

CV



Name: Prof. Kallol Paul
Designation: Professor of Mathematics
Date of birth : 9th December, 1969
Contact Information : **Vice Chancellor**
Sadhu Ram Chand Murmu University of Jhargram
Jhargram 721514, West Bengal, India
e-mail: **kalloldada@gmail.com**
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Research Interests : Functional Analysis :
Orthogonality in normed spaces,
Geometry of Banach space, Operator Inequality.

Teaching Experience : Total: **27 years**
As Professor: **12 years** .

ORCID id : <https://orcid.org/0000-0002-7637-0812>
Researchgate : <https://www.researchgate.net/profile/Kallol-Paul>
Google Scholar **h-index** : 26, **i-10 index** : 63
Citations : **1930**

Education :

- PhD awarded from Jadavpur University in the year of 1999 under the joint supervision of Professor T.K.Mukherjee and Professor K.C.Das.
- Stood **First class First and Best Post Graduate (Gold Medalist)** in the Master of Science examination, 1993 from Jadavpur University.
- Stood **First class First and Best Graduate** in the Bachelor of Science examination, 1990 from Gauhati University.

Awards/Recognitions:

- **Senate member** of National Institute of Technology, Raipur.

- Delivered **15th Ganesh Prasad Memorial Award Lecture** in the 87th Annual Conference of the Indian Mathematical Society (IMS) - an International Meet held under the auspices of the Mahatma Gandhi Mission (MGM) University, Aurangabad, Maharashtra (India) during December 4-7, 2021.
- **Best research paper award** (Subhash Bhatt Award - 2021) for the paper “Characterization of k -smooth operators between Banach space”, published in Linear Algebra and its Applications, 586 (2020) 296-307, awarded by Indian Mathematical Society in the year 2021.
- Awarded **INSA Bilateral Exchange program fellowship** to visit Bolyai Institute, University of Szeged, Hungary for one month during 2019.
- Awarded D.N.Dutta Memorial **Gold-centered silver medal** for securing highest aggregate of marks among all the courses of M.Sc Examination, 1993.
- Awarded S.N.Bando Memorial **Gold medal** for securing the highest aggregate of marks among all the courses in the Master of Science Examination, 1993.
- Awarded **University Medal** for standing first in order of merit in the Master of science Examination in Mathematics, 1993.
- Awarded Dr S. K. Banerjee Memorial **silver medal** for securing the highest aggregate of marks at the Post Graduate Examination, 1993.

Teaching Experience

Sl. No.	Positions held	Employer/Organization	Period/ Duration of the position/work
1	Professor	Jadavpur University	30.05.2012 till date
1	Associate Professor	Jadavpur University	30.05.2009 - 29.05.2012
2	Reader	Jadavpur University	30.05.2006 - 29.05.2009
3	Senior Lecturer	Jadavpur University	17.01.2005 - 29.05.2006
4	Senior Lecturer	New Alipore College (aff. to University of Calcutta)	30.05.2001 - 16.01.2005
5	Lecturer	New Alipore College (aff. to University of Calcutta)	30.05.1997 - 29.05.2001

PhD Thesis supervision :**Total : 23 (Awarded : 17, Going on : 06)**

No.	Name	Title of the thesis	Year	Status
1	Suwendu Jana	Euclidean operator radius inequalities of Hilbert space operators and their applications	2023	Awarded
2	Subhrajit Dey	k -smoothness of bounded linear operators and related topics	2023	Awarded
3	Pintu Bhunia	Numerical radius inequalities of Hilbert space operators and their applications	2022	Awarded
4	Raj Kumar Nayak	A -Numerical radius inequalities of semi-Hilbertian space operators	2022	Awarded
5	Jeet Sen	Study of approximate orthogonality and related properties in normed linear spaces	2022	Awarded
6	Kalidas Mandal	A study of orthogonality and related concepts in normed linear spaces	2022	Awarded
7	Aniket Bhanja	Inequalities related to Davis-Wielandt radius and (α, β) -norm of a bounded linear operator	2022	Awarded
8	Arpita Mal	Role of Birkhoff-James orthogonality in the study of the geometry of operator spaces	2021	Awarded
9	Anubhab Ray	Study of geometric properties using norm inequalities in Banach spaces	2019	Awarded
10	Shibashis Karmakar	On J -frames and J -fusion frames for Krein spaces	2018	Awarded
11	Puja Ghosh	Study of Birkhoff-James orthogonality in normed linear space X and in operator space $B(X)$	2018	Awarded
12	Snehasish Bose	Solving Nonlinear matrix equations using fixed point theory	2017	Awarded
13	Shyamasree Ghosh Dastidar	Some properties of optimal distance vectors, numerical radius and related topics	2016	Awarded
14	Santanu Bag	Operator Inequalities involving Numerical radius and its applications	2015	Awarded
15	Debmalya Sain	Birkhoff-James Orthogonality in the study of Geometry of Normed Linear Spaces	2015	Awarded
16	Gopal Das	Operator Inequalities Pertaining to the Spectrum	2011	Awarded
17	Sk Monowar Hossein	Some results on Operator Inequalities	2005	Awarded

Research projects carried out:

Sr No.	Title of the project	Funding Agency/ with amount approved in Rs	Year of duration	Completed
1	Local preservation of geometric properties and its application to the study of isometries on Banach spaces	Core Research Grant SERB, DST 28,79,340	2024-2027	Started on 8th March 24
2	On numerical radius and its application P.I.	RUSA 2.0, JU 4,00,000	2019-2021	Completed
3	Source of non conventional... ...Analytic and algebraic Study P.I.	RUSA 2.0, JU 17,49,200	2019-2021	Completed
4	Birkhoff-James orthogonality and its application in the geometry of Banach spaces P.I.	MATRICES SERB, DST 6,60,000	2018-2021	Completed
5	Birkhoff-James orthogonality and Rectangular constant P.I.	UGC-DRS (Centrally funded)	April 2012 - March 2017	Completed
6	On inequalities involving numerical radius & related concepts P.I.	DST-PURSE, JU (Centrally funded)	2009-14	Completed
7	Investigation of some Operator Inequalities P.I.	JU under seed support with Potential for Excellence 50,000	2005-06	Completed
8	Operator Inequalities on Hilbert spaces P.I.	UGC Minor Research project 80,000	2005	Sanctioned but not completed due to change of institute

Peer Reviewer: For reputed journals from top publishing house like Elsevier, Springer Nature, Taylor & Francis, John Wiley and many more.

Editorial Board member: For Journal “ Mathematics Letters” published by Science Publishing Group, USA.

Member (Present/Past) of academic bodies:

- (1) Senate member, National Institute of Technology, Raipur.
- (2) Member of Governing Body of Sanmiloni Mahavidyalaya, BaghaJatin, Kolkata.

- (3) Member of Board of Post Graduate Studies, Murshidabad University, West Bengal.
- (4) Member of Board of Post Graduate Studies, Tripura University.
- (5) Member of Board of Post Graduate Studies, Assam University.
- (6) Member of Board of Studies, Narendrapur Ramkrishna Mission Residential College.
- (7) Member of Board of Studies, Midnapore College (Autonomous), Midnapore, West Bengal.
- (8) Member of American mathematical Society.
- (9) Life member of Ramanujan Mathematical Society.
- (10) Life member of Indian Mathematical Society.
- (11) Life member of Calcutta Mathematical Society.
- (12) Life member of Assam Academy of Mathematics.
- (13) Life member of G C College Alumni Association.
- (14) Syllabus committee member of UG Mathematics(Hons) Syllabus of WBHSEC.
- (15) Syllabus committee member of UG Mathematics(Hons) Syllabus of Jadavpur University.
- (16) Syllabus committee member of PG Mathematics(Hons) Syllabus of Jadavpur University.
- (17) Syllabus committee member of Mathematics Syllabus (both UG and PG) of Aliah University.
- (18) Member of Academic Board of JBNSTS, Kolkata.
- (19) Member of Governing Body of New Alipore College, Kolkata.

International Activities:

- (1) Collaboration with Prof F. Kittaneh, Department of Mathematics, The University of Jordan, Amman, Jordan, on Numerical Radius Inequalities.
- (2) Collaboration with Prof S. S. Dragomir, College of Engineering and Science, Victoria University, Melbourne, VIC, Australia on Numerical Radius Inequalities.
- (3) Collaboration with Prof M. S Moslehian, Department of Pure Mathematics, Ferdowsi University of Mashhad, Mashhad, Iran on Numerical Radius Inequalities.
- (4) Awarded INSA Bilateral Exchange program fellowship to visit Bolyai Institute, University of Szeged, Hungary for one month during 2019.
- (5) Visited Department of Mathematics, Shanghai University during July 14 - July 28, 2018.
- (6) Visited Department of Mathematics, Pedagogical University of Krakow, Poland during April 10 - April 30, 2018.
- (7) Collaboration with Professor Jacek Chmielinsky of Pedagogical University of Krakow, Poland.
- (8) Collaboration with Professor Abhijit Dasgupta of Department of Mathematics, College of Engineering and Science, University of Detroit Mercy, USA on "Birkhoff-James orthogonality and its characterization".
- (9) Collaboration with Professor(Retd.) Lokenath Debnath of Department of Mathematics, University of Texas-Pan America on "Antieigenvalues of accretive operators and related topics".

- (10) Collaboration with Professor Kanhaiya Jha of Department of Natural Sciences(Mathematics group), Kathmandu University, Nepal on “Strictly convex spaces and Birkhoff-James orthogonality”.
- (11) Collaboration with Professor V. Kadets of Department of Mathematics and Informatics, Kharkiv V.N. Karzain National University, Ukraine on “Farthest point problem in normed linear spaces”.
- (12) Program Committee member of Annual International Conference on Computational Mathematics, Computational Geometry & Statistics (CMCGS) held at Singapore organised by Global Science and Technology Forum, Singapore for **seven years 2012-2018**.
- (13) Program Committee member of 1st International Conference on Functional Analysis held during July 19 - July 21 in Shanghai, China.
- (14) **Referee** of many international Journals published by Elsevier, Taylor & Francis, Springer.

Visiting Faculty (International / National)

- (1) Visited Department of Mathematics, Pedagogical University of Krakow, Poland supported by Pedagogical University of Krakow during Septemebr 11 to September 17, 2022.
- (2) Visited Bolyai Institute of Mathematics, University of Szeged, Hungary supported by Indian National Science Academy and Hungarian Academy of Sciences during November 01 to November 30, 2019.
- (3) Visited International Research Center for Tensor and Matrix Theory of Shanghai University (IRCTMT), China, supported by IRCTMT, during 14 July to 27 July, 2018.
- (4) Visited Indian Statistical Institute, Bangalore, India during June 18 - June 30, 2018.
- (5) Visited Department of Mathematics, Pedagogical University of Krakow, Poland, supported by Pedagogical University of Krakow, during April 10 to April 30, 2018.
- (6) Visiting Faculty in the Department of Mathematics, Aliah University, Kolkata during odd semester of 2016.
- (7) Visiting Faculty in the Department of Mathematics, Assam University, Silchar, Assam during the period 15th September 2011 to 30th September 2011.

List of articles : Total - 158

(i) **Book published:**

- (1) A. Mal, **K. Paul** and D. Sain, Birkhoff-James orthogonality and geometry of operator spaces, Infosys Science Foundation Series, Springer Singapore, 2024. ISBN 978-981-99-7110-7, <https://doi.org/10.1007/978-981-99-7111-4>.
- (2) P. Bhunia, S.S. Dragomir, M.S. Moslehian, **K. Paul**, Lectures on numerical radius inequalities, Infosys Science Foundation Series in Mathematical Sciences, Springer Cham, (2022), XII+209 pp. <https://doi.org/10.1007/978-3-031-13670-2>.

(ii) Book Chapter :

- (3) **Paul, K.**, Sain, D.(2019) c. In: Ruzhansky, Michael, ed. *Advanced Topics in Mathematical Analysis*. Boca Raton, FL: CRC Press, 245–284, Chapter 8, pp.245–285. ISBN 9780815350873 - CAT# K345827.
<https://doi.org/10.1201/9781351142120>
- (4) **Paul K.**, Sain D., Ghosh P. (2019) Symmetry of Birkhoff-James Orthogonality of Bounded Linear Operators. In: Brzdęk J., Popa D., Rassias T. (eds) *Ulam Type Stability*. Springer, Cham. ISBN 978-3-030-28972-0.
https://doi.org/10.1007/978-3-030-28972-0_15

(iii) Under Review :

- (5) S. Ghosh, K. Paul and D. Sain, *Orthogonality induced by norm derivatives : A new geometric constant and symmetry*, **Aeq. Math.**, 2024, Submitted 25.03.2024.
- (6) A. Sen, R. Birbonshi and **K. Paul**, *A note on the A-numerical range of semi-Hilbertian operators*, LAA, Communicated, 08.02.2024.
- (7) K. Paul, S.Roy, D. Sain, and S. Sohel, *A unified approach to a family of optimization problems in Banach spaces*, JOPT, Under Review, 17.12.2023.
- (8) S. Barik, P. Bhunia and **K. Paul**, *A-numerical radius inequalities using A-generalized Cartesian decomposition*, Filomat, Under Review, 27.12.23.
- (9) D. Sain, S. Sohel and K.Paul, *On k-smoothness of operators between Banach spaces*, **RACSAM**, Under Review, 07.07.23.
- (10) M. Guesba, S. Barik, P. Bhunia and **K. Paul**, *A-Davis-Wielandt radius bounds of semi-Hilbertian space operators*, BIMS, Major Revision 2024.

(iv) Published :

- (11) S. Jana, P. Bhunia and **K. Paul**, *Euclidean operator radius and numerical radius inequalities*, **Operators and Matrices**, 18(1) (2024), 83–95. doi:10.7153/oam-2024-18-06.
- (12) P. Bhunia, S. Jana and **K. Paul**, *Estimations of Euclidean operator radius*, Preprint, 2024, **Proc. Math. Sci.**
- (13) D. Sain, J. Manna and K. Paul, *On local preservation of orthogonality and its application to isometries*, **Linear Algebra Appl.** (2024),
<https://doi.org/10.1016/j.laa.2024.03.004>.
- (14) M. Guesba, P. Bhunia and **K. Paul**, *Berezin number inequalities via positivity of 2×2 block matrices*, **Operators and Matrices**, 2024, Preprint.
- (15) S. Sohel, S. Ghosh, D. Sain and **K. Paul**, *On some special subspaces of a Banach space, from the perspective of best coapproximation*, **Monatshafte Mathematicum**, 2024, <https://doi.org/10.1007/s00605-023-01930-2>
- (16) S. Jana, P. Bhunia and **K. Paul**, *Euclidean operator radius inequalities of d-tuple operators and operator matrices*, **Math Slov**, Preprint, 2023.
- (17) P. Bhunia, A. Sen , S. Barik and **K. Paul**, *Berezin number and Berezin norm inequalities for operator matrices*, **LAMA**, Preprint.

- (18) P. Bhunia, S. Jana and **K. Paul**, *Refinements of generalized Euclidean operator radius inequalities of 2-tuple operators*, **Filomat** 38:8 (2024), 2587–2599.
- (19) P. Bhunia, A. Sen and **K. Paul**, *Generalized Cartesian decomposition and numerical radius inequalities*, **RCMP**, Preprint.
- (20) P. Bhunia and K. Paul, Corrigendum to “Development of inequalities and characterization of equality conditions for the numerical radius” [Linear Algebra Appl. 630 (2021) 306–315], **Linear Algebra Appl.**, (2023) Preprint.
- (21) D. Sain, A. Mal, P. Bhunia and K. Paul, Corrigendum to “On numerical radius and Crawford number attainment sets of a bounded linear operator” [J. Convex Anal., 28 (2021) 67-80], *Journal Convex Analysis*, (2023) Preprint.
- (22) M. Guesba, P. Bhunia and **K. Paul**, *A-numerical radius of semi-Hilbert space operators*, **Journal of Convex Analysis**, Preprint, 2023.
- (23) P. Bhunia, **K. Paul** and S. Barik, *On the study of triangle inequality for the Davis-Wielandt radius with applications*, **Operators and Matrices**, Preprint, 2023.
- (24) A. Sen and **K. Paul**, *Berezin number and numerical radius inequalities*, **Vietnam Journal of Mathematics**, Preprint.
- (25) P. Bhunia, S. Jana and **K. Paul**, *Refined inequalities for the numerical radius of Hilbert space operators*, 2023, **RMJ**, Preprint.
- (26) P. Bhunia, and **K. Paul**, *A-numerical radius : New inequalities and characterization of equalities*, **Haceteppe Journal of Mathematics and Statistics**, Preprint, 2023.
- (27) R. K. Nayak, P. Bhunia and **K. Paul**, *Improvements of A-numerical radius inequalities of semi-Hilbertian space operators*, **Hokkaido Mathematical Journal**, 52 (2023) 517–544. doi:10.14492/hokmj/2022-603.
- (28) P. Bhunia, M.T. Garayev, **K. Paul** and R. Tapdigoglu, *Some new applications of Berezin symbols*, **Complex Analysis and Operator Theory**, 17:96 (2023) 17:96 <https://doi.org/10.1007/s11785-023-01404-1>.
- (29) S. Ghosh, D. Sain, A. Mal and K. Paul, *On symmetric points with respect to the numerical radius norm*, **Banach J. Math. Anal.**, 17:67 (2023) <https://doi.org/10.1007/s43037-023-00290-1>.
- (30) A. Sen, P. Bhunia and **K. Paul**, *Davis-Wielandt-Berezin radius inequalities of Reproducing kernel Hilbert space operators*, **Afr. Mat.** 34, 44 (2023). <https://doi.org/10.1007/s13370-023-01089-x>
- (31) P. Bhunia, **K. Paul** and A. Sen, *Numerical radius inequalities of sectorial matrices*, **Ann. Funct. Anal.**, 14:66 (2023) <https://doi.org/10.1007/s43034-023-00288-8>.
- (32) P. Bhunia, M. Gürdal, K. Paul, A. Sen and R. Tapdigoglu, *On a new norm on the space of reproducing kernel Hilbert space operators and Berezin radius inequalities*, **Numer. Funct. Anal. Optim.**, 44(9) (2023) 970-986.
- (33) S. Sohel, D. Sain and **K. Paul**, *On subspaces of ℓ_∞ and extreme contraction in $L(X, \ell_\infty^n)$* , **Monatsh. Math.** (2023) <https://doi.org/10.1007/s00605-023-01867-6>.
- (34) P. Bhunia, S. Jana and **K. Paul**, *Numerical radius inequalities and estimation of zeros of polynomials*, *Georgian Math. J.*, 30(5) (2023) 671–682. <https://doi.org/10.1515/gmj-2023-2037>.

- (35) P. Bhunia and **K. Paul**, *Numerical radius inequalities of 2×2 operator matrices*, **Adv. Oper. Theory**, 8, 11 (2023). <https://doi.org/10.1007/s43036-022-00237-7>.
- (36) D. Sain, S. Sohel, S. Ghosh and K. Paul, *On the best coapproximation problem in ℓ_1^n space*, **Linear and Multilinear Algebra**, 72(1) (2022) 31–49. DOI: 10.1080/03081087.2022.2153101
- (37) P. Bhunia and **K. Paul**, *Refinement of numerical radius inequalities of complex Hilbert space operators*, **Acta Sci. Math. (Szeged)** (2023) <https://doi.org/10.1007/s44146-023-00070-1>
- (38) A. Sen, P. Bhunia and **K. Paul**, *Numerical radius inequalities for tensor product of operators*, **Proc. Math. Sci.** 133, 3 (2023) <https://doi.org/10.1007/s12044-022-00722-2>.
- (39) D. Sain, S. Ghosh and **K. Paul**, *On T -orthogonality in Banach spaces*, **Colloq. Math.**, 172(2) (2023) 231–241.
- (40) M. Guesba, P. Bhunia and **K. Paul**, *A -numerical radius inequalities and A -translatable radii of semi-Hilbert space operators*, **Filomat**, 37:11 (2023), 3443–3456. <https://doi.org/10.2298/FIL2311443G>
- (41) P. Bhunia, S. Jana, M. S. Moslehian and **K. Paul**, *Improved inequalities for the numerical radius via Cartesian decomposition*, **Functional Analysis and Its Applications**, 57(1) (2023) 18–28.
- (42) P. Bhunia, A. Sen and **K. Paul**, *Development of the Berezin number inequalities*, **Acta. Math. Sin.-English Ser.** (2023) <https://doi.org/10.1007/s10114-023-2090-1>.
- (43) J. Sen and **K. Paul**, *(ϵ, A) -approximate numerical radius orthogonality and numerical radius derivative*, **Math. Slovaca**, 73 (2023), No. 1, 147–158.
- (44) P. Bhunia, **K. Paul** and A. Sen, *Inequalities involving Berezin norm and Berezin number*, **Complex Anal. Oper. Theory** 17, 7 (2023) <https://doi.org/10.1007/s11785-022-01305-9>.
- (45) S. Dey, A. Mal and **K. Paul**, *Geometric properties of operator space endowed with numerical radius norm*, **Ann. Funct. Anal.** 14, 19 (2023) <https://doi.org/10.1007/s43034-022-00239-9>.
- (46) S. Jana, P. Bhunia and **K. Paul** *Euclidean operator radius inequalities of a pair of bounded linear operators and their applications*, **Bull Braz Math Soc, New Series** 54, 1 (2023) <https://doi.org/10.1007/s00574-022-00320-w>.
- (47) P. Bhunia, F. Kittaneh, **K. Paul** and A. Sen, *Anderson's theorem and A -spectral radius bounds for semi-Hilbertian space operators*, **Linear Algebra Appl.**, 657 (2023), 147–162.
- (48) D. Sain, S. Ghosh and **K. Paul**, *On isosceles orthogonality and some geometric constants in a normed space*, **Aequat. Math.**, 97 (2023) 147–160, <https://doi.org/10.1007/s00010-022-00909-y>
- (49) P. Bhunia, K. Feki and **K. Paul**, *Generalized A -numerical radius of operators and related inequalities*, **Bull. Iran. Math. Soc.** 48, (2022) 3883–3907.
- (50) D. Sain, S. Sohel and **K. Paul**, *Extreme contractions on finite-dimensional Banach spaces*, **Colloq. Math.**, 172(1) (2023) 65–83. DOI: 10.4064/cm8803-7-2022.

- (51) P. Bhunia, A. Sen and **K. Paul**, *New semi-norm of semi-Hilbertian space operators and its application*, **J. Convex Anal.**, 29 (4) (2022) 1149–1160.
- (52) D. Sain, A. Ray, S. Dey and **K. Paul**, *Some remarks on orthogonality of bounded linear operators-II*, 2022, **Acta. Sci. Math.(Szeged)**, 88 (2022) 807–820. <https://doi.org/10.1007/s44146-022-00044-9>
- (53) D. Sain, S. Roy and **K. Paul**, *A topological generalization of orthogonality in Banach spaces and some applications*, **J. Convex Anal.**, 29 (2022), No. 3, 703–716.
- (54) **K. Paul** and A. Mal, *Birkhoff-James orthogonality:Its role in the geometry of Banach space*, **The Mathematics Student**, Vol. 91, Nos. 1-2, (2022), 55–78.
- (55) A. Sen, P. Bhunia and **K. Paul**, *Bounds for the Berezin number of reproducing kernel Hilbert space operators*, **Filomat**, 37:6 (2023), 1741–1749 <https://doi.org/10.2298/FIL2306741S>
- (56) P. Bhunia, A. Bhanja, D. Sain and **K. Paul**, *Numerical radius inequalities of operator matrices from a new norm on $\mathcal{B}(\mathcal{H})$* , **Miskolc Mathematical Notes.**, 24(2) (2023) pp. 653–664. DOI: 10.18514/MMN.2023.3934
- (57) A. Mal, **K. Paul**, *Distance formulae and best approximation in the space of compact operators*, **J. Math. Anal. Appl.** (2022), 125952. doi: <https://doi.org/10.1016/j.jmaa.2021.125952>.
- (58) D. Sain, S. Sohel, S. Ghosh and **K. Paul**, *On best coapproximations in subspaces of diagonal matrices*, **Linear Multilinear Algebra**, 71 (1) (2023) 47–62. <https://doi.org/10.1080/03081087.2021.2017835>
- (59) P. Bhunia and **K. Paul**, *Annular bounds for the zeros of a polynomial from companion matrix*, **Adv. Oper. Theory** 7, 8 (2022). <https://doi.org/10.1007/s43036-021-00174-x>
- (60) A. Mal, **K. Paul** and J. Sen, *Birkhoff–James orthogonality and numerical radius inequalities of operator matrices*, **Monatsh. Math.**, 197 (2022), no. 4, 717–731.
- (61) K. Mandal, A. Bhanja, S. Bag and **K. Paul** *On the numerical range of operators on some special Banach spaces*, **J. Convex Anal.**, 29 (2022), No. 2, 371–380.
- (62) A. Ray, D. Sain, S. Dey and **K. Paul**, *Some remarks on orthogonality of bounded linear operators*, **J. Convex Anal.**, 29 (2022), No. 1, 165–181.
- (63) K. Mandal, D. Sain, A. Mal and **K. Paul** *Norm attainment set and symmetricity of operators on ℓ_p^2* , **Adv. Oper. Theory** 7, 3 (2022) <https://doi.org/10.1007/s43036-021-00167-w>
- (64) A. Sen, P. Bhunia and **K. Paul**, *Berezin number inequalities of operators on reproducing kernel Hilbert spaces*, **Rocky Mountain J. Mathematics**, 52 (2022), no. 3, 1039–1046.
- (65) P. Bhunia, D. Sain and **K. Paul**, *On the Davis-Wielandt shell of an operator and the Davis-Wielandt index of a normed linear space*, **Collect. Math.** 73 (2022), no. 3, 521–533.
- (66) P. Bhunia, K. Feki and **K. Paul**, *Numerical radius inequalities for products and sums of semi-Hilbertian space operators*, **Filomat**, 36 (2022), no. 4, 1415–1431.

- (67) P. Bhunia, **K. Paul** and R.K. Nayak, *Refinement of seminorm and numerical radius inequalities of semi-Hilbertian space operators*, **Math Slovaca**, 72 (2022), no. 4, 969–976.
- (68) P. Bhunia and **K. Paul**, *Development of inequalities and characterization of equality conditions for the numerical radius*, **Linear Algebra Appl.**, 630 (2021) 306-315. <https://doi.org/10.1016/j.laa.2021.08.014>
- (69) P. Bhunia and **K. Paul**, *Proper improvement of well-known numerical radius inequalities and their applications*, **Results Math.**, 76, 177 (2021). <https://doi.org/10.1007/s00025-021-01478-3>
- (70) D.Sain, P. Bhunia, A. Bhanja and **K. Paul**, *On a new norm on $B(H)$ and its application to numerical radius inequalities*, **Ann. Funct. Anal.** 12, 51 (2021). <https://doi.org/10.1007/s43034-021-00138-5>
- (71) P. Bhunia and **K. Paul**, *Furtherance of numerical radius inequalities of Hilbert space operators*, **Arch. Math.**, 117 (2021), no. 5, 537–546.
- (72) P. Bhunia and **K. Paul**, *Refinements of norm and numerical radius inequalities*, **Rocky Mountain Journal of Mathematics**, 51 (2021), no. 6, 1953–1965.
- (73) S. Dey, A. Mal and **K. Paul**, *k -smoothness on polyhedral Banach spaces*, **Colloq. Math.**, 169 (2022), 25-37.
DOI: 10.4064/cm8520-4-2021 Published online: 24 January 2022
- (74) A. Bhanja, P. Bhunia and **K. Paul**, *On generalized Davis-Wielandt radius inequalities of semi-Hilbertian space operators*, **Oper. Matrices**, 15(4) (2021), 1201–1225.
[doi:10.7153/oam-2021-15-76](https://doi.org/10.7153/oam-2021-15-76)
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- (152) D. Paul Ghosh and **K. Paul**, *Persistence in a detritus-based food chain model*, **Mathematical Forum** 232011 1-16.
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Popular Articles :

- (156) D. Paul Ghosh and **K. Paul**, *Numbers: Rational, Irrational or transcendental?*, **Sutra-International Journal of Mathematical Science Education**, 3 (2010) 24-30.
- (157) **K. Paul** and D. Paul Ghosh, *How to Define a Real Number Through the Concept of Dedekind Cut?*, **Int. J. Latest Trend Maths.**, 3 (2014) 153-160.
- (158) **K. Paul** and D. Paul Ghosh, *Compact sets: How far away from finite sets?*, **Journal of Advanced Studies**, 2 (2016) 9-15.

Role as an organizer at International level:

- (1) **Joint Organizing Secretary** of 2nd International Conference on Mathematical Analysis and Modelling 2023 organized at Jadavpur University during October 9-11, 2023.
- (2) Organized (jointly with Prof Jacek Chmielinski and Dr Debmalya Sain) a special session on “ Geometry of linear operators and applications” at the International Workshop on Operator Theory and its Applications (IWOTA 2022) held in Krakow, Poland during September 6-10, 2022.
- (3) **Organizing Secretary** of “International Conference on Analysis, Algebra, Combinatorics and their Applications ”(ICAACA 2020) held at Jadavpur University during January 20-22, 2020 sponsored by SERB, DST and RUSA 2.0, JU.
- (4) Organized a special session titled “Geometry of linear operators and operator algebras" in the 30th International Workshop on Operator Theory and its Applications (IWOTA 2019) held during July 22 - July 26, 2019 at Instituto Superior Tecnico at University of Lisbon, Portugal.
- (5) **Program Committee member** of Annual International Conference on Computational Mathematics, Computational Geometry & Statistics (CMCGS 2012) held during January 30-31, 2012 at Singapore organised by Global Science and Technology Forum, Singapore.

Organized Seminar / Training Programme at National level:

- (1) **Co-ordinator** of UGC-HRDC JU sponsored Refresher course on “Mathematics and its applications” held at Department of Mathematics, JU during 02.01.2017-21.01.2017.
- (2) **Program Committee member** of 2nd Annual International Conference on Computational Mathematics, Computational Geometry & Statistics (CMCGS) organised by Global Science and Technology Forum, Singapore for the year 2013,2014,2015,2016,2017,2018.
- (3) **Joint Convenor** in the “National Conference on Number Theory ” organised by Department of Mathematics, Jadavpur University, Kolkata during December 12- 14, 2012.
- (4) **Co-ordinator** of UGC-ASC,J.U. sponsored Two Day Short Term Course on “ Mathematical Analysis and its applications” held from 22.03.2011 to 23.03.2011 at the Department of Mathematics, Jadavpur University.
- (5) Organized “ National Conference on Mathematics and its Applications: State of the Art”as a **member of the Organizing committee** held during 14-16 January **2010** at Jadavpur University sponsored by DST and Jadavpur University.
- (6) Organized “ Refresher Course on Mathematical Analysis and its applications” as a **Coordinator** (jointly with Dr P Das) in the Department of Mathematics, Jadavpur University, Kolkata 700032, India held during the period **Feb.16 - March 07, 2009**.
- (7) Organized “National Seminar on Integration of Mathematics with interdisciplinary subjects” as a **member of Organizing committee** held on 27-28 March **2008** at the Department of Mathematics, Jadavpur University, Kolkata 700032, India.

- (8) Organized “National Seminar on Mathematics” as a **Convener** (jointly with Dr S Banerjee) held on 22-23 March **2007** at the Department of Mathematics, Jadavpur University, Kolkata-700032, India.
- (9) Organized “Retraining of College Teachers under UGC sponsored University with potential for excellence scheme” as a training **co-ordinator** (jointly with Dr S Banerjee) at the Department of Mathematics, Jadavpur University, Kolkata 700032, India in the year of **2006**.
- (10) Organized “National Conference on Applicable Mathematics” as a **member of Organizing committee** held on 23-24 March **2006** at the Department of Mathematics, Jadavpur University, Kolkata 700032, India.
- (11) Organized “Retraining of College Teachers under UGC sponsored University with potential for excellence scheme” as a training **coordinator** (jointly with Dr I SenGupta) at the Department of Mathematics, Jadavpur University, Kolkata 700032, India in the year of **2005**.

Plenary/Special/Invited talk in International conference/seminar:

- (1) Delivered an Invited talk at International Seminar on Physical and Mathematical Sciences held during March 02-03, 2024 at Calcutta Mathematical Society organized by Calcutta Mathematical Society.
- (2) Delivered **Plenary talk at the 38th Annual Conference** of Ramanujan Mathematical Society to be held at IIT, Guwahati during December 22-24, 2023.
- (3) **Delivered a special invited talk at the 20th International Conference** on Functional Equations and Inequalities (20th ICFEI) to be held at Mathematical Research and Conference Center of the Institute of Mathematics of the Polish Academy of Sciences, Beldewo, Poznan, Poland during September 17-24, 2023.
- (4) Delivered an invited talk on “ Distance formulae and best approximations in the space of compact operators” at the International Workshop on Operator Theory and its Applications (IWOTA 2022) held in Krakow, Poland during September 6-10, 2022.
- (5) **Delivered 15th Ganesh Prasad Memorial Award Lecture** at the 87th Annual Conference of Indian Mathematical Society - An International meet-organised by Jawaharlal Nehru Engineering College, MGM University, Aurangabad during December 04-07, 2021.
- (6) **Delivered an invited talk online at “International Conference on Functional Equations and Inequalities”** organized by Department of Mathematics of the Pedagogical University of Krakow, held in the Mathematical Research and Conference Center in Będlewo, Poland, during September 12-18, 2021.
- (7) Delivered an invited talk online at International Conference on “Approximation Theory and Application” Organized by the Laboratory of High-Dimensional Approximation and Applications of the Lomonosov Moscow State University during September 5 - 11, 2021.
- (8) Delivered an invited talk at “ International Conference on Analysis and its Applications- 2020 (ICAA-2020-NEPAL)” organized by Nepal Mathematical

- Society (NMS) in collaboration with Tribhuvan University (TU), Nepal; Kathmandu University (KU), Nepal; South Asian University (SAU), India; Nepal Sanskrit University (NSU) and Association of Nepalese Mathematicians in America (ANMA), USA during April 9-11, 2021.
- (9) Delivered an invited talk at “International Webinar on Mathematical Analysis and its Applications 2021” organized by Department of Mathematics, Tripura University during April 8-9, 2021.
 - (10) Delivered an invited talk at “International Webinar Series on Applications of Mathematics” organized by Gurucharan College, Silchar, Assam during August 20-22, 2020.
 - (11) Delivered an invited talk at International Seminar on “Systematic Approach to Modern Sciences and Its Philosophical Impacts” organized by Bajkool Milani Mahavidyalaya, Purba Medinipur, West Bengal held during February 06-08, 2020.
 - (12) Invited talk delivered at International Conference on “Recent advances in Operator Theory and Operator Algebras 2018” organized at Indian statistical Institute, Bangalore Centre during Dec 13-19, 2018.
 - (13) Delivered an invited talk at International conference on Banach Algebras, Harmonic Analysis and Operator Theory held during Nov. 20 - 22, 2018, at Sardar Patel University, Vidyanagar, Gujarat, India.
 - (14) Delivered an invited talk at 2018 International workshop on Operator Theory and its Applications held during July 23 - July 27, 2018, at East China Normal University, Shanghai, China.
 - (15) Delivered an invited talk at 2018 International workshop on Matrices and operators held during July 15-July 18, 2018, at Shanghai University, China.
 - (16) Invited talk delivered in the International Conference on Mathematical Sciences and Applications (ICMSA 2018) held during February 23-25, 2018 at Guru Ghasidas Vishwavidyalaya, Bilaspur, India.
 - (17) Chaired a session in the International Conference on Mathematical Analysis and Application in Modelling (ICMAAM-2018) held during January 9-12, 2018 at Jadavpur University, Kolkata.
 - (18) Invited talk delivered in the International Conference on Nonlinear dynamics, Analysis and Optimization (ICNDAO 2015) held during December 9-11, 2015 at Jadavpur University.
 - (19) Invited talk delivered in the 24th International Workshop on Operator Theory and its Applications (IWOTA 2013) held during December 16-20, 2013 at IISc Bangalore, India.
 - (20) Delivered a talk titled “On different aspects of antieigenvalues of a bounded linear operator ” in the International Conference on recent development in mathematical sciences and their applications (ICRDMSA - 2010) organized by Calcutta Mathematical Society from 09-11 December 2010.
 - (21) Invited talk delivered in the 21st International Workshop on Operator Theory and its Applications (IWOTA 2010) held from July 12 to July 17, 2010 at Technical University of Berlin, Germany.

Resource Person etc. at National level:

- (1) Lectures delivered on 18th January 2024 and 19th January 2024 for the Refresher Course titled “ Mathematics and Computer Science”
- (2) Syllabus Committee member of Department of Mathematics, Jadavpur University for implementing NEP 2020 with effect from the year 2023.
- (3) Lectures delivered on 30th November 2023 and 1st December 2023 for Interdisciplinary Refresher course titled " Development in Mathematics and It's Applicability" held during 9th January 2024 to 24th January 2024, organized by UGC Malaviya Mission Teacher Training Centre, North Bengal University, India.
- (4) Resource Person at Assam Mathematics Olympiad (AMO) Workshop on 18th July 2023 organized by Assam Academy of Mathematics, Cachar branch and Department of Mathematics, Gurucharan College, Silchar. on 18th July 2023.
- (5) Series of lectures delivered at the workshop on Advanced functional analysis and its applications 2022, held at IIT Hyderabad during December 12–16, 2022.
- (6) Resource Person at UGC-HRDC, NBU sponsored Refresher Course on Mathematics during 08.01.2021 to 21.01.2021.
- (7) Delivered inaugural talk at One-Week Short Term Course on “Linear Algebra and its Applications in Engineering Sciences (LAAES 2019)” organized by Dibrugarh University Institute of Engineering and Technology (DUIET), Dibrugarh University during August 12-16, 2019 under TEQIP-III project.
- (8) Expert Committee member of UG Syllabus committee for the updation of the syllabus of Deptment of Mathematics, Raja N. L. Khan Women's College, Midnapur, West Bengal in the year of 2019.
- (9) Invited talk titled “ On Hahn Banach Theorem and its Applications in Geometry of Banach space ” delivered in UGC-HRDC, North Bengal University organized Refresher Course in Mathematics during December 07-27, 2018 at North Bengal University.
- (10) Delivered an invited talk at Teachers' Enrichment National Level Workshop on “MATHEMATICS AND ITS RECENT ADVANCEMENT” held during Oct 30-31, 2018 at Midnapore College, West Bengal.
- (11) Delivered talk at National Level Teachers' Enrichment Workshop in Mathematical Sciences (NLTEWMS-2018, 23rd May - 6th June) at Calcutta Mathematical Society on Functional Analysis on 28th May 2018 and 31st May 2018.
- (12) Lectures delivered in the UGC sponsored “Refresher Course in Mathematical Sciences” at the Department of Pure Mathematics, University of Calcutta, Kolkata, India held during the period March 8 - March 29, 2017.
- (13) Invited talk delivered in UGC-HRDC JU organized 64th orientation program held at Salt lake campus of Jadavpur University during 06.02.2017-26.02.2017.
- (14) Expert Committee member to revise the syllabus of different course of Department of Mathematics, Aliah University in the year of 2017.
- (15) Invited talk delivered in UGC-HRDC Jadavpur University organized 63rd orientation program held at Salt lake campus of Jadavpur University during 15.11.2016-06.12.2016.
- (16) Chaired a session in the “National Workshop and Conference on Discrete Mathematics and its Applications” held at Jadavpur University, Kolkata during **March 10 - 14, 2014.**

- (17) Lectures delivered in the UGC sponsored “Refresher Course (Thrust area: Analysis, Algebra, Geometry and Discrete Mathematics)” at the Department of Pure Mathematics, University of Calcutta, Kolkata 700032, India held during the period **January 02 - January 22, 2014**.
- (18) Lecture delivered in the **DST** sponsored Science Camp held at JB-Centre of Excellence, 1300 Rajdanga Main Road, Kolkata 700107 during January 7 - January 11, 2014 for Students ranked within top 1% of Class X examinations.
- (19) Chaired a session in the National Conference titled “Non-linear Dynamics, Analysis and Optimization” held at Jadavpur University during **January 9-10, 2014**.
- (20) Lectures delivered in the UGC sponsored “Refresher Course on Mathematical Methods, Techniques and applications” at the Department of Mathematics, Jadavpur University, Kolkata 700032, India held during the period **November 18- December 7, 2013**.
- (21) Lecture delivered as resource person in the DST sponsored “Training Programme for Under Graduate Students in Mathematics” held at the Department of Mathematics, Tripura University, India during **July 5 - 19, 2013**.
- (22) Lectures delivered in the “ Refresher Course on Algebra, Analysis, Discrete Mathematics and its applications” at the Department of Mathematics, Jadavpur University, Kolkata 700032, India held during the period **August 27 - September 15, 2012**.
- (23) Lecture delivered in the UGC-ASC, J.U. sponsored Two Day Short Term Course on “ Mathematical Analysis and its applications” held from 22.03.2011 to 23.03.2011 at the Department of Mathematics, Jadavpur University.
- (24) Lecture delivered in the workshop on curriculum in Mathematics under Teacher Exchange Programme of CPE, sponsored by UGC in the Department of Mathematics Midnapore College, Midnapore, West Bengal 721 101 on 18th January 2011.
- (25) Lecture delivered in the **DST-INSPIRE** Internship Science Camp - 2010 entitled “ **Spectrum of Science**” during April 26-30, 2010 held at JB-Centre of Excellence for Student-Scientists, 1300 Rajdanga Main Road, Kolkata 700107.
- (26) Lecture delivered in the **DST-INSPIRE** Internship Science Camp - 2010 entitled “ **Science Beyond School**” during March 20-24, 2010 held at JB-Centre of Excellence for Student-Scientists, 1300 Rajdanga Main Road, Kolkata 700107.
- (27) Lectures delivered in the “Refresher Course on Mathematical Analysis and its applications” at the Department of Mathematics, Jadavpur University, Kolkata 700032, India held during the period **Feb.16 - March 07, 2009**.

Talk delivered at National level:

- (1) Invited talk delivered at UGC-HRDC sponsored Refresher course on Mathematical Sciences organized by Department of Mathematics and Statistics, DDU Gorakhpur University, Gorakhpur, during 29-12-2020 to 11-01-2021.
- (2) Delivered an invited talk titled “Operator orthogonality in the space of linear operators on Banach space ” at 33rd Annual Conference of the Ramanujan Mathematical Society (ACRMS - 2018) held at Delhi University during June 1- June 3, 2018.

- (3) Invited talk delivered on “Role of Birkhoff-James orthogonality in Banach space geometry” at the Department of Mathematics, Delhi University on 08.03.2018.
- (4) Invited talk delivered in UGC sponsored National seminar on “Advances and applications of contemporary mathematics” held on 18.02.2017 organized by K K Das College, Kolkata.
- (5) Invited talk delivered in UGC sponsored National seminar on “Advanced level of Mathematical Science” held during 09-10 February, 2017 organized by Raja N. L. Khan Women’s College, Midnapur, West Bengal.
- (6) Invited talk delivered in the National Conference on “Advances in Mathematical Sciences” during 22-23 December, 2016 held at Gauhati University.
- (7) Invited talk delivered in the 24th International Workshop on Operator Theory and its Applications (IWOTA 2013) held during December 16-20,2013 at IISc Bangalore, India.
- (8) Invited Lecture delivered in the West Bengal state council of science and technology sponsored “National Seminar on Mathematics and its Applications” held at the Department of Mathematics, Lady Brabourne College, Kolkata, India on **22.11.2013**.
- (9) Invited lecture delivered in the “National Seminar on Advances in Mathematics & Applications” organised by Department of Mathematics, University of Burdwan, WB, India during **March 6 - 7, 2013**.
- (10) Invited lecture delivered in the UGC sponsored “National Seminar on Advances in Research in Physical Sciences” organised by Cachar College, Silchar, Assam during **March 25 - 26, 2013**.
- (11) Chaired a session in the National Conference entitled “Recent Trends in Mathematical and Computational Sciences” held at Institute of Advanced Study in Science and Technology (IASST) Guwahati during **November 28 - 30, 2012**.
- (12) Invited lecture delivered in the National Conference entitled “Recent Trends in Mathematical and Computational Sciences” held at Institute of Advanced Study in Science and Technology (IASST) Guwahati during **November 28 - 30, 2012**.
- (13) Lecture delivered in the UGC sponsored state level seminar on “ Contemporary Mathematical Analysis : Certain ramifications and applications” held at Charuchandra College, Kolkata on **February 9, 2012** .
- (14) Delivered a talk titled “ On different aspects of antieigenvalues of a bounded linear operator ” in the International Conference on recent development in mathematical sciences and their applications (ICRDMSA - 2010) organized by Calcutta Mathematical Society from 09-11 December 2010.
- (15) Plenary lecture delivered in the National Conference on “ Recent advances in Mathematical Sciences and their Applications (RAMSA-10)” held from November 25-27, 2010 at Assam University, Silchar.
- (16) Invited talk delivered in the 21st International Workshop on Operator Theory and its Applications (IWOTA 2010) held from July 12 to July 17, 2010 at Technical University of Berlin, Germany.
- (17) Delivered **Keynote Lecture** in the UGC sponsored National Seminar on “ Mathematics in Daily Life” organized by the Department of Mathematics, New

Alipore College (affiliated to Calcutta University), Kolkata 700053 held during **29-30 August 2008**.

- (18) Delivered a talk in the UGC sponsored “National Seminar on Mathematics and its Applications” at the Department of Mathematics, B.E. College (Deemed University) on **27 March 2004**.
- (19) Delivered a talk in the “Regional Seminar on Functional Analysis and Geometry and Applications” organized by the DSA Programme, Department of Mathematics, Jadavpur University on **24 March 1999**.

Participation in workshop / summer school / winter school, Refresher Courses / Orientation Courses :

- (1) Participated in the UGC sponsored “ Refresher Course in Mathematics ” conducted by Department of Pure Mathematics, Calcutta University during the period **August 02, 2005 - August 23, 2005**.
- (2) Participated in the UGC sponsored “ Refresher Course in Mathematics” conducted by Department of Pure Mathematics, Calcutta University during the period **Dec.10,2003 - Dec.31,2003**.
- (3) Participated in the UGC sponsored “ Orientation Programme” conducted by Academic Staff College, Calcutta University during the period **Dec.14,2001 - Jan.12,2001**.
- (4) Participated in the “Regional Training Course on Computer Applications in Mathematics Teaching” for College/University teachers in India and South Central Asian Countries” held at the I.I.T. Kharagpur during the period **Jan.4 - Jan.18, 2000** sponsored by the **UNESCO**.
- (5) Participated in the “**UNESCO-IMSc** Regional Training Programme in Mathematics for College/University teachers in India and South Central Asian Countries ”held at The Institute of Mathematical Sciences, Chennai during the period **Nov.9 - Nov.21, 1998** sponsored by UNESCO and The Institute of Mathematical Sciences, Chennai.