



## Mehdi Dehghani

Associate Professor

College: Faculty of Mathematics

Department: Pure Mathematics

### Education

Degree	Graduated in	Major	University
BSc	2004	Applied Mathematics	Yazd University
MSc	2007	Pure Mathematics, Mathematical Analysis	Yazd University
Ph.D	2015	Pure Mathematics, Mathematical Analysis and Operator Theory	Yazd University

### Employment Information

Faculty/Department	Position/Rank	Employment Type	Cooperation Type	Grade
University of Kashan	Assistant professor of Mathematics	Tenured	Full Time	10

### Awards

- Lecturer, Yazd University (2008-2014)
- Short-term six-month sabbatical under the direction of professor Mohammad Sal Moslehian, University of Mashhad, Iran, 2014-2015.
- Distinguished Researcher at Department of Pure Mathematics, Faculty of Mathematical Sciences, University of Kashan (2017).

### Subjects Taught

- My research interests are in the field of operator theory and functional analysis. In particular, I am interested in operator inequalities, Hilbert  $C^*$ -modules, matrix analysis. Application of functional analysis to matrix theory, General theory of  $C^*$ -algebras.

## Course Topics

- Undergraduate: Calculus I-II, Principles of Mathematical Analysis, Mathematical Analysis, Ordinary Differential Equations, Engineering Mathematics, Introductory Probability and Statistics.
- Postgraduate (M. Sc.): Functional analysis and its application in geodesy, Real analysis 1, Operator theory 1.

## Papers in Conferences

1. Mahdi Dehghani, Some new characterizations of inner product spaces in terms of HH-I-orthogonality, پنجاه و دومین کنفرانس ریاضی ایران، کرمان، ۲۰۲۱، ۰۹ ۰۲.
2. M. Dehghani, A new norm derivatives orthogonality relation in normed spaces, 5th Seminar on Operator Theory and its Applications, Zanjan, 2019 03 13.
3. M. Dehghani, Some results on Dunford-Pettis property of order  $p$  in  $C^*$ -algebras, 48th Annual Iranian Mathematics Conference, Bu-Ali Sina University, 2017 08 22.
4. M. Kian, M. Dehghani, Matricial radius of Hilbert space operators, 3rd Seminar on Operator Theory and its Applications, Ferdowsi University of Mashhad, 2017 03 18.
5. M. Dehghani, On  $\square$ - $\square^*$ -orthogonality in normed linear spaces, 3rd Seminar on Operator Theory and its Applications, Ferdowsi University of Mashhad, 2017 03 08.
6. M. Dehghani, Counterparts to the information monotonicity of the matrix power means, 2017 workshop on matrices and operators, Institute of Mathematics, Hunan University, China, 2017.
7. M. Dehghani, M. Kian, Multilinear mappings on matrix algebras, 46th Annual Iranian Mathematics Conference, Yazd University, 2015 08 25.
8. M. Dehghani, M. Kian, Non-commutative convexity in Hilbert  $C^*$ -bimodules, 3rd Seminar on Harmonic Analysis and Applications, Yazd University, 2015 01 21.
9. Mahdi Dehghani, Matricial ranges of 2 by 2 matrices: an overview, ششمین سمینار آنالیز تابعی و کاربردهای آن، اصفهان، 08 11 1399.

## Papers in Journals

1. M. Dehghani, M. Abed and R. Jahanipur, A generalized orthogonality relation via norm derivatives in real normed linear spaces, Aequationes Math., Vol. 93, pp. 651-667, 2019 07 27.
2. مهدی دهقانی سانچ، Characterization of  $\alpha$ -Birkhoff–James orthogonality in  $C^*$ -algebras and its applications, Annals of Functional Analysis, 2024 04 03, SCOPUS, ISC, JCR.
3. مهدی دهقانی سانچ، روح الله جهانی پور، Mean  $p$ -angular distance orthogonality in normed linear spaces, Filomat, Vol. 38, pp. 3105, 2024 03 27, SCOPUS, JCR.
4. مهدی دهقانی، تعامد متساوی الساقین یکانی از نوع هرمیت-هادامارد در فضاهای نرمدار، موجک ها و جبر خطی، مجلد ۲۲، شماره صفحات ۱۷-۲۲، ۲۰۲۲، ۳۶، ۰۴.
5. مهدی دهقانی، برهان دیگری برای یک مشخص سازی از فضاهای ضرب داخلی، پژوهش های نوین در ریاضی، شماره ۳۰، صفحات ۱۷۱-۱۸۲، ۱۴۰۱، ۰۲ ۳۰.
6. رسول کاظمی و مهدی دهقانی، قاعده انتگرال گیری با جانشانی و جزء به جزء همراه با کاربردهایی در قضیه گرین و یکتایی جواب معادله های دیفرانسیل، فرهنگ و اندیشه ریاضی، ۱۴۰۰، ۱۲ ۱۵.
7. مهدی دهقانی، فضاهای ضرب داخلی: از اتحاد متوازی الاضلاع تا سه گانه جیمز، فرهنگ و اندیشه ریاضی، مجلد ۰۲، شماره ۳۹، ۶۷، ISC، شماره ۱۰۷-۱۳۹۸، ۱۲۳، ۰۹ ۰۲.
8. رسول کاظمی و مهدی دهقانی، مجموع های انتخابی از یک سری نامتناهی، فرهنگ و اندیشه ریاضی، فرهنگ و اندیشه

ریاضی، مجلد ۶۳، شماره صفحات ۱۶۵ تا ۱۳۹۸، ۱۷۳.

۹. مهدی دهقانی و رسول کاظمی، توابع اندازه پذیر با مجموعه معینی از نماهای انتگرال پذیری، ریاضی و جامعه، مجلد ۵۰، شماره ۱، شماره صفحات ۴۵ تا ۱۳۹۶، ۵۰.

10. Mahdi Dehghani, Characterization of Inner Product Spaces by Unitary Carlsson Type Orthogonalities, *Filomat*, Vol. 36, pp. 4655–4663, 2022.

11. M. Dehghani, A. Zamani, Characterization of real inner product spaces by Hermite–Hadamard type orthogonalities, *J. Math. Anal. Appl.*, Vol. 479, pp. 1364–1382, 2019 07 05.

12. M. Dehghani, M. Kian, On matricial ranges of some matrices, *J. Math. Ext.*, Vol. 13, No. 1, pp. 83-102, 2019 06 20, ISI.

13. M. Dehghani, M. B. Dehghani and S.M. Moshtaghioun, Sequentially Right Banach spaces of order  $p$ , *Comment. Math. Univ. Carolin.* (to appear), 2019, Scopus.

14. M.Y. Abed, M. Dehghani and R. Jahanipur, Approximate  $p$ -orthogonality and its preservation, *Ann. Funct. Anal.* (to appear), 2019.

15. M.B. Dehghani, S.M. Moshtaghioun and M. Dehghani, On the Limited  $p$ -Schur Property of Some Operator Spaces, *Int. J. Anal. Appl.*, Vol. 16, No. 1, pp. 50-61, 2018.

16. M. Kian and M. Dehghani, A noncommutative convexity in  $C^*$ -bimodules, *Surv. Math. Appl.*, Vol. 12, pp. 7-21, 2017.

17. M.S. Moslehian, A. Zamani, M. Dehghani, Characterizations of smooth spaces by  $p^*$ -orthogonality, *Houston J. Math.*, Vol. 43, No. 4, pp. 1187-1208, 2017.

18. M. Kian and M. Dehghani, Extension of the Kantorovich inequality for positive multilinear mappings, *Filomat*, Vol. 31, No. 20, pp. 6473-6481, 2017.

19. M. Dehghani, M. Kian and Y. Seo, Matrix power means and the information monotonicity, *Linear Algebra Appl.*, Vol. 521, pp. 57-69, 2017.

20. M. Dehghani and A. Zamani, Linear mappings approximately preserving  $p^*$ -orthogonality, *Indag. Math. (N.S.)*, Vol. 28, No. 5, pp. 992-1001, 2017.

21. M. Dehghani, M. Kian, Y. Seo, Developed matrix inequalities via positive multilinear mappings, *Linear Algebra Appl.*, Vol. 484, pp. 63-85, 2015.

22. M. Dehghani, S. M. S. Modarres, Operator arithmetic-harmonic mean inequality on Krein spaces, *J. Math. Ext.*, Vol. 8, No. 1, pp. 59-68, 2014, ISI.

23. M. S. Moslehian and M. Dehghani, Operator convexity in Krein spaces, *New York J. Math.*, Vol. 20, pp. 133-144, 2014.

24. M. Dehghani and S. M. S. Modarres, M. S. Moslehian, Positive block matrices on Hilbert and Krein  $C^*$ -modules, *Surv. Math. Appl.*, Vol. 8, pp. 23-34, 2013.

25. S. M. Modarres and M. Dehghani, New results for best approximation on Banach lattices, *Nonlinear Analysis: Theory, Methods & Applications*, Vol. 70, No. 9, pp. 3342-2247, 2009.

26. M. Kian, M. Dehghani, M. Sattari, Matricial Radius: A Relation of Numerical Radius with Matricial Range, *Journal of Mathematical Extension*, Vol. 15, pp. 1-12, 1400 01 20, ISC.