

Bandar Abdullah Bin-Mohsin

Associate Professor in
Applied Mathematics

CONTACT:

College of science,
Department of Mathematics,
King Saud University,
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ACADEMIC EXPERIENCE

2018 – NOW	King Saud University Associate Professor of Mathematics, College of Sciences
2013 – 2017	King Saud University Assistant Professor of Mathematics, College of Sciences
2006 – 2013	King Saud University Lecturer in Mathematics, College of Teacher.

ADMINISTRATION EXPERIENCE

2020 – NOW	President of The Saudi Association For Mathematical Science
2014 – 2016	King Saud University Head of Mathematics Department, College of Sciences.
2006 – 2007	King Saud University Manager of Student Fund, College of Teacher.

EDUCATION

2009 – 2013	PhD degree in Applied Mathematics University of Leeds, School of Mathematics. Title of thesis: <i>The Method of Fundamental Solutions for Helmholtz-type Problems.</i>
2008 – 2009	Master degree in Applied Mathematics University of Manchester School of Mathematics. Title of thesis: <i>Truncated ILU Smoothers for Multigrid Preconditioning of the Helmholtz Equation.</i>
2000 – 2004	Bachelor's degree in Mathematics King Saud University.

SKILLS

Languages: Arabic
English

Programming languages: MATLAB
FORTRAN

Word Processing: LaTeX
Office (Word, Excel, PowerPoint, Access)

Operating Systems: Windows
LINUX

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ACADEMIC AWARDS

2012 – 2013	Distinction Award for the final Year of PhD, awarded by the Saudi Arabian Cultural Bureau, UK
2011 – 2012	Distinction Award for the final Year of PhD, awarded by the Saudi Arabian Cultural Bureau, UK
2010 – 2011	Distinction Award for the final Year of PhD, awarded by the Saudi Arabian Cultural Bureau, UK

TRAINING

2018	Basics of Academic Leadership.
2016	- Academic Leaderships, - New Staff Members at KSU.
2010	Matlab course .
2009	- Finding information for your PhD, - Managing information for your PhD, - Giving effective seminars and conference presentations, - PGs who teach in MaPS faculty, - Comsol (Finite Element Method), - CVs & applications, - Building an academic career, - Control volume software.

VISITING

2016	- Visiting Assistant Professor, School of Mathematical, Leeds University, England, UK, Nov (Two weeks).
2015	- Visiting Assistant Professor, School of Mathematical, Leeds University, England, UK, June - August.

POSTERS

2015	- Determination of inner boundaries in modified Helmholtz inverse geometric problems using the MFS. The Conference "Advanced Numerical Methods in the Mathematical Sciences", Texas A&M University, College Station, Texas.
2014	- Numerical reconstruction of an inhomogeneity in an elliptic equation. The International Conference on 'Trends and Perspectives in Linear Statistical Inference' (LinStat2014), Linköping, Sweden.

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WORKSHOPS AND CONFERENCES

- 2019 Workshop on Recent Trends in Applied Mathematics, Mathematics Department, King Saud University, Riyadh, Saudi Arabia.
- 2017 Workshop on Multiphysics, Multiscale, and Coupled Problems in Subsurface Physics, University of California Los Angeles, USA.
- 2016 29th International Summer School 2016 of The Swiss Association of Actuaries on Quantitative Risk Management: Concepts, Techniques and Tools, University of Lausanne, Switzerland.
- 2016 International Conference on Boundary Element and Meshless Techniques, Middle East Technical University, Ankara-Turkey.
- 2015
 - The Tenth UK Conference on Boundary Integral Methods, University of Brighton, UK.
 - The Conference "Advanced Numerical Methods in the Mathematical Sciences", Texas A&M University, College Station, Texas.
 - Workshop on Numerical Methods for Optimal Control and Technische Universität München, Munchen, Germany.
 - Workshop on Numerical Methods for Optimal Control and Inverse Problems, Technische Universität München, Munchen, Germany.
 - The 5th-international Conference on “porous media and its applications in science engineering and industry”, Kona, Hawaii, USA.
- 2014
 - LMS meeting on "Sparse Regularisation for Inverse Problems", Workshop, Isaac Newton Institute, Cambridge, UK.
 - The Seventh International Conference. “Inverse Problems: Model Fethiye, Turkey.
 - The International Conference on ‘Trends and Perspectives in Linear Statistical Inference’ (LinStat2014), Linköping, Sweden.
 - The 8th Annual International Conference on Combinatorial Applications”, Maui, Hawaii, USA.
- 2012
 - The Sixth International Conference. “Inverse Problems: Modeling & Simulation”, Antalya, Turkey.
- 2011
 - Fourth/ Fifth Knowledge Transfer Workshop/Sandpit on Inverse Problems Industry, UK.
- 2010
 - Eighth UK Conference on Boundary Integral Methods, University of Leeds, UK.
 - British Inverse Problems Workshop, UK (2010/2011).
 - 29-31th Mathematics Teachers and /Advisers Conference (2010-2012).
 - Recent Trends in Applied Inverse Problems, University

PROJECTS

- 2016
 - Research Group no. RG-1437-019 funded by Deanship of Scientific Research, King Saud University.
- 2014
 - Raed (3) Project no. NFG-14-03-23 funded by Deanship of Scientific Research, KSU.

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TALKS

- 2016 - Meshless reconstruction of the support of a source, International Conference on Boundary Element and Meshless Techniques, Middle East Technical University, Ankara-Turkey.
- 2015 - Reconstruction of a source domain, The Tenth UK Conference on Boundary Integral Methods, University of Brighton, UK.
- 2014 - Numerical reconstruction of the support of a source in an elliptic equation, The Seventh International Conference. "Inverse Problems: Modeling & Simulation", Fethiye, Turkey.
- 2013 - The Method of Fundamental Solutions for Helmholtz-type Problems, King Saud University, KSA.
- 2012 - Identification of a corroded boundary and its Robin coefficient, The Sixth International Conference. "Inverse Problems: Modeling & Simulation", Antalya, Turkey.
- 2011 - The Method of fundamental solutions for Helmholtz-type equations, University of Leeds, UK (2011).
 - The MFS for Helmholtz-type equations in layered materials, Eighth UK Conference on Boundary Integral Methods, University of Leeds, UK.

REFEREEING FOR JOURNALS

- International Journal of Computer Mathematics (2).
- Applied Numerical Mathematics (1).
- Inverse Problems in Science and Engineering (3).
- International Journal of Solids and Structures (1).

STUDENTS SUPERVISED

No	Name of Students	Degree	Period
1.	Abdulelah Albemah	BSc	2016 -2017 (1st Sem)
2.	N. Albreak	BSc	2015 -2016 (2nd Sem)
3.	B. Alshamri	BSc	2014-2015 (2nd Sem)
4.	A. Alqahtani	BSc	2014- 2015 (1st Sem)

SOME COURSES TAUGHT

No	Course Code	Course Name	No.of Credits	Academic Session
1.	Math107	Vectors and Matrices	4 H	2014-2015
2.	Math203	Calculus	4 H	2014-2015
3.	Stat110	Statistic Imam University	4 H	2014-2015
4.	Math352	Numerical Analysis (1)	4 H	2015-2016
5.	Math499	Research Project	4 H	2014-2016
6.	Math253	Numerical Methods	4 H	2015-2016
7.	Math416	Integral Equations Shaqra University	4 H	2015-2016
8.	Math318	Mathematical History Shaqra University	4 H	2015-2016
9.	KM121	Statistical analysis Shaqra University	4 H	2015-2016

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RESEARCH INTERESTS

Boundary Element Method (BEM), Method of Fundamental Solutions (MFS), Inverse Problems, Partial Differential Equations (PDEs), Computational Fluid Dynamic (CFD), Control Problems, Computational Methods, Numerical Analysis, Fixed Point theorem, Variational inequalities.

PUBLICATIONS

1. Simic, Slavko; **Bin-Mohsin, Bandar** (2020) Stolarsky Means in Many Variables, MATHEMATICS , Vol 8 (8) Article Number: 1320.
2. Simic, Slavko; **Bin-Mohsin, Bandar** (2020) Simpson's Rule and Hermite-Hadamard Inequality for Non-Convex Functions, MATHEMATICS , Vol 8 (8) Article Number: 1248.
3. Hao, DN ; Thanh, PX; **Bin-Mohsin, B**; Cong, NH (2020) Stable reconstruction of the initial condition in parabolic equations from boundary observations, COMPUTERS & MATHEMATICS WITH APPLICATIONS, Vol 79(12), 3570-3587.
4. Simic, Slavko; **Bin-Mohsin, Bandar** (2020) Some Improvements of the Hermite-Hadamard Integral Inequality, SYMMETRY-BASEL, Vol 12 (1) Article Number: 117.
5. **Bandar Bin-Mohsin** (2019) VARIATION OF PARAMETERS METHOD FOR SQUEEZED FLOW OF A CASSON FLUID, THERMAL SCIENCE, Vol 23, Supplement: 6, S2185-S2191.
6. **Bandar Bin-Mohsin** (2019) SOME NEW SOLUTIONS OF THE CONFORMABLE EXTENDED ZAKHAROV-KUZNETSOV EQUATION USING ATANGANA-BALEANU CONFORMABLE DERIVATIVE, THERMAL SCIENCE, Vol 23, Supplement: 6, S2127-S2137.
7. **Bin-Mohsin, B.** and Lesnic, D. (2019) Reconstruction of a volumetric source domain, Journal of Computational Methods in Sciences and Engineering, vol. 19, no. 2, pp. 367-385.
8. **Bandar Bin-Mohsin**, Muhammad Uzair Awan, Muhammad Aslam Noor, Latifa Riahi, Khalida Inayat Noor, Bander Almutairi. (2019) New quantum Hermite-Hadamard inequalities utilizing harmonic convexity of the functions, IEEE Access, Vol 7, 20479-20483.
9. **Bandar Bin-Mohsin** (2019) Buoyancy Effects on MHD Transport of Nanofluid Over a Stretching Surface With Variable Viscosity, IEEE Access, Vol 7, 75398-75406.
10. **Bin-Mohsin, B.** and Lesnic, D. (2019) Reconstruction of inner boundaries subjected to generalized impedance boundary conditions for the modified Helmholtz equation, Applied and Computational Mathematics, vol. 18, no. 3, pp. 272-287.
11. Nabil Mlaiki, Nebojša Dedovic, Hassen Aydi, Milanka Gardašević-Filipović, **Bandar Bin-Mohsin**, Stojan Radenović (2019) Some New Observations on Geraghty and Ćirić Type Results in b-Metric Spaces, Mathematics 7 (7), 643

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PUBLICATIONS

17. Nguyen Huy Tuan, Mach Nguyet Minh, Mokhtar Kirane, **Bandar Bin-Mohsin**; (2017) Regularization of an inverse nonlinear parabolic problem with time-dependent coefficient and locally Lipschitz source term, *J. Math. Anal. Appl.* 449, 697–717.
18. Mohyud-Din, S.T., Usman, M. and **Bin-Mohsin, B.** (2017) A Study of Heat and Mass Transfer of Nanofluids Arising in Biosciences Using Buongiorno's Model, *International Journal of Computational Methods*, Vol.14, No.1, 1750018 (19 pages).
19. **Goong Chen**, Yi-Ching Wang, Alain Perronnet, Cong Gu, Pengfei Yao, **Bandar Bin-Mohsin**, Hichem Hajaiej and Marlan O Scully (2017) The advanced role of computational mechanics and visualization in science and technology: analysis of the Germanwings Flight 9525 crash, *Phys. Scr.* 92(3), 033002 (33pp).
20. Fengyan Yang, **Bandar Bin-Mohsin**, Goong Chen, Pengfei Yao (2017) Exact-approximate boundary controllability of the thermoelastic plate with a curved middle surface, *J. Math. Anal. Appl.* 451, 405–433.
21. Liu, QF, Zhu, J, **Bin-Mohsin, B** and Zheng, LC (2017) Hydromagnetic flow and heat transfer with various nanoparticle additives past a wedge with high order velocity slip and temperature jump, *CANADIAN JOURNAL OF PHYSICS*, Vol.95, No. 5, 440-449.
22. **Bin-Mohsin, B.** and Lesnic, D. (2017) Reconstruction of a source domain from boundary measurements, *Applied Mathematical Modelling*, 45, (925–939).
23. Dangui-Mbani, UO, Sui, J, Zheng, LC, **Bin-Mohsin, B** and Chen, G (2017) Fisher-Kolmogorov-Petrovsky-Piscounov Reaction and n-Diffusion Cattaneo Telegraph Equation, *JOURNAL OF HEAT TRANSFER-TRANSACTIONS OF THE ASME*, Vol.139, No.7 (074502).
24. Nguyen Huy Tuan, Mokhtar Kirane, **Bandar Bin-Mohsin** and Pham Thi Minh Tam (2017) Filter regularization for final value fractional diffusion problem with deterministic and random noise, *J. Math. Anal. Appl.* 74, 1340–1361.
25. Khan, U., Ahmed, N., Mohyud-Din, S.T. and **Bin-Mohsin, B.** (2017) Nonlinear radiation effects on MHD flow of nanofluid over a nonlinearly stretching/shrinking wedge, *Neural Computing and Applications*, Vol.28, No.8, 2041-2050.
26. Khan, U., Ahmed, N., **Bin-Mohsin, B.**, Mohyud-Din, S.T. (2017) Nonlinear Radiation Effects on Flow of Nanofluid over a Porous Wedge in the Presence of Magnetic Field, *International Journal of Numerical Methods for Heat and Fluid Flow*. Vol.27, No.1, 48-63.
27. Mohyud-Din, S.T., Khan, U., Ahmed, N. and **Bin-Mohsin, B.** (2017) Heat and mass transfer analysis for MHD flow of nanofluid inconvergent/divergent channels with stretchable walls using Buongiorno's model, *Neural Computing and Applications*, Vol.28, No.12, 4079-4092.
28. Mohyud-Din, S.T., Zaidi, Z. A. and **Bin-Mohsin, B.** (2017) Effects of nonlinear Rosseland thermal radiation on MHD steady wall jet flow, *Neural Computing and Applications*, Vol.28 Sup.1, S749-S754.

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PUBLICATIONS

29. Mohyud-Din, S.T., Khan, S. I. and **Bin-Mohsin, B.** (2017) Velocity and temperature slip effects on squeezing flow of nanofluid between parallel disks in the presence of mixed convection, *Neural Computing and Applications*, Vol.28, Sup.1, S169-S182
30. Ahmed, N., Erturk, V., Khan, U., Mohyud-Din, S. and **Bin-Mohsin, B.** (2017) MHD flow of a viscous Fluid between Dilating and Squeezing Porous Walls, *Iranian Journal of Science and Technology (Science)*, Vol.41, No. A4, 951-956.
31. Mohyud-Din, S.T., Zaidi, Z. and **Bin-Mohsin, B.** (2017) A comparative study of wall jet flow containing carbon nanotubes with convective heat transfer and MHD, *Engineering Computations*, Vol.34, No.3, 739-753.
32. Mohyud-Din, S.T., **Bin-Mohsin, B.**, Rashidi, M., Waheed, S. and Khan, K. (2017) Some important results for nonlinear age-structured population models, *Biomedical Research*, Vol.27, No.4, pp 1-7.
33. Liu, Y., **Bin-Mohsin, B.**, Hajaiej, H., Yao, P., Chen, G (2016). Exact controllability of structural acoustic interactions with variable coefficients, *SIAM Journal on Control and Optimization*, *SIAM J. Control Optim.*, 54(4), 2132–2153. (22 pages)
34. **Bin-Mohsin, B.** and Lesnic, D. (2016) Meshless reconstruction of the support of a source, *Advances in Boundary Element & Meshless Techniques XVII*, (eds. M. Tezer-Sezgin, B. Karasozen and F.M.H. Aliabadi), Middle East Technical University, Ankara, Turkey, pp.23-28.
35. Khan, U., Mohyud-Din, S.T. and **Bin-Mohsin, B.** (2016) Convective heat transfer and thermo-diffusion effects on flow of nanofluid towards a permeable stretching sheet saturated by a porous medium, *Aerospace Science and Technology*, 50, pp 196-203.
36. Mohyud-Din, S. T. , Ayyaz, A. and **Bin-Mohsin, B.** (2016) On Biological Population Model of Fractional order, *International Journal of Biomathematics*, Vol.9, No.5, 1650070 (13 pages).
37. Iqbal, M. A., Mohyud-Din, S.T. and **Bin-Mohsin, B.** (2016) A Study of Nonlinear Bio-chemical Reaction Model, *International Journal of Biomathematics*, Vol.9, No.5, 1650071 (9 pages).
38. Khan, S.I, Mohyud-Din, S.T. and Bin-Mohsin, B. (2016) Thermo-diffusion and Diffuso-thermo effects on MHD squeezing flow between parallel disks, *Surface Review and Letters*, Vol.24, No.2, 1750022 (10 pages)..
39. Li, J., Zheng, L., Liu, L. and **Bin-Mohsin, B.** (2016) Unsteady MHD flow and radiation heat transfer of Nanofluid in a finite thin film with heat generation and thermophoresis, *Journal of the Taiwan Institute of Chemical Engineers*, Vol.67, 226-234.
40. **Goong Chen**, Jing Tian, **Bandar Bin-Mohsin**, Reed Nessler, Anatoly Svidzinsky and Marlan O Scully. (2016) Parametric resonances: from the Mathieu equation to QASER, *Phys. Scr.* 91(7), 073004 (15pp).

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PUBLICATIONS

41. Jize Sui, Peng Zhao, **Bandar Bin-Mohsin**, Liancun Zheng, Xinxin Zhang, Zhengdong Cheng, Ying Chen & **Goong Chen**. (2016) Fractal aggregation kinetics contributions to thermal conductivity of nano-suspensions in unsteady thermal convection. *Sci Rep.*; 6: 39446.
42. Nguyen Huy Tuan, Mokhtar Kirane, Vu Cam Hoan Luu, **Bandar Bin-Mohsin**; (2016) A regularization method for time-fractional linear inverse diffusion problems, *Electron. J. Differential Equations*, Vol. No. 290, pp. 1-18.
43. Karageorghis, A., **Bin-Mohsin, B.**, Lesnic, D. and Marin, L. (2015) Simultaneous numerical determination of a corroded boundary and its admittance, *Inverse Problems in Science and Engineering*, Vol.23, No.7, pp.1120-1137.
44. **Bin-Mohsin, B.** and Lesnic, D. (2015) Reconstruction of a source domain for the Poisson equation, *Proceedings of the 10th UK Conference on Boundary Integral Methods*, (ed. P.J. Harris), University of Brighton, Chapter 19, pp.169-178.
45. **Bin-Mohsin, B.** and Lesnic, D. (2014) Numerical reconstruction of an inhomogeneity in an elliptic equation, *Inverse Problems in Science and Engineering*, Vol.22, No.1, pp.184-198.
46. **Bin-Mohsin, B.** and Lesnic, D. (2013) A meshless numerical identification of a convective corroded boundary, *Proceedings of the 9th UK Conference on Boundary Integral Methods*, (ed. O.Menshykov), UniPrint, University of Aberdeen, pp.9-16.
47. **Bin-Mohsin, B.** and Lesnic, D. (2012) Identification of a corroded boundary and its Robin coefficient, *East Asian Journal on Applied Mathematics*, Vol.2, No.2, pp.126-149.
48. Lesnic, D. and **Bin-Mohsin, B.** (2012) Inverse shape and heat transfer coefficient identification, *Journal of Computational and Applied Mathematics*, Vol.236, No.7, pp.1876-1891.
49. **Bin-Mohsin, B.** and Lesnic, D. (2012) Determination of inner boundaries in modified Helmholtz inverse geometric problems using the method of fundamental solutions, *Mathematics and Computers in Simulation*, Vol.82, pp.1445-1458.
50. **Bin-Mohsin, B.** and Lesnic, D. (2011) The MFS for Helmholtz-type equations in layered materials, *Proceedings of the 8th UK Conference on Boundary Integral Methods*, (ed. D.Lesnic), Leeds University Press, pp.57-64.
51. **Bin-Mohsin, B.** and Lesnic, D. (2011) The method of fundamental solutions for Helmholtz-type equations in composite materials, *Computers and Mathematics with Applications*, Vol.62, No.12, pp.4377-4390.