Arran Fernandez – Curriculum Vitae

Current email: arran.fernandez@emu.edu.tr

Main research interests: fractional calculus, fractional differential equations, Mittag-Leffler functions, operational calculus, Clifford analysis, zeta functions, asymptotic analysis

MathSciNet profile | Google Scholar profile | ResearchGate profile

Web of Science profile | Personal website

Education

2014–18 PhD, Department of Applied Mathematics & Theoretical Physics, University of Cambridge
Thesis title: Analysis in Fractional Calculus and Asymptotics related to Zeta Functions
Supervisor: Prof. Athanassios S. Fokas
Examiners: Dr. Anthony Ashton, Prof. H. M. Srivastava

2013–14 MMath, University of Cambridge (Part III)
Result: Distinction

2010–13 BA in Mathematics, University of Cambridge (Mathematical Tripos)
Result: Senior Wrangler (ranked #1 among all students in the final year) – youngest ever

---

Positions

2022–present Associate Professor, Eastern Mediterranean University

2024–25 Associate Professor, Sultan Qaboos University

2018–22 Assistant Professor, Eastern Mediterranean University

Short visits: University of Otago (Dec 2012), Çankaya University (Sep–Oct 2017 and Jul–Aug 2018), University of Santiago de Compostela (Jun 2019), Balikesir University (Feb 2020), Nazarbayev University (Aug–Sep 2021), University of Cambridge (Feb 2022 and Jun–Jul 2023), University of Ostrava (Aug 2022), Ghent University (Jan–Feb 2023), University of Aveiro (Mar 2024 and Aug 2024), Charles University (Aug 2024 and Jun 2025), National University of Sciences and Technology (Jun 2025)

Journal articles – accepted/published

E. Zaytsev, **A. Fernandez**, "A fractional residue theorem and its applications in calculating real integrals", *Bulletin of the London Mathematical Society*, accepted 2026.

N. Rani, **A. Fernandez**, "Solving fractional PDEs of Caputo type by Mikusiński's operational calculus", *Journal of Mathematical Sciences* (2025), pp. 1–12. DOI: 10.1007/s10958-025-08138-9

Y. Güzoğlu Yücel, **A. Fernandez**, N.I. Mahmudov, "Extending Mikusiński operational calculus via Sonin kernels", *Rocky Mountain Journal of Mathematics*, accepted 2025.

Y. Güzoğlu Yücel, **A. Fernandez**, N.I. Mahmudov, "Fractional differential equations with continuous variable coefficients and Sonine kernels", *Communications in Nonlinear Science and Numerical Simulation* 152 (2026), 109136. DOI: 10.1016/j.cnsns.2025.109136

A. Fernandez, "Solving coupled pairs of fractional differential equations by Mikusiński's operational calculus", *Evolution Equations and Control Theory* 14(6) (2025), pp. 1517–1533. DOI: 10.3934/eect.2025042

A. Fernandez, Ž. Tomovski, “Fractional Laguerre derivatives and associated differential equations”, *Integral Transforms and Special Functions* 37(2) (2026), pp. 97–125. DOI: 10.1080/10652469.2025.2497443

F. Al-Musalhi, **A. Fernandez**, “Fractional differential equations involving Erdélyi–Kober derivatives with variable coefficients”, *Fractional Calculus and Applied Analysis* 28 (2025), pp. 1252–1281. DOI: 10.1007/s13540-025-00402-8

S.S. Isah, **A. Fernandez**, M.A. Özarslan, “Bivariate substitutions from analytic kernels to fractional differintegral operators”, *Communications in Nonlinear Science and Numerical Simulation* 146 (2025), 108774. DOI: 10.1016/j.cnsns.2025.108774

A. Fernandez, “Extending Sonine kernels to arbitrary dimensions”, *Banach Journal of Mathematical Analysis* 19 (2025), 25. DOI: 10.1007/s43037-025-00412-x

I.A. Saleh, **A. Fernandez**, “On the possibility of Mikusiński's operational calculus for the fractional Laplacian”, *Jordan Journal of Mathematics and Statistics* 18(1) (2025), pp. 127–138. DOI: 10.47013/18.1.10

W. Yasin, **A. Fernandez**, “Fractional powers of Clifford d-bar and radial derivatives”, *Journal of Mathematical Analysis and Applications* 542(2) (2025), 128952. DOI: 10.1016/j.jmaa.2024.128952

N. Rani, **A. Fernandez**, “Mikusiński's operational calculus for multi-dimensional fractional operators with applications to fractional PDEs”, *Communications in Nonlinear Science and Numerical Simulation* 138 (2024), 108249. DOI: 10.1016/j.cnsns.2024.108249

A. Fernandez, J.E. Restrepo, J.-D. Djida, “On the fractional Laplacian of a function with respect to another function", *Mathematical Methods in the Applied Sciences* 47(18) (2024), pp. 14079–14110. DOI: 10.1002/mma.10256

A. Fernandez, “Abstract algebraic construction in fractional calculus: parametrised families with semigroup properties”, *Complex Analysis and Operator Theory* 18 (2024), 50. DOI: 10.1007/s11785-024-01493-6

A. Fernandez, M. Saadetoğlu, “Algebraic results on rngs of singular functions”, *Forum Mathematicum* 36(6) (2024), pp. 1645–1657. DOI: 10.1515/forum-2023-0445

A. Fernandez, S.C. Buranay, “The Peano–Sard theorem for Caputo fractional derivatives”, *Journal of Computational and Applied Mathematics* 441 (2024), 115705. DOI: 10.1016/j.cam.2023.115705

M. Al-Refai, **A. Fernandez**, “Comparison principles for a class of general integro-differential inequalities with applications”, *Computational and Applied Mathematics* 43 (2024), 99. DOI: 10.1007/s40314-023-02538-w

A. Fernandez, C. Güder, W. Yasin, “Fractional powers of the quaternionic d-bar derivative”, *Advances in Applied Clifford Algebras* 34 (2024), 2. DOI: 10.1007/s00006-023-01306-7

S.S. Isah, **A. Fernandez**, M.A. Özarslan, “On univariate fractional calculus with general bivariate analytic kernels”, *Computational and Applied Mathematics* 42 (2023), 228. DOI: 10.1007/s40314-023-02363-1

S.S. Isah, **A. Fernandez**, M.A. Özarslan, “On bivariate fractional calculus with general univariate analytic kernels”, *Chaos, Solitons and Fractals* 171 (2023), 113495. DOI: 10.1016/j.chaos.2023.113495

A. Fernandez, N. Rani, Ž. Tomovski, “An operational calculus approach to Hilfer–Prabhakar fractional derivatives”, *Banach Journal of Mathematical Analysis* 17 (2023), 33. DOI: 10.1007/s43037-023-00258-1

A. Fernandez, M. Al-Refai, “A rigorous analysis of integro-differential operators with non-singular kernels”, *Fractal and Fractional* 7(3) (2023), 213. DOI: 10.3390/fractalfract7030213

M. Al-Refai, **A. Fernandez**, “Generalising the fractional calculus with Sonine kernels via conjugations”, *Journal of Computational and Applied Mathematics* 427C (2023), 115159. DOI: 10.1016/j.cam.2023.115159

A. Fernandez, “Mikusiński’s operational calculus for general conjugated fractional derivatives”, *Boletín de la Sociedad Matemática Mexicana* 29(1) (2023), 25. DOI: 10.1007/s40590-023-00494-3

S. Emin, **A. Fernandez**, “Incommensurate multi-term fractional differential equations with variable coefficients with respect to functions”, *Mathematical Methods in the Applied Sciences* 46(8) (2023), pp. 8618–8631. DOI: 10.1002/mma.9006

C. Kürt, **A. Fernandez**, M.A. Özarslan, “Two unified families of bivariate Mittag-Leffler functions”, *Applied Mathematics and Computation* 443 (2023), 127785. DOI: 10.1016/j.amc.2022.127785

A. Fernandez, J.E. Restrepo, D. Suragan, “A new representation for the solutions of fractional differential equations with variable coefficients”, *Mediterranean Journal of Mathematics* 20 (2023), 27. DOI: 10.1007/s00009-022-02228-7

N. Rani, **A. Fernandez**, “An operational calculus formulation of fractional calculus with general analytic kernels”, *Electronic Research Archive* 30(12) (2022), pp. 4238–4255. DOI: 10.3934/era.2022216

K.D. Kucche, A.D. Mali, **A. Fernandez**, H.M. Fahad, “On tempered Hilfer fractional derivatives with respect to functions and the associated fractional differential equations”, *Chaos, Solitons and Fractals* 163 (2022), 112547. DOI: 10.1016/j.chaos.2022.112547

A. Fernandez, J.E. Restrepo, D. Suragan, “On linear fractional differential equations with variable coefficients”, *Applied Mathematics and Computation* 432 (2022), 127370. DOI: 10.1016/j.amc.2022.127370

A. Fernandez, H.M. Fahad, “On the importance of conjugation relations in fractional calculus”, *Computational and Applied Mathematics* 41 (2022), 246. DOI: 10.1007/s40314-022-01925-z

A.D. Mali, K. Kucche, **A. Fernandez**, H.M. Fahad, “On tempered fractional calculus with respect to functions and the associated fractional differential equations”, *Mathematical Methods in the Applied Sciences* 45(17) (2022), pp. 11134–11157. DOI: 10.1002/mma.8441

A. Fernandez, J.E. Restrepo, D. Suragan, “Prabhakar-type linear differential equations with variable coefficients”, *Differential and Integral Equations* 35 (2022), pp. 581–610. DOI: 10.57262/die035-0910-581

P.O. Mohammed, **A. Fernandez**, “Integral inequalities in fractional calculus with general analytic kernels”, *Filomat* 37(11) (2023), pp. 3659–3669. DOI: 10.2298/FIL2311659M

A. Fernandez, H.M. Fahad, “Weighted fractional calculus: a general class of operators”, *Fractal and Fractional* 6 (2022), 208. DOI: 10.3390/fractalfract6040208

N. Rani, **A. Fernandez**, “Mikusiński’s operational calculus for Prabhakar fractional calculus”, *Integral Transforms and Special Functions* 33(12) (2022), pp. 945–965. DOI: 10.1080/10652469.2022.2057970

N. Rani, **A. Fernandez**, “Solving Prabhakar differential equations using Mikusiński’s operational calculus”, *Computational and Applied Mathematics* 41 (2022), 107. DOI: 10.1007/s40314-022-01794-6

A. Fernandez, M.A. Özarslan, C. Kürt, “A catalogue of semigroup properties for integral operators with Fox–Wright kernel functions”, *Studies in Applied Mathematics* 148 (2022), pp. 1477–1518. DOI: 10.1111/sapm.12481

A. Fernandez, J.E. Restrepo, D. Suragan, “Linear differential equations with variable coefficients and Mittag-Leffler kernels”, *Alexandria Engineering Journal* 61 (2022), pp. 4757–4763. DOI: 10.1016/j.aej.2021.10.028

A. Fernandez, J.E. Restrepo, D. Suragan, “Lipschitz and Fourier type conditions with moduli of continuity in rank 1 symmetric spaces”, *Monatshefte für Mathematik* 197 (2022), pp. 353–364. DOI: 10.1007/s00605-021-01621-w

C.M.S. Oumarou, H.M. Fahad, J.-D. Djida, **A. Fernandez**, “On fractional calculus with analytic kernels with respect to functions”, *Computational and Applied Mathematics* 40 (2021), 244. DOI: 10.1007/s40314-021-01622-3

A. Fernandez, J.-D. Djida, “Fractional differential relations for the Lerch zeta function”, *Archiv der Mathematik* 117 (2021), pp. 515–527. DOI: 10.1007/s00013-021-01654-5

H.M. Fahad, M. u. Rehman, **A. Fernandez**, “On Laplace transforms with respect to functions and their applications to fractional differential equations”, *Mathematical Methods in the Applied Sciences* 46(7) (2023), pp. 8304–8323. DOI: 10.1002/mma.7772

A. Fernandez, S. Ali, A. Zada, “On non-instantaneous impulsive fractional differential equations and their equivalent integral equations”, *Mathematical Methods in the Applied Sciences* 44 (2021), pp. 13979–13988. DOI: 10.1002/mma.7669

R. Nigmatullin, D. Baleanu, **A. Fernandez**, “Balance equations with generalised memory and the emerging fractional kernels”, *Nonlinear Dynamics* 104(4) (2021), pp. 4149–4161. DOI: 10.1007/s11071-021-06562-5

H.M. Fahad, **A. Fernandez**, "Operational calculus for Caputo fractional calculus with respect to functions and the associated fractional differential equations", *Applied Mathematics and Computation* 409 (2021), 126400. DOI: 10.1016/j.amc.2021.126400

M.A. Özarslan, **A. Fernandez**, “On a five-parameter Mittag-Leffler function and the corresponding bivariate fractional operators”, *Fractal and Fractional* 5(2) (2021), 45. DOI: 10.3390/fractalfract5020045

R. Daher, **A. Fernandez**, J.E. Restrepo, “Characterising extended Lipschitz type conditions with moduli of continuity”, *Results in Mathematics* 76 (2021), 125. DOI: 10.1007/s00025-021-01433-2

A. Fernandez, S. Uçar, N. Özdemir, “Solving a well-posed fractional initial value problem by a complex approach”, *Fixed Point Theory and Algorithms for Sciences and Engineering* 2021 (2021), 11. DOI: 10.1186/s13663-021-00696-2

A. Fernandez, C. Ustaoğlu, M.A. Özarslan, “On the analytical development of incomplete Riemann–Liouville fractional calculus”, *Turkish Journal of Mathematics* 45(3) (2021), pp. 1418–1443. DOI: 10.3906/mat-2101-64

M.A. Özarslan, **A. Fernandez**, “On the fractional calculus of multivariate Mittag-Leffler functions”, *International Journal of Computer Mathematics* 99(2) (2022), pp. 247–273. DOI: 10.1080/00207160.2021.1906869

H.M. Fahad, **A. Fernandez**, "Operational calculus for Riemann–Liouville fractional calculus with respect to functions and the associated fractional differential equations", *Fractional Calculus and Applied Analysis* 24(2) (2021), pp. 518–540. DOI: 10.1515/fca-2021-0023

A. Fernandez, D. Baleanu, “Classes of Operators in Fractional Calculus: A Case Study”, *Mathematical Methods in the Applied Sciences* 44(11) (2021), pp. 9143–9162. DOI: 10.1002/mma.7341

A. Ahmadova, I.T. Huseynov, **A. Fernandez**, N.I. Mahmudov, “Trivariate Mittag-Leffler functions used to solve multi-order systems of fractional differential equations”, *Communications in Nonlinear Science and Numerical Simulation* 97C (2021), 105735. DOI: 10.1016/j.cnsns.2021.105735

H.M. Fahad, **A. Fernandez**, M. u. Rehman, M. Siddiqi, “Tempered and Hadamard-type fractional calculus with respect to functions”, *Mediterranean Journal of Mathematics* 18 (2021), 143. DOI: 10.1007/s00009-021-01783-9

A. Fernandez, I. Husain, “Modified Mittag-Leffler functions with applications in complex formulae for fractional calculus”, *Fractal and Fractional* 4(3) (2020), 45. DOI: 10.3390/fractalfract4030045

I.T. Huseynov, A. Ahmadova, **A. Fernandez**, N.I. Mahmudov, “Explicit analytical solutions of incommensurate fractional differential equation systems”, *Applied Mathematics and Computation* 390C (2021), 125590. DOI: 10.1016/j.amc.2020.125590

A. Fernandez, C. Kürt, M.A. Özarslan, “A naturally emerging bivariate Mittag-Leffler function and associated fractional-calculus operators”, *Computational and Applied Mathematics* 39 (2020), 200. DOI: 10.1007/s40314-020-01224-5

A. Fernandez, T. Abdeljawad, D. Baleanu, “Relations between fractional models with three-parameter Mittag-Leffler kernels”, *Advances in Difference Equations* 2020 (2020), 186. DOI: 10.1186/s13662-020-02638-5

D. Baleanu, **A. Fernandez**, A. Akgül, “On a fractional operator combining proportional and classical differintegrals”, *Mathematics* 8(3) (2020), 360. DOI: 10.3390/math8030360

C. Kürt, M.A. Özarslan, **A. Fernandez**, “On a certain bivariate Mittag-Leffler function analysed from a fractional-calculus point of view”, *Mathematical Methods in the Applied Sciences* 44 (2021), pp. 2600–2620. DOI: 10.1002/mma.6324

A. Fernandez, C. Bouzouina, “Fractionalisation of complex d-bar derivatives”, *Complex Variables and Elliptic Equations* 66(3) (2021), pp. 437–475. DOI: 10.1080/17476933.2020.1722114

A. Fernandez, P.O. Mohammed, “Hermite–Hadamard inequalities in fractional calculus defined using Mittag-Leffler kernels”, *Mathematical Methods in the Applied Sciences* 44(10) (2021), pp. 8414–8431. DOI: 10.1002/mma.6188

D. Baleanu, **A. Fernandez**, “On fractional operators and their classifications”, *Mathematics* 7(9) (2019), 830. DOI: 10.3390/math7090830

J.-D. Djida, **A. Fernandez**, I. Area, “Well-posedness results for fractional semi-linear wave equations”, *Discrete & Continuous Dynamical Systems – Series B* 25(2) (2020), pp. 569–597. DOI: 10.3934/dcdsb.2019255

T. Abdeljawad, **A. Fernandez**, "On a new class of fractional difference-sum operators with discrete Mittag-Leffler kernels", *Mathematics* 7(9) (2019), 772. DOI: 10.3390/math7090772

A. Fernandez, C. Ustaoğlu, “On some analytic properties of tempered fractional calculus”, *Journal of Computational and Applied Mathematics* 366 (2020), 112400. DOI: 10.1016/j.cam.2019.112400

A.K. Golmankhaneh, S. Ashrafi, D. Baleanu, **A. Fernandez**, “Brownian motion on Cantor sets”, *International Journal of Nonlinear Science and Numerical Simulation* 21 (2020), pp. 275–281. DOI: 10.1515/ijnsns-2018-0384

A.K. Golmankhaneh, **A. Fernandez**, “Random variables and stable distributions on fractal Cantor sets”, *Fractal and Fractional* 3(2) (2019), 31. DOI: 10.3390/fractalfract3020031

H.M. Srivastava, **A. Fernandez**, D. Baleanu, “Some new fractional-calculus connections between Mittag-Leffler functions”, *Mathematics* 7(6) (2019), 485. DOI: 10.3390/math7060485

A. Fernandez, “A complex analysis approach to Atangana–Baleanu fractional calculus”, *Mathematical Methods in the Applied Sciences* 44(10) (2021), pp. 8070–8087. DOI: 10.1002/mma.5754

A. Fernandez, M.A. Özarslan, D. Baleanu, "On fractional calculus with general analytic kernels", *Applied Mathematics and Computation* 354 (2019), pp. 248–265. DOI: 10.1016/j.amc.2019.02.045

A. Fernandez, D. Baleanu, "On a new definition of fractional differintegrals with Mittag-Leffler kernel", *Filomat* 33(1) (2019), pp. 245–254. DOI: 10.2298/FIL1901245F

A.K. Golmankhaneh, **A. Fernandez**, "Fractal calculus of functions on Cantor tartan spaces", *Fractal and Fractional* 2(4) (2018), 30. DOI: 10.3390/fractalfract2040030

J.-D. Djida, **A. Fernandez**, "Interior regularity estimates for a degenerate elliptic equation with mixed boundary conditions", *Axioms* 7(3) (2018), 65. DOI: 10.3390/axioms7030065

A. Fernandez, D. Baleanu, A.S. Fokas, "Solving PDEs of fractional order using the unified transform method", *Applied Mathematics and Computation* 339C (2018), pp. 738–749. DOI: 10.1016/j.amc.2018.07.061

A. Fernandez, D. Baleanu, H.M. Srivastava, "Series representations for fractional-calculus operators involving generalised Mittag-Leffler functions", *Communications in Nonlinear Science and Numerical Simulation* 67 (2019), pp. 517–527. DOI: 10.1016/j.cnsns.2018.07.035

A.K. Golmankhaneh, **A. Fernandez**, A.K. Golmankhaneh, D. Baleanu, "Diffusion on middle-ξ Cantor sets", *Entropy* 20(7) (2018), 504. DOI: 10.3390/e20070504

A. Fernandez, A.S. Fokas, "Asymptotics to all orders of the Hurwitz zeta function", *Journal of Mathematical Analysis and Applications* 465(1) (2018), pp. 423–458. DOI: 10.1016/j.jmaa.2018.05.012

A. Fernandez, "The Lerch zeta function as a fractional derivative", *Banach Center Publications* 118 (2019), pp. 113–124. Preprint available from arXiv:1804.07936. DOI: 10.4064/bc118-7

A. Fernandez, "An elliptic regularity theorem for fractional partial differential operators", *Computational and Applied Mathematics* 37 (2018), pp. 5542–5553. DOI: 10.1007/s40314-018-0618-2

A. Fernandez, D. Baleanu, "The mean value theorem and Taylor's theorem for fractional derivatives with Mittag-Leffler kernel", *Advances in Difference Equations* 2018:86 (2018). DOI: 10.1186/s13662-018-1543-9

A. Fernandez, E.A. Spence, A.S. Fokas, "Uniform asymptotics as a stationary point approaches an endpoint", *IMA Journal of Applied Mathematics* 83(1) (2018), pp. 204–242. DOI: 10.1093/imamat/hxx042

D. Baleanu, **A. Fernandez**, "On some new properties of fractional derivatives with Mittag-Leffler kernel", *Communications in Nonlinear Science and Numerical Simulation* 59 (2018), pp. 444–462. DOI: 10.1016/j.cnsns.2017.12.003

D. Baleanu, **A. Fernandez**, "A generalisation of the Malgrange–Ehrenpreis theorem to find fundamental solutions to fractional PDEs", *Electronic Journal of Qualitative Theory of Differential Equations* 15 (2017), pp. 1–12. DOI: 10.14232/ejqtde.2017.1.15

Chapters, editorials, errata – accepted/published

A. Fernandez, "Fractional integrals as contraction mappings", in: S. Victor (ed.), *13th IFAC Conference on Fractional Differentiation and its Applications ICFDA 2025*, *IFAC-PapersOnLine* 59(37) (2025), pp. 63–68. DOI: 10.1016/j.ifacol.2026.01.012

A. Fernandez, "Tables of composition properties of fractional integrals and derivatives", in: K. van Bockstal, M. Ruzhansky (eds.), *Research Perspectives Ghent Analysis and PDE Center*, Springer/Birkhäuser, Cham, accepted 2025.

A. Fernandez, H.M. Fahad, "A historical survey of fractional calculus with respect to functions (ψ-fractional calculus)", in: J. Ball, H.-O. Tylli, J.A. Virtanen, *Operator Theory, Related Fields, and Applications: IWOTA 2023, Helsinki, Finland*, Springer/Birkhäuser, Cham (2025), pp. 257–278. DOI: 10.1007/978-3-032-00155-9_10

W. Yasin, **A. Fernandez**, "Fractional polyanalyticity", in: N. Faustino, M. Ferreira, U. Kähler, N. Vieira (eds.), *Hypercomplex Analysis and Its Applications*, Springer/Birkhäuser, Cham (2025), pp. 151–159. DOI: 10.1007/978-3-031-86858-0_16

A. Fernandez, "Multi-dimensional operators with Sonine kernels", in: A.H. Hasanoğlu, R. Novikov, K. van Bockstal (eds.), *Inverse Problems: Modeling and Simulation*, Springer/Birkhäuser, Cham (2025), pp. 199–205. DOI: 10.1007/978-3-031-87213-6_25

A. Fernandez, H.M. Fahad, "General transmutation relations and their applications", in: S. Victor (ed.), *12th IFAC Conference on Fractional Differentiation and its Applications ICFDA 2024*, *IFAC-PapersOnLine* 58(12) (2024), pp. 149–154. DOI: 10.1016/j.ifacol.2024.08.181

A. Fernandez, N. Rani, “Mikusiński’s operational calculus for fractional operators with different kernels”, in: S. Victor (ed.), *12th IFAC Conference on Fractional Differentiation and its Applications ICFDA 2024*, *IFAC-PapersOnLine* 58(12) (2024), pp. 220–225. DOI: 10.1016/j.ifacol.2024.08.193

A. Fernandez, “On complex orders in fractional calculus: floors, ceilings, and analytic continuation”, in: S. Victor (ed.), *12th IFAC Conference on Fractional Differentiation and its Applications ICFDA 2024*, *IFAC-PapersOnLine* 58(12) (2024), pp. 143–148. DOI: 10.1016/j.ifacol.2024.08.180

B. Gürbüz, **A. Fernandez**, “Editorial for Special Issue “Numerical and Analytical Methods for Differential Equations and Systems””, *Fractal and Fractional* 8(1) (2024), 59. DOI: 10.3390/fractalfract8010059

A. Fernandez, C. Güder, W. Yasin, “On fractional quaternionic d-bar derivatives”, in: M. Ruzhansky, B. Torebek (eds.), *Extended Abstracts MWCAPDE 2023: Methusalem Workshop on Classical Analysis and Partial Differential Equations*, Springer/Birkhäuser, Cham (2024), pp. 23–31. DOI: 10.1007/978-3-031-41665-1_3

M.A. Özarslan, **A. Fernandez**, I. Area, “Editorial for Special Issue “Fractional Calculus and Special Functions with Applications””, *Fractal and Fractional* 5(4) (2021), 224. DOI: 10.3390/fractalfract5040224

A. Fernandez, “Mikusiński’s Operational Calculus applied in General Classes of Fractional Calculus”, in: A. Dzielinski, D. Sierociuk, P. Ostalczyk (eds.), *Proceedings of the International Conference on Fractional Differentiation and its Applications (ICFDA’21)*, Springer, Cham, 2022, pp. 171–176. DOI: 10.1007/978-3-031-04383-3_19

A. Fernandez, D. Baleanu, H.M. Srivastava, "Corrigendum to “Series representations for fractional-calculus operators involving generalised Mittag-Leffler functions” [Commun. Nonlinear Sci. Numer. Simulat. 67 (2019) 517–527", *Communications in Nonlinear Science and Numerical Simulation* 82 (2020), 104963. DOI: 10.1016/j.cnsns.2019.104963

A. Fernandez, D. Baleanu, “Differintegration with respect to functions in fractional models involving Mittag-Leffler functions”, in: Proceedings of the International Conference on Fractional Differentiation and its Applications 2018, *SSRN* 3275746 (2018). DOI: 10.2139/ssrn.3275746

Research papers – completed/submitted

W. Yasin, **A. Fernandez**, “Bicomplex differential operators of fractional order”, *Complex Variables and Elliptic Equations*, submitted.

W. Yasin, **A. Fernandez**, “On Caputo-type fractional powers of complex derivative operators”, *Complex Analysis and Operator Theory*, under review.

O. Alsaid Sulaiman, **A. Fernandez**, “On the extension of the polygamma function to non-integer order”, *Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemáticas*, submitted.

A. Fernandez, “Composition of fractional integral and derivative operators: summarised in tables”, *Mathematical Methods in the Applied Sciences*, under review.

Outreach – non-research publications

2025	"How Many Shapes can Tile a Floor?" (on the aperiodic monotile), published online, Sultan Qaboos University.
2024	"How Long is the Coastline of Cyprus?" (on fractals and the coastline paradox), published online, Eastern Mediterranean University.
2012	"Surface Differences Matter!" (on the classification theorem for closed connected surfaces), Eureka issue 62, Cambridge University Mathematical Society.

Research grants

May–Oct 2024 Principal investigator, “Hypercomplex Analysis, Transforms, and Spaces (HATS)”, Scientific Research Project (BAP-C), Eastern Mediterranean University. 50,000 TL grant.

Feb–Jul 2023 Principal investigator, “Clifford Analysis Knowledge Exchange (CAKE)”, Scientific Research Project (BAP-C), Eastern Mediterranean University. 35,000 TL grant.

Academic editor

Editorial Board member for the following journals:

2026–present Associate Editor, *Fractional Calculus and Applied Analysis* (Springer).

2025–present Associate Editor, *Fractional Differential Calculus* (Ele-Math).

2025–present Associate Editor, *Communications in Nonlinear Science and Numerical Simulation* (Elsevier).

2024–present Associate Editor, *Evolution Equations and Control Theory* (AIMS Press).

2022–present Advisory Editor, *Mathematical Methods in the Applied Sciences* (Wiley).

2020–present Associate Editor, *Fixed Point Theory and Algorithms for Sciences and Engineering* (Springer).

Guest Editor for Special Issues as follows:

2025–present “OTHA 2025: Advances on Operator Theory and Harmonic Analysis”, *Journal of Mathematical Sciences* (Springer).

2021–22 “Fractional Calculus and Applicable Analysis”, *Electronic Research Archive* (AIMS Press).

2021–22 “Numerical and Analytical Methods for Differential Equations and Systems”, *Fractal & Fractional* (MDPI). To appear as a book volume.

2020–21 “Fractional Calculus and Special Functions with Applications”, *Fractal & Fractional* (MDPI). Published as a book volume in 2022.

Research-related administration

- Co-organiser of online Fractional Calculus Seminar Series (with Pavan Pranjivan Mehta under the auspices of SISSA, Italy), 2024–present.
- Organiser of special session “Fractional Calculus and Fractional Differential Equations”, International Society for Analysis, its Applications and Computation (ISAAC) 2025.
- International Program Committee member and Technical Associate Editor, International Conference on Fractional Differentiation and its Applications (ICFDA), 2024–present.
- Organiser of special session “Fractional Calculus Operators and Their Applications”, International Workshop on Operator Theory and its Applications (IWOTA) 2024.

Research presentations – international

Dec 2025	"Fractional integrals as contraction mappings", contributed talk, *International Conference on Fractional Differentiation and its Applications 2025* (Algiers, Algeria – talk delivered online).
Aug 2025	"Mikusiński's operational calculus and its use in solving systems of fractional differential equations", invited talk, *Advances in Mathematical Physics: Methods and Applications* (Tashkent, Uzbekistan – online conference).
Jul 2025	"Fractional bicomplex derivatives", contributed talk, *International Society for Analysis, its Applications and Computation 2025* (Astana, Kazakhstan).
Jul 2025	"Transmutation relations in fractional calculus", contributed talk, *International Society for Analysis, its Applications and Computation 2025* (Astana, Kazakhstan).
Jul 2025	"Fractional polyanalyticity", contributed talk, *International Workshop on Operator Theory and its Applications 2025* (Enschede, Netherlands).
Apr 2025	"Mikusiński's operational calculus and its use in solving PDEs of fractional order", invited talk, *Operator Theory and Harmonic Analysis, Spring 2025* (Yerevan, Armenia).
Apr 2025	"Mikusiński's operational calculus used to solve systems of fractional differential equations", invited talk, *Workshop on Non-Local Dynamics* (Budapest, Hungary).
Feb 2025	"Algebraic properties of Dimovski spaces for operational calculus", contributed talk, *International Conference on Mathematics and Statistics 2025* (Sharjah, UAE).
Aug 2024	"Extending operational calculus and Sonine kernels to higher dimensions", contributed talk, *International Workshop on Operator Theory and its Applications 2024* (Canterbury, UK).
Aug 2024	"Fractional d-bar derivatives and fractional polyanalyticity", contributed talk, *International Workshop on Operator Theory and its Applications 2024* (Canterbury, UK).
Jul 2024	"Parametrised families of operators in fractional calculus", contributed talk, *European Congress of Mathematics 2024* (Seville, Spain).
Jul 2024	"On complex orders in fractional calculus", contributed talk, *International Conference on Fractional Differentiation and its Applications 2024* (Bordeaux, France).
May 2024	"Mikusiński's operational calculus: algebraic inversion to solve fractional PDEs", contributed talk, *Inverse Problems: Modelling and Simulation 2024* (Cirkewwa, Malta).
Mar 2024	"Fractional powers of differential operators in a Clifford algebra", contributed talk, *International Conference on Hypercomplex Analysis and its Applications 2024* (Aveiro, Portugal).
Mar 2024	"Classifying semigroup properties for integral operators with general Fox–Wright kernels", contributed talk, *International Conference on Recent Trends in Mathematics 2024* (Muscat, Oman).
Feb 2024	"Algebraic properties of function spaces for Mikusiński's operational calculus", invited talk, *International Conference on Function Spaces, Analysis, and Approximation 2024* (Astana, Kazakhstan).
Aug 2023	"Parametrised families of fractional calculus operators: an algebraic viewpoint", contributed talk, *International Workshop on Operator Theory and its Applications 2023* (Helsinki, Finland).
Jul 2023	"Fractional d-bar derivatives in Clifford algebras", contributed talk, *International Society for Analysis, its Applications and Computation 2023* (São Paulo, Brazil).
May 2023	"Fractional differential equations with variable coefficients: constructive series solutions", contributed talk, *International Arab Conference on Mathematics and Computations 2023* (Zarqa, Jordan).

Apr 2023 "Fractional d-bar derivatives in $\mathbb{C}$ and $\mathbb{H}$", invited talk, *International Conference on Mathematical Methods in Physics 2023* (Marrakech, Morocco).

Mar 2023 "Abstract algebra in fractional calculus: general parametrised families with semigroup properties", invited talk, *International Conference on Fractional Differentiation and its Applications 2022* (Ajman, UAE).

Aug 2022 "Classifying semigroup properties for integral operators with general Fox–Wright kernels", invited talk, *Summer School – Singularities in Science and Engineering 2022* (Ghent, Belgium).

Jul 2022 "Adapting the Fokas method to fractional-order PDEs", invited talk, *Summer School – Conference on Dynamical Systems and Complexity 2022* (Chania, Greece).

Jul 2022 "On Connections and Novelty in Fractional Calculus", invited talk, *International Conference on Applied Analysis and Mathematical Modelling 2022* (Istanbul, Turkey – online due to Covid-19).

Jun 2022 "Fractional versions of complex Wirtinger (d-bar) derivatives", contributed talk, *International Conference on Mathematical Analysis and Applications in Science and Engineering 2022* (Porto, Portugal).

Jun 2022 "Adapting the Fokas transform method to solve certain fractional PDEs", invited talk, *Fractional Differential Equations*, Isaac Newton Institute research programme (Cambridge, UK – partially online due to Covid-19).

May 2022 "Think Before You Define: on Conjugation Relations and Other Connections", contributed talk, *International Conference on Computational Mathematics and Engineering Sciences 2022* (Ordu, Turkey).

May 2022 "Bivariate Mittag-Leffler functions and associations with fractional calculus", contributed talk, *International Arab Conference on Mathematics and Computations 2022* (Zarqa, Jordan).

Apr 2022 "Semigroup properties for multi-dimensional fractional integral operators", invited talk, *Fractional Differential Equations*, Isaac Newton Institute research programme (Cambridge, UK – partially online due to Covid-19).

Feb 2022 "The fractional Laplacian of a function with respect to another function", contributed talk, *Deterministic and stochastic fractional differential equations and jump processes*, workshop in the *Fractional Differential Equations* research programme, Isaac Newton Institute (Cambridge, UK).

Jan 2022 "On fractional Wirtinger derivatives for complex analysis", invited talk, *Fractional Differential Equations*, Isaac Newton Institute research programme (Cambridge, UK – partially online due to Covid-19).

Jan 2022 "Making Hard Fractional Problems Easy: on Series and Conjugation", contributed talk, *Online International Symposium on Applied Mathematics and Engineering* (Istanbul, Turkey – online due to Covid-19).

Nov 2021 "Mikusiński's Operational Calculus for Fractional Differential Equations", invited talk, *International Webinar on Algebra, Differential Equations & Its Applications 2021* (Coimbatore, India – online due to Covid-19).

Sep 2021 "Mikusiński's Operational Calculus applied in General Classes of Fractional Calculus", contributed talk, *International Conference on Fractional Differentiation and its Applications 2020* (Warsaw, Poland – online due to Covid-19).

Sep 2021 "Bivariate Mittag-Leffler functions and associations with fractional calculus", contributed talk, *International Conference on Applied Mathematics in Engineering 2020* (Balikesir, Turkey – online due to Covid-19).

Aug 2021 "Fractional versions of complex d-bar derivatives", contributed talk, *International Society for Analysis, its Applications and Computation 2021* (Ghent, Belgium – online due to Covid-19).

Jun 2021 "Non-Instantaneous Impulsive Fractional Differential Equations: A Rigorous Survey", contributed talk, *International Conference on Applied Analysis and Mathematical Modelling 2021* (Istanbul, Turkey – online due to Covid-19).

May 2021 "Variable-Coefficient Fractional Differential Equations and their Solutions", contributed talk, *International Conference On Mathematical Advances and Applications 2021* (Istanbul, Turkey – online due to Covid-19).

Dec 2020 “Series Solutions to Fractional Differential Equations with Variable Coefficients”, contributed talk, *International Conference on Applied Nonlinear Analysis and Soft Computing 2020* (Guwahati, India – online due to Covid-19).

Dec 2020 “Modern Fractional Calculus: Two Important General Classes of Operators”, invited talk, *Online Conference on Modern Fractional Calculus and its Applications 2020* (Istanbul, Turkey – online due to Covid-19).

Jul 2020 "Classes of Operators: a Viewpoint on Fractional Calculus", invited talk, *International Conference on Nonlinear Analysis and its Applications 2020* (Latur, India – online due to Covid-19).

Jul 2019 “Models and classifications in fractional calculus”, contributed talk, *International Society for Analysis, its Applications and Computation 2019* (Aveiro, Portugal).

Jul 2019 “A general class of fractional-calculus operators and their applications”, invited talk, *International Istanbul Summer School in Applied Mathematics 2019* (Istanbul, Turkey).

Jul 2019 “Complex integrals in fractional calculus”, contributed talk, *International Conference on Computational Methods in Applied Sciences 2019* (Istanbul, Turkey).

Apr 2019 "Incomplete forms of fractional integrals and derivatives", contributed talk, *International Conference on Computational Mathematics and Engineering Sciences 2019* (Antalya, Turkey).

Jul 2018 "Differintegration with respect to functions in fractional models involving Mittag-Leffler functions", contributed talk, *International Conference on Fractional Differentiation and its Applications 2018* (Amman, Jordan).

Jul 2018 "Generalisation and reduction of fractional models", invited talk, *International Conference on Fractional Differentiation and its Applications 2018* (Amman, Jordan).

Jun 2018 "A series formula for Prabhakar fractional operators", contributed talk, *International Conference on Applied Mathematics in Engineering 2018* (Balikesir, Turkey).

Sep 2017 "Asymptotics to all orders of the Hurwitz zeta function", contributed talk, *Number Theory Week 2017* (Poznań, Poland).

May 2017 "New properties of fractional derivatives defined using Mittag-Leffler kernel", contributed talk, *International Conference on Recent Advances in Pure and Applied Mathematics 2017* (Ephesus, Turkey).

Jul 2016 "Explicit solutions to FPDEs via the Fokas method and fundamental solutions", contributed talk, *International Conference on Fractional Differentiation and its Applications 2016* (Novi Sad, Serbia).

Aug 2015 "Fractional calculus and the Fokas method", contributed talk, *Young Researchers in Mathematics 2015* (Oxford, UK).

Research presentations – local

Mar 2026 “Mikusinski’s operational calculus”, departmental seminar, Eastern Mediterranean University, Famagusta, Northern Cyprus.

Jan 2026 “Fixed point theory in fractional calculus: stronger and constructive uses of Banach’s theorem”, invited talk, National University of Sciences and Technology, Islamabad, Pakistan. Online seminar.

Nov 2025 “Transmutation in fractional calculus”, departmental seminar, Eastern Mediterranean University, Famagusta, Northern Cyprus.

Oct 2025 “The Fokas method and its application to fractional PDEs”, invited talk, SISSA (International School for Advanced Studies), Trieste, Italy. Online seminar, recording available at https://www.youtube.com/watch?v=zyCrn5lYemc

Jun 2025 “Fractional complex derivatives and generalisations”, invited talk, National University of Sciences and Technology, Islamabad, Pakistan.

May 2025	“Mikusiński’s operational calculus and its use in solving systems of fractional differential equations”, invited online webinar, Analysis & Applied Mathematics seminar series.
Mar 2025	“Mikusiński’s operational calculus: an application of abstract algebra in solving differential equations”, invited online webinar, Oman Mathematics Committee (national mathematical society of Oman).
Oct 2024	“Fractional calculus and algebraic conjugation”, departmental seminar, Sultan Qaboos University, Muscat, Oman.
Oct 2024	“Fractional calculus with respect to functions: historical overview, transmutation relations, and generalisations”, invited talk, Seminar on Analysis, Differential Equations and Mathematical Physics, Rostov-on-Don, Russia. Online seminar, recording available at https://www.youtube.com/watch?v=pCvAEkoRLMw
Aug 2024	“General kernels and parametrised families: in search of semigroup properties”, invited talk, SISSA (International School for Advanced Studies), Trieste, Italy. Online seminar, recording available at https://www.youtube.com/watch?v=Z3jKMA4IkwI
Feb 2024	“Convolution Algebras of Singular Functions”, invited talk, National University of Sciences and Technology, Islamabad, Pakistan. Online seminar.
Sep 2023	“Operational Calculus: Using Abstract Algebra to Solve Differential Equations”, invited talk, Sultan Qaboos University, Muscat, Oman. Online seminar.
Apr 2023	“Operational calculus: an algebraic method for differential equations”, invited talk, Sultan Moulay Slimane University, Beni Mellal, Morocco.
Jan 2023	“Fractionalising the complex Wirtinger (d-bar) derivatives”, invited talk, Ghent Analysis & PDE Centre, University of Ghent, Belgium.
Jan 2023	“Fractional differential equations: initialisation, singularity, and dimensions”, invited talk, SISSA (International School for Advanced Studies), Trieste, Italy. Online seminar, recording available at https://www.youtube.com/watch?v=EoHXCTLScGU
Nov 2021	“Mikusinski’s Operational Calculus: an Algebraic Method for Differential Equations”, invited talk, Department of Mathematics, Nazarbayev University, Kazakhstan. Online due to Covid-19.
Aug 2020	“Fractional calculus and zeta functions”, invited talk, AIMS-Cameroon Research Centre Colloquium Series, African Institute for Mathematical Sciences, Cameroon. Online due to Covid-19.
Feb 2020	“Complex Integral Representations of Fractional Differintegrals”, invited talk, Department of Mathematics, Balikesir University, Turkey.
Jul 2019	“Zeta functions expressed as fractional derivatives”, invited talk, Seminar on Millennium Problems: Riemann Hypothesis, Institute of Mathematics, University of Santiago de Compostela, Spain.
Apr 2018	"Fractional PDEs, Novel Fractional Models, and Asymptotic Analysis of Zeta Functions", invited talk, Mathematics Department Seminar Series, Bilkent University, Ankara, Turkey.
Oct 2017	"Fractional Calculus and Analytic Number Theory", invited talk, Analysis and Applied Mathematics Seminar Series, Çankaya University, Ankara, Turkey.
May 2016	"Constructing solutions to linear fractional-order PDEs", departmental seminar, Cambridge Analysts Knowledge Exchange, Faculty of Mathematics, University of Cambridge, UK.
May 2016	"Fractional PDEs", contribution to graduate seminar series, Department of Applied Mathematics and Theoretical Physics, University of Cambridge, UK.
Nov 2012	"Introduction to Fractional Calculus", series of 1-hour talks, Faculty of Mathematics, University of Cambridge, UK.
Oct 2012	"Introduction to Fractional Calculus", invited talk, PDE Working Group Seminar, Imperial College London, UK.

Teaching

Supervisor (small-group teaching sessions) at the University of Cambridge in the following undergraduate courses:

2013–18	Metric & Topological Spaces (2nd-year course)
2013–14	Linear Analysis (3rd-year course)
2014–18	Further Complex Methods (3rd-year course)
2014–15	Linear Algebra (2nd-year course)
2014–18	Number Theory (3rd-year course)
2015–18	Complex Analysis (2nd-year course)

This teaching was provided for the following colleges at the University of Cambridge: Christ's, Churchill, Clare, Corpus Christi, Downing, Emmanuel, Girton, Gonville & Caius, Homerton, Hughes Hall, Jesus, Magdalene, Murray Edwards, Newnham, Pembroke, Queens', Selwyn, St. Catharine's, St. Edmund's, St. John's.

Lecturer at the Eastern Mediterranean University for the following undergraduate and graduate courses:

2018–present	Calculus 1 (1st-year course)
2019–present	Calculus with Precalculus (1st-year course)
2019–24	Calculus 2 (1st-year course)
2021–26	Complex Analysis (2nd-year course)
2026–present	Applied Functional Analysis (4th-year course)
2018–present	Fractional Calculus (master's/PhD course)
2021–24	Complex Analysis (master's/PhD course)
2022–26	Number Theory (master's/PhD course)
2020–22	Fractional Differential Equations (reading course for PhD students)

Lecturer at Sultan Qaboos University for the following undergraduate courses:

2024–25	Discrete Mathematics (3rd-year course)
2024–25	Differential Equations with Applications for Engineers (4th-year course)

Graduate students

Supervisor for PhD and master's students:

2018–21	Chaima Bouzouina (**PhD** in Mathematics, Eastern Mediterranean University). Defence date 9/9/2021. Thesis title "The Interplay between Fractional Calculus and Complex Analysis".
2020–23	Hafiz Muhammad Fahad (**PhD** in Mathematics, Eastern Mediterranean University). Defence date 17/5/2023. Thesis title "Generalised Operational Calculus Approach for Fractional Differential Equations".
2021–23	Noosheza Rani (**PhD** in Mathematics, Eastern Mediterranean University). Defence date 12/6/2023. Thesis title "Mikusinski's Operational Calculus for Prabhakar Fractional Calculus".
2021–25	Sunday Simon Isah (**PhD** in Mathematics, Eastern Mediterranean University). Defence date 6/5/2025. Thesis title "Bivariate Versions of Fractional Calculus with General Analytic Kernels". Co-supervised with Mehmet Ali Özarslan.

2022–25 Walaa Yasin (**PhD** in Mathematics, Eastern Mediterranean University). Defence date 12/5/2025. Thesis title “Fractionalising Complex Analysis on Clifford Algebras”.

2021–25 Yildiz Güzoğlu Yücel (**PhD** in Mathematics, Eastern Mediterranean University). Defence date 27/8/2025. Thesis title “Fractional Differential Equations with Sonine Kernels”. Co-supervised with Nazim Mahmudov.

2021 Ibrahim Abdullahi Saleh (**MSc** in Mathematics, Eastern Mediterranean University). Defence date 31/8/2021. Thesis title “Mikusinski’s Operational Calculus for Fractional Laplacians”.

2022–23 Cihan Güder (**MSc** in Mathematics, Eastern Mediterranean University). Defence date 23/8/2023. Thesis title “Clifford Algebras and Clifford Analysis”. Co-supervised with Neşet Deniz Turgay.

2023–26 Ceren Özden (**MSc** in Mathematics, Eastern Mediterranean University). Defence date 26/1/2026. Thesis title “Uniqueness Properties of Integral Operator Families”.

Co-supervisor for master’s students:

2019–20 Duygu Malyali (MSc in Mathematics, Eastern Mediterranean University). Defence date 30/1/2020. Thesis title "(p,q)-Hahn Difference Operator". Co-supervised with Mehmet Ali Özarslan.

2020 Christian Maxime Steve Oumarou (MSc in Mathematics, African Institute of Mathematical Sciences – Cameroon). Defence date 15/5/2020. Thesis title "Operational Calculus In General Models Of Fractional Calculus". Co-supervised with Jean-Daniel Djida.

2019–20 Bubacarr Kandeh (MSc in Applied Mathematics & Computer Science, Eastern Mediterranean University). Defence date 6/7/2020. Thesis title "Stochastic Calculus with Applications to Finance". Co-supervised with Agamirza Bashirov.

Jury member for PhD and master’s students:

2019 Jean-Daniel Djida (PhD in Mathematics, University of Santiago de Compostela). Defence date 18/6/2019. Thesis title "Some Nonlocal Operators in Porous Medium Equations: the Extension Problem and Regularity Theory". Supervisors Juan Nieto and Ivan Area.

2022 Arzu Ahmadova (PhD in Mathematics, Eastern Mediterranean University). Defence date 3/2/2022. Thesis title "Methods for the Study of Stochastic Differential Equations and Applications: Stochastic Optimal Control Theory". Supervisor Nazim Mahmudov.

2023 Şakir Mehmet Dinsev (MSc in Mathematics, Eastern Mediterranean University). Defence date 4/9/2023. Thesis title "Properties of Block Matrices". Supervisor Müge Saadetoğlu.

Memberships

2020–present Affiliate Member of the American Mathematical Society (AMS).

2023–present Member of the International Society for Analysis, its Applications, and Computation (ISAAC).

2026–present Member of the Operator Theory and Harmonic Analysis (OTHA) Network.

Reviewing

Invited peer reviewer for the following journals.

Springer (29 journals): *Acta Applicandae Mathematicae; Computational and Applied Mathematics; Advances in Difference Equations; Journal of Inequalities and Applications; Lithuanian Mathematical Journal; The European Physical Journal Special*

Topics; Acta Mathematica Sinica, English Series; International Journal of Dynamics and Control; Numerical Algorithms; Mediterranean Journal of Mathematics; Boletín de la Sociedad Matemática Mexicana; International Journal of Applied and Computational Mathematics; Fractional Calculus and Applied Analysis; Qualitative Theory of Dynamical Systems; Journal of Mathematical Sciences; Scientific Reports; Rendiconti del Circolo Matematico di Palermo; Journal of Applied Mathematics and Computing; Bulletin of the Malaysian Mathematical Sciences Society; Complex Analysis and Operator Theory; Advances in Operator Theory; Quantum Studies: Mathematics and Foundations; Arabian Journal of Mathematics; Boundary Value Problems; Zeitschrift für Angewandte Mathematik und Physik; Archives of Computational Methods in Engineering; Bulletin of the Iranian Mathematical Society; Journal of Elliptic and Parabolic Equations; Journal of Theoretical Probability

Elsevier (21 journals): *Communications in Nonlinear Science and Numerical Simulation*; *Applied Mathematics and Computation; Journal of Functional Analysis; Reports on Mathematical Physics; Journal of Advanced Research; Journal of King Saud University – Science; Examples and Counterexamples; Mathematics and Computers in Simulation; Chaos Solitons & Fractals; Results in Applied Mathematics*; *Partial Differential Equations in Applied Mathematics; Ain Shams Engineering Journal; Journal of Computational and Applied Mathematics; Alexandria Engineering Journal; Applied Mathematics Letters; Journal of Computational Science; Applied Mathematical Modelling; Computers & Mathematics with Applications; Journal of Computational Mathematics and Data Science; Nonlinear Science; Engineering Applications of Artificial Intelligence*

Taylor & Francis (9 journals): *Journal of Taibah University for Science; International Journal of Computer Mathematics; Waves in Random and Complex Media; Integral Transforms and Special Functions; Research in Mathematics*; *Applied Mathematics in Science and Engineering; Arab Journal of Basic and Applied Sciences; Quaestiones Mathematicae; Mathematical and Computer Modelling of Dynamical Systems*

Hindawi Publishing Corporation (8 journals): *Complexity; Journal of Function Spaces; Advances in Mathematical Physics; Journal of Mathematics; Mathematical Problems in Engineering; International Journal of Mathematics and Mathematical Sciences; Journal of Applied Mathematics; Abstract and Applied Analysis*

De Gruyter (7 journals): *Open Physics; Demonstratio Mathematica; Journal of Applied Analysis; International Journal of Nonlinear Science and Numerical Simulation; Mathematica Slovaca; Forum Mathematicum; Nonlinear Engineering*

Multidisciplinary Digital Publishing Institute (6 journals): *Axioms; Fractal and Fractional; Mathematics; Mathematical and Computational Applications; Symmetry; Computation*

Wiley (3 journals): *Mathematical Methods in the Applied Sciences; Numerical Methods for Partial Differential Equations; International Journal of Circuit Theory and Applications*

American Institute of Mathematical Sciences Press (3 journals): *AIMS Mathematics; Evolution Equations and Control Theory; Discrete & Continuous Dynamical Systems – Series S*

World Scientific (3 journals): *International Journal of Biomathematics; Fractals; International Journal of Bifurcation and Chaos*

Natural Sciences Publishing (2 journals): *Progress in Fractional Differentiation and Applications; Applied Mathematics and Information Sciences*

Frontiers Media (2 journals): *Frontiers in Physics; Frontiers in Applied Mathematics and Statistics*

International Scientific Research Publications (2 journals): *Journal of Nonlinear Sciences and Applications; Journal of Mathematics and Computer Science*

Individual universities (13 journals): *Filomat; Punjab University Journal of Mathematics; Mathematica Moravica; Scientia Iranica; Journal of Balikesir University Institute of Science and Technology; Journal of Applied Mathematics and Computational Mechanics; Computational Methods for Differential Equations; International Journal of Optimization and Control: Theories & Applications; Jordan Journal of Mathematics and Statistics; Malaysian Journal of Mathematical Sciences; Konuralp Journal of Mathematics; Universal Journal of Mathematics and Applications; CUBO, a Mathematical Journal*

Miscellaneous publishers (23 journals): *Revista Colombiana de Matemáticas*; *IEEE Access*; *International Journal of Analysis and Applications*; *Proceedings of the Royal Society A*; *Journal of Fractional Calculus and Applications*; *Discontinuity, Nonlinearity, and Complexity*; *TWMS Journal of Pure and Applied Mathematics*; *Applied Mathematics E-Notes*; *Turkish Journal of Mathematics*; *Proceedings of the Institute of Mathematics and Mechanics*; *Heliyon*; *Matematički Vesnik*; *Contemporary Mathematics*; *Mathematica Applicanda*; *Scientific Reports*; *Honam Mathematical Journal*; *Applicationes Mathematicae*; *Bulletin of the Belgian Mathematical Society - Simon Stevin*; *Fractional Differential Calculus*; *European Journal of Pure and Applied Mathematics*; *Journal of Integral Equations and Applications; Journal of Nonlinear Modeling and Analysis; TWMS Journal of Applied and Engineering Mathematics*

Also reviewed book proposals for the Oxford University Press and Taylor & Francis.

University administration

2025–present	Chair of the Research Committee, Department of Mathematics, Eastern Mediterranean University.
2025–present	Member of Alumni Interaction Committee, Department of Mathematics, Eastern Mediterranean University.
2023–present	Member of the Graduate Committee, Department of Mathematics, Eastern Mediterranean University.
2023–present	Member of the Social Media Committee, Department of Mathematics, Eastern Mediterranean University.
2024–25	Member of the Final Year Projects Committee, Department of Mathematics, Sultan Qaboos University.
2018–23	Member of the Curriculum Committee, Department of Mathematics, Eastern Mediterranean University.
2020–21	Member of the Research Project Advisory Committee, Faculty of Arts and Sciences, Eastern Mediterranean University.
2022	Member of the Recruitment Committee, Department of Mathematics, Eastern Mediterranean University.

Awards and prizes

2025	Riemann–Liouville Award for "Best research paper" (theoretical side), 13th IFAC Conference on Fractional Differentiation and its Applications (ICFDA), Algiers, Algeria.
2025	Invited as one of 20 HLF alumni (among ~250 applicants) at the 12th Heidelberg Laureate Forum.
2024	Abel Award for "Contributions by active young scientists" (theoretical side), 12th IFAC Conference on Fractional Differentiation and its Applications (ICFDA), Bordeaux, France.
2023	Invited as one of 200 young researchers (among >900 applicants) at the 10th Heidelberg Laureate Forum.
2022	Best presentation in parallel sessions, Online International Symposium on Applied Mathematics and Engineering, Biruni University (online due to Covid-19).
2020	325 Years of Fractional Calculus prize, Online Conference on Modern Fractional Calculus and its Applications, Biruni University (online due to Covid-19).
2019	2nd prize for Young Scientists (based on publications and citations) at International Conference on Computational Methods in Applied Sciences, Istanbul Gelisim University.
2018	Boak Student Support Fund, Clare Hall, University of Cambridge.
2016	Honourable mention for one of the four best talks at 2nd-year graduate student mini-conference, Department of Applied Mathematics and Theoretical Physics, University of Cambridge.
2016	Smith-Knight / Rayleigh-Knight Prize essay, Group 4, Faculty of Mathematics, University of Cambridge.
2014–18	Invitations to events for best teachers (as voted by students) at various University of Cambridge colleges: Pembroke, St. Catharine's, Emmanuel, Downing, Newnham, Girton.
2014–17	Full PhD scholarship, Engineering and Physical Sciences Research Council, United Kingdom.
2011–13	R A Watchman Prize (each year), Fitzwilliam College, University of Cambridge.
2013	Clothworkers Scholarship, Fitzwilliam College, University of Cambridge.
2012	Clough Scholarship, Fitzwilliam College, University of Cambridge.
2011	1912 Scholarship, Fitzwilliam College, University of Cambridge.

Other activities

2024	“A Talk on How to Give a Talk”, invited talk, AlumNode coffee break.
2019–present	Invited careers talks at schools in Northern Cyprus: Doğa College Famagusta, Türk Maarif College Güzelyurt, English School of Kyrenia.
2023	Overall champion, Boffin Brain quiz competition (online YouTube version of The 1% Show).
2021	“A Career in Academic Mathematics”, invited talk, Georgian National University, Tbilisi, Georgia.
2020	Radio appearance, *Jennifer Zamparelli on 2FM*, RTE2, Ireland.
2018	"Mathematics: a Passion between Arts and Sciences", invited talk, Abdul Hameed Shoman Foundation, Amman, Jordan.
2018	"The Career of a Genius", invited talks, Eastern Mediterranean University, Famagusta, Northern Cyprus.
2016–18	Founder and President of the Clare Hall Mathematical Association, a graduate student society at the University of Cambridge.
2013	Newspaper coverage for being the youngest Senior Wrangler ever.
2010	Newspaper coverage for being the youngest Cambridge student since 1773.
2003	TV appearance, *The Terry and Gaby Show*, UMTV, United Kingdom.
2001	TV appearance, *Menschen der Woche* (Person of the Week), SWR, Germany.
2001–03	Newspaper coverage for being the youngest GCSE holder in UK history (GCSEs in Mathematics, at 3 levels).