

curriculum vitae

Dr. Sanjay Kumar
Assistant Professor

Department of Mathematics
Central University of Jammu

✉ sanjay.math@cuammu.ac.in, sanjaykmath@gmail.com

🌐 ORCID:0000-0002-2740-2339.

Education

- 2004 – 2009 📖 **Ph.D.**, Department of Mathematics, University of Jammu
Thesis title: *A Study of Weighted Composition Operators and Analytic Function Theory*
- 2001 – 2003 📖 **M.Sc.**, Department of Mathematics, University of Jammu
- 1998 – 2001 📖 **B.Sc.**, Govt. Degree College, Kathua, J & K

Employment History

- 15.09.2017 — Till date 📖 **Assistant Professor**, Department of Mathematics, Central University of Jammu
- 11.11.2016 – 11.09.2017 📖 **Assistant Professor**, Govt Degree College Ramban, Govt. of J&K
- 13.01.2012 – 11.10.2016 📖 **Assistant Professor**, Department of Mathematics, Central University of Jammu

Fellowship Awarded

- 2011 📖 **Post-Doctoral Fellowship**, *Institute Mittag-Leffler*, The Royal Swedish Academic of Sciences, Sweden
- 2010 📖 **Post-Doctoral Fellowship**, University of Málaga, Spain
- 2010–2012 📖 **NBHM, Post-Doctoral Fellowship**, Department of Atomic Energy (DAE), Govt. of India

Research Publications

Journal Articles



- 1 Dolkar, S., & Kumar, Sanjay. (2023b). Bicomplex weighted Bergman spaces and composition operators. *Adv. Appl. Clifford Algebras*, 33(4), 1–22. 🌐 doi:https://doi.org/10.1007/s00006-023-01291-x
- 2 Sharma, V., Kumar, Sanjay, & Dolkar, S. (2023). Generalized composition operators on Besov spaces. *Aust. J. Math. Anal. Appl.*, 18(1), 1–12. 🌐 doi:https://ajmaa.org/cgi-bin/paper.pl?string=v20n1/V20I1P18.tex
- 3 Kumar, Sanjay, & Sharma, V. (2022). Carleson measures on Dirichlet type spaces in the quaternionic unit ball. *Advances in Operator Theory*, 7(4), 1–16. 🌐 doi:https://doi.org/10.1007/s43036-022-00219-9
- 4 Kumar, Sanjay, & Manzoor, K. (2021). Slice regular Besov spaces of hyperholomorphic functions and composition operators. *Communications of the Korean Mathematical Society*, 36(4), 651–669. 🌐 doi:https://doi.org/10.4134/CKMS.c200012
- 5 Kumar, Sanjay, Sharma, S., & Manzoor, K. (2021). Quaternionic Fock space on slice hyperholomorphic functions. *Filomat*, 34(4), 1197–1207. 🌐 doi:https://doi.org/10.2298/FIL2004197K

- 6 **Kumar, Sanjay**, Manzoor, K., & Singh, P. (2017). Composition operators in Bloch spaces of slice hyperholomorphic functions. *Advances in Applied Clifford Algebras*, 27(2), 1459–1477.
[doi:DOI10.1007/s00006-016-0737-z](https://doi.org/10.1007/s00006-016-0737-z)
- 7 Gao, Y., **Kumar, Sanjay**, & Zhou, Z. (2016). Order bounded weighted composition operators mapping into the Dirichlet type spaces. *Chinese Ann. Math. Ser. B*, 37(4), 585–594.
[doi:DOI:10.1007/s11401-016-0956-6](https://doi.org/10.1007/s11401-016-0956-6)
- 8 Kumar, R., Singh, K., Saini, H., & **Kumar, Sanjay**. (2016). Bicomplex weighted Hardy spaces and bicomplex c^* -algebras. *Advances in Applied Clifford Algebras*, 26(1), 217–235.
[doi:DOI10.1007/s00006-015-0572-7](https://doi.org/10.1007/s00006-015-0572-7)
- 9 Cheng, Y., **Kumar, Sanjay**, & Zhou, Z. H. (2014). Composition operators on Dirichlet spaces and bloch space. *Acta Mathematica Sinica, English Series*, 30(10), 1775–1784.
[doi:DOI:10.1007/s10114-014-3171-y](https://doi.org/10.1007/s10114-014-3171-y)
- 10 Cheng, Y., **Kumar, Sanjay**, & Zhou, Z.-H. (2012). Weighted composition operators on Dirichlet-type spaces and related Q_p spaces. *Publicatione Mathematicae-Debrecen*, 80(1-2), 79–88.
[doi:DOI:10.5486/PMD.2012.4875](https://doi.org/10.5486/PMD.2012.4875)
- 11 **Kumar, Sanjay**, & Sharma, S. D. (2010). Schatten class weighted composition operators on weighted Bergman spaces of bounded symmetric domains. *Acta Scientiarum Mathematicarum*, 76(1), 193–206.
[doi:https://doi.org/10.1007/BF03549835](https://doi.org/10.1007/BF03549835)
- 12 **Kumar, Sanjay**. (2009). Weighted composition operators between spaces of Dirichlet type. *Rev Mat Complut*, 22(2), 469–488. [doi:https://doi.org/10.5209/rev_REMA.2009.v22.n2.16288](https://doi.org/10.5209/rev_REMA.2009.v22.n2.16288)
- 13 **Kumar, Sanjay**, & Sharma, S. (2009). On composition operators acting between Besov spaces. *Int. J. Math. Anal*, 3, 133–143. [doi:doi:10.12988/ijma](https://doi.org/10.12988/ijma)
- 14 **Kumar, Sanjay**, & Singh, K. J. (2008). Weighted composition operators between Besov spaces. *Extracta mathematicae*, 23(3), 217–234.
[doi:https://www.eweb.unex.es/eweb/extracta/Extracta_Published_volumes.html#23-3](https://www.eweb.unex.es/eweb/extracta/Extracta_Published_volumes.html#23-3)
- 15 **Kumar, Sanjay**, & Singh, K. J. (2007a). Weighted composition operators on weighted Bergman spaces. *Extracta mathematicae*, 22(3), 245–256.
[doi:https://www.eweb.unex.es/eweb/extracta/Extracta_Published_volumes.html#22-3](https://www.eweb.unex.es/eweb/extracta/Extracta_Published_volumes.html#22-3)
- 16 **Kumar, Sanjay**, & Singh, K. J. (2007b). Weighted composition operators on weighted Bergman spaces of bounded symmetric domains. *Proceedings Mathematical Sciences*, 117(2), 185–196.
[doi:https://link.springer.com/content/pdf/10.1007/s12044-007-0014-0.pdf](https://link.springer.com/content/pdf/10.1007/s12044-007-0014-0.pdf)
- 17 Sharma, A. K., Sharma, S. D., & **Kumar, Sanjay**. (2007). Weighted composition followed by differentiation between Bergman spaces. *International Mathematical Forum*, 2(33), 1647–1656.
[doi:http://dx.doi.org/10.12988/imf.2007.07148](https://dx.doi.org/10.12988/imf.2007.07148)




Conference Proceedings

- 1 **Kumar, Sanjay**. (2012). Weighted composition operators between Bergman spaces of a minimal bounded homogeneous domain. In *Proceedings of the 22nd annual conference of jammu mathematical society and a national seminar on complex analysis and related area from Feb. 24–25*, Department of Mathematics, University of Jammu.
- 2 **Kumar, Sanjay** and Sharma, S. (2010). Volterra composition operators between weighted Bergman spaces and weighted Banach spaces of holomorphic functions. In *Proceedings of the 20th annual conference of jammu mathematical society and a national seminar on topological algebraic analysis from Feb. 26–28*, Department of Mathematics, University of Jammu.






Research Project Sanctioned

- 2019  **Principal Investigator**, Research project funded by NBHM, DAE, Govt. of India.
2018  **Principal Investigator**, Start-up Grant-UGC-BSR (completed)







Life Time Member

- 2004  Jammu Mathematical Society (JMS)
2012  Ramanujan Mathematical Society (RMS)
2023  Indian Mathematical Society (IMS)





Conferences/Workshops Organized

- 12.03.2022–13.03.2022  **Sub-Organizing Committee Member**–*International Conference on Frontiers of Space Technology and Application for Humanity*, Central University of Jammu
25.02.2022–27.02.2022  **Organizing Committee Member**–Online workshop on *Introduction to LaTeX*, Department of Mathematics, Central University of Jammu
25.03.2021–26.03.2021  **Co-Convener**–Online National workshop on *Enhancing Pedagogical practices in Mathematics* under PMMMNMTTS, Ministry of Education, Govt of India organized by School of Education, Central University of Jammu
04.10.2018–05.10.2018  **Organising Secretary**–National Conference on *Recent Advances in Mathematics* in the Department of Mathematics, Central University of Jammu
25.03.2016–26.03.2016  **Organizing Committee Member**–Workshop in Computational Mathematics on *SageMath-An Open Source Mathematics Software* in the Department of Mathematics, Central University of Jammu

Academic Responsibilities



- 10.05.2022  **Member**–Board of Studies, Department of Mathematics, CUJ
16.12.2021  **Assistant Director**–Directorate of Physical Education, CUJ
02.06.2021  **Member**–CSIR, UGC Scholarships/ Fellowships Cell, CUJ
10.12.2020  **Member Secretary**–Overseas Admission Advisory Committee, CUJ.
12.10.2020  **Member**–CAS Committee, CUJ
19.07.2020  **Court Member**–Constitution of 3rd court of the central University of Jammu.

Ph. D. Students













- 2017  **Khalid Manzoor** (awarded)
Thesis Title: *Generalized Spaces of Functions and Linear Operators*
01.01.2019–30.05.2023  **Vishal Sharma** (awarded 15.09.2023)
Title: *Generalized composition operators on Besov type spaces and their related spaces*
01.09.2019–01.09.2024  **Stanzin Dolkar** (in Progress)
Title: *Holomorphic functions and weighted composition operators*
01.04.2021–01.04.2026  **Banu Sharma** (in Progress)
Title: *Some Product type operators on spaces of holomorphic functions*

Ph. D. Students (continued)






M.Phil Students

- 2013  **Khalid Manzoor** (awarded)
Thesis title: *Composition operators on the Bloch type spaces*
- 2014  **Ram Prakash** (awarded)
Thesis title: *Composition operators on Besov Spaces*

M.Sc. Students Project

- 2011–2013  Seven (completed)
- 2012–2014  Seven (completed)
- 2013–2015  Seven (completed)
- 2014–2016  Five (completed)
- 2015–2017  Six (completed)
- 2016–2018  Five (completed)
- 2017–2019  Five (completed)
- 2018–2020  Five (completed)
- 2019–2021  Nine (completed)
- 2020–2022  Eight (completed)
- 2021–2023  Eight (Completed)
- 2022–2024  Nine–(In Progress)




Talks/Paper Presentations

- 22.12.2023–25.12.2023  *Spaces of analytic function spaces and weighted composition operators* in the 89th annual conference of Indian Mathematical Society (IMS), Bits Pilani, Hyderabad campus Hyderabad.
- 03.03.2023 – 04.03.2023  *Holomorphic function spaces and weighted composition operators* in the International Conference on Space and Applied Sciences to be held at the Department of Mathematics, NSCBM Govt. Degree College, Hamirpur, HP.
- 06.01.2023–08.01.2023  *Carleson measures and generalized composition operators* in the International Conference on Algebra, Analysis and Applications to be held at the Department of Mathematics, Manipal Institute of Technology Manipal Academy of Higher Education, Manipal, India
- 30.03.2022–31.03.2022  *Essential norm estimates of weighted composition operators* in the international conference on Mathematical Analysis and applications to be held at the Department of Mathematics, BGSBU, Rajouri
- 02.11.2020–04.11.2020  *Boundedness, Compactness and essential norm estimates of weighted composition operators on Dirichlet type spaces* in the online international conference on Mathematical Analysis and applications to be held at Department of Mathematics, NIT Jamshedpur.

Talks/Paper Presentations (continued)

- 16.12.2019–18.12.2019  *Schatten class weighted composition operators on weighted Bergman spaces of bounded symmetric domains* in the International Conference on Analysis and its Applications (ICAA-2019) to be held at the Department of Mathematics, University of Jammu.
- 20.08.2019–22.08.2019  *Slice regular Besov spaces of hyperholomorphic functions and composition operators* in the Mathematics Research Scholar Meet to be held at the Department of Mathematics, University of Jammu.
- 18.06.2019–21.06.2019  *Weighted composition operators on spaces of holomorphic functions* in the National Conference on Mathematics and its Applications and Workshop on Algebra and Analysis to be held at the Department of Mathematics, Central University of Kashmir.
- 22.01.2019–24.01.2019  *Weighted composition operators on D_p spaces* in the international conference on Novel Trends in Pure and Applied Mathematics ICNTPAM-2019 to be held at the Department of Mathematics, University of Kerala.
- 11.01.2019–12.01.2019  *Composition operators on slice Regular Bloch type spaces of hyperholomorphic functions* in the international conference on Recent Advances in Interdisciplinary Sciences to be held at the Department of Electronics, University of Jammu.
- 13.12.2018–19.12.2018  *Weighted composition operators on Dirichlet-type spaces and related Q_p spaces* in the International conference on Operator Theory and Operator Algebras(OTOA-2018) held at Indian Statistical Institute (ISI) Bangalore.
- 15.02.2018–17.02.2018  *Order bounded Weighted composition operators mapping into the Dirichlet- type spaces* in the conference on Complex Analysis and Operator theory to be held at the Department of Mathematics, University of Jammu, Jammu.
- 10.09.2017–11.09.2017  *Order bounded Weighted composition operators mapping into the Dirichlet-type spaces* in the 2nd National Conference on Role of Mathematics and Computer Science in Advancement of Physics(RMCSAP2017) to be held at Department of Physics, Government Degree College Kathua.
- 23.02.2012–25.02.2012  *Weighted composition operators on Dirichlet-type spaces and related Q_p spaces* in the conference on Complex Analysis and Related Areas to be held at the Department of Mathematics, University of Jammu, Jammu.
- 26.09.2011–30.09.2011  *Weighted composition operators on Dirichlet type spaces* in the workshop on "Operator theory and integrable systems" to be held at Institut Mittag-Leffler, Djursholm, Sweden.
- 25.02.2011–27.02.2011  *Generalized weighted composition operators* in the 21st conference of Jammu, Mathematical Society and a national seminar on Analysis and Application held at Department of Mathematics, University of Jammu, Jammu.
- 08.08.2010–11.08.2010  *Weighted composition operators between spaces of Dirichlet type* in ICM Satellite Conference on Functional Analysis and Operator Theory held at Indian Statistical Institute (ISI) Bangalore.




Talks/Paper Presentations (continued)

- 26.02.2010–28.02.2010  *Carleson measure on Dirichlet type spaces* in the conference organized by Jammu Mathematical Society (JMS), University of Jammu.
- 25.02.2009–27.02.2009  *Composition operators on Besov spaces* in the conference organized by Jammu Mathematical Society (JMS), University of Jammu.
- 26.02.2008–28.02.2008  *Weighted composition operators on weighted Bergman spaces*, in the conference organized by Jammu Mathematical Society (JMS), University of Jammu.

Courses Attended

- 16.02.2023–20.02.2023  5-Days International Workshop on Applied Mathematics for Science and Engineering-Recent Advances held at VIT-AP University Andhra Pradesh, India
- 07.11.2022–16.11.2022  UGC-Approved Professional Development Programme on *Implementation of NEP-2020 for University and College Teachers*, IGNOU, New Delhi-110068
- 21.09.2022–04.10.2022  Two weeks Online International Faculty Development Programme on *Current Trends in Application of Mathematics* organized by the Department of Mathematics, School of Sciences and Humanities, Institute of Science and Technology, Avadi, Tamil Nadu
- 16.09.2022–22.09.2022  One week workshop on *Mathematics and its Applications* organized by Department of Mathematics, University of Kashmir, South Campus Anantnag
- 08.09.2022–12.09.2022  An International Workshop on *Trends in Analysis and Topology* organized by Malaviya National Institute of Technology, Jaipur
- 05.07.2021–10.07.2021  One week online Faculty Development Programme on Mathematics and Statistics in Emerging Field conducted by the Department of Mathematics, KPRIET
- 03.06.2021–06.06.2021  Online 2021 Indam workshop on Bergman projections and related topics to be held at the University of Vienna, Rome
- 10.05.2021–15.05.2021  One week online Faculty Development Programme on Linear Algebra and its Applications organised by the Department of Mathematics, BMS Institute of Technology and Management, Bangalore
- 16.03.2021–22.03.2021  One week online PDP on Emerging Trends in Assessment and Evaluation for Teaching and Learning organised by Centre for Assessment and Learning, School of Education, Central University of Jammu
- 22-28 February, 2021  One week online PDP on Innovation in Teaching organised by Centre for Learning and Pedagogic Studies, School of Education, Central University of Jammu
- 1.02.2021–7.02.2021  One week online PDP on Innovation in Teaching organised by Centre for Teachers Resource and Academic Support, School of Education, Central university of Jammu
- 14.12.2020–22.12.2020  Online Faculty Development Program in the department of Mathematics, Rathinam College of Arts and Science, Coimbatore
- 23.11.2020–27.11.2020  Online International Workshop on 'Mathematics Without Boundaries' in Department of Mathematics, NIT Srinagar
- 24.02.2020–28.02.2020  Workshop on Applications of Analysis(WAA-2020) in the Department of Mathematics, University of Jammu
- 08.06.2019–13.06.2019  Short term course on LaTeX Programming in the Department of Mathematics, NIT Jamshedpur








Courses Attended (continued)

- 20.05.2019–10.06.2019  Refresher Course at Central University of Jammu
- 06.12.2017–08.01.2018  General Orientation Course/ Faculty Induction Training Programme organized by PMMMNTT in collaboration with FIDC, Central University of Jammu
- 25.05.2018–08.06.2018  Inter-Disciplinary Refresher course organized by Faculty Induction Development Cell (FIDC), Central University of Jammu in collaboration with UGC SWAYAM Cell




Extra Curricular Activities

- 26.04.2023–28.04.2023  **Committee Member**–UDAAN-2023
- 06.05.2022  **Sub-Organizing Committee Member**–*Independent India and Jammu Kashmir*, Central University of Jammu
- 12.04.2022  **Sub-Organizing Committee Member**–*Curtain raiser Event of the launch of Indian National Calendar*, Central University of Jammu
- 28.02.2022  **Organizing Committee Member**–*National Science Day Celebration*, Central University of Jammu
- 07.10.2020  **Member**–Research Advisory Committee (RAC), Department of Computer Science and IT, CUJ
- 24.09.19  **Member**–Committee constituted for the campaign for the elimination of plastic, waste and distribution cloth bags, CUJ
- 2019  **Observer**–CUCET Examination
- 2018  **Member**–UGC SAWYAM MENTOR, CUJ
- 2012–2019  **Member**–Admission committee for Master Programme in Mathematics, CUJ
- 24.01.2018  **Member**–Preparing FIST Programme, CUJ
- 01.01.2017  **Assistant Coordinator**–IGNOU, GDC Ramban
- 2015–2016  **Member**–Nodal Teacher for Sensitization, Prevention and Redressal of Sexual Harassment (SPARSH) CUJ
- 2012–2013  **Member**–Editorial Board of Magazine, CUJ
- 2012  **Member**–Adhoc board of Research Studies for the School of Basic and Applied Sciences, CUJ












International Conferences/Workshops Attended

- 08.10.2014–10.10.2014  Workshop on *Essential Computing Techniques* to be held in the Department of Computer Science and IT, Central University of Jammu.
- 31.01.2012–05.01.2012  Workshop on *Recent Advances in Operator Theory and Operator Algebra* to be held at Indian Statistical Institute (ISI) Bangalore.
- 26.09.2011–30.09.2011  Workshop on *Operator theory and integrable systems* to be held at Institute Mittag-Leffler, Djursholm, Sweden.
- 12.09.2011–13.09.2011  Workshop on *Univalent functions and control* dedicated to 65th anniversary of Dmitri Prokhorov to be held at Institut Mittag-Leffler, Djursholm, Sweden.
- 19.07.2010–27.07.2010  *International Congress of Mathematicians (ICM)* to be held at Hyderabad, India.
- 08.07.2010–11.07.2010  ICM Satellite conference on *Functional Analysis and Operator Theory* to be held at Indian Statistical Institute (ISI) Bangalore.
- 09.01.2008–12.01.2008  International conference on *Operator Theory and related areas* to be held at Delhi.

International Conferences/Workshops Attended (continued)

- 28.12.2007–01.01.2008  10th Discussion meeting in Harmonic Analysis held at the Dept. of Mathematics, Indian Institute of Science, Bangalore.
- 31.03.2007–03.04.2007  International Congress and 8th Conference of *Indian Society of Industrial and Applied Mathematics (ISIAM) on Certain Emerging Areas in Applicable Mathematics* and 17th Annual Conference of JMS held in the Department of Mathematics, University of Jammu.
- 05.01.2006–15.01.2006  International Workshop on *Techimuller Theory and Moduli Problems* organized in HRI.

National Conferences/Workshops Attended

- 25.03.2016–26.03.2016  Workshop in *Computational Mathematics on SageMath -An Open Source Mathematics Software* organized by held Department of Mathematics, Central University of Jammu.
- 24.02.2012–25.02.2012  Conference on *Complex Analysis and Related Area* to be held at Department of Mathematics, University of Jammu.
- 25.02.2011–27.02.2011  21st conference of Jammu Mathematical Society and a national seminar on *Analysis and Applications* organized by the Department of Mathematics, University of Jammu, Jammu
- 26.02.2010–28.02.2010  20th annual conference organized by Jammu Mathematical Society and a national seminar on *Topological Algebraic Analysis* organized by Department of Mathematics, University of Jammu, Jammu
- 07.12.2009–12.12.2009  Workshop on Operator Theory, held at Institute of Mathematics and Applications, Bhubaneswar.
- 27.02.2009–28.02.2009  19th annual conference organized by Jammu Mathematical Society held in the Department of Mathematics, University of Jammu.
- 19.05.2008–21.05.2008  23rd annual meeting of the Ramanujan Mathematical Society, held at Indian Institute of Technology Kanpur.
- 14.05.2008–18.05.2008  National instructional workshop on *Harmonic Analysis*, held at Indian Institute of Technology Kanpur.
- 22.02.2007–25.02.2007  16th one-day student conference organized by Jammu Mathematical Society held in the Department of Mathematics, University of Jammu.
- 23.02.2005–25.02.2005  Conference organized by Jammu Mathematical Society held in the Department of Mathematics, University of Jammu.
- 04.10.2004–08.10.2004  Workshop on *Non-linear Dynamical Systems* organized by the Department of Mathematics, University of Delhi.