and a non-analytic growth bound*.
- Apr 2000, ICMS workshop on Operator Algebras, Edinburgh, UK.
- Jun 1999, Internet Seminar on Semigroups organised by TULKA, Blaubeuren, Germany. Lecture title *Implemented Semigroups*.