CURRICULUM VITAE

PERSONAL DATA

Name	**Mahmoud A. Zaky**
Nationality	**Egyptian**
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EDUCATION

Year	Academic Degree	Institution
Sep.2015 – Apr.2018	Ph.D. in Mathematics (Numerical Analysis)	*Department of Mathematics, Faculty of Science, Beni-Suef University*
Jun.2013 – Mar.2015	M.Sc. in Mathematics (Numerical Analysis)	*Department of Mathematics, Faculty of Science, Beni-Suef University*
Sep.2007 – Aug.2011	B.Sc. in Mathematics	*Department of Mathematics, Faculty of Science, Beni-Suef University*

WORK EXPERIENCE

Period	Position	Address
Since 2023	Assistant Professor	Imam Mohammad Ibn Saud Islamic University (IMSIU), Riyadh, Saudi Arabia
2021-2022	Post-Doctoral Fellow	Nazarbayev University, Nur-Sultan, Kazakhstan
2019	Visiting Researcher	Ural Federal University, Yekaterinburg, Russia
Since 2018	Researcher	National Research Centre, Egypt
2015-2018	Researcher Assistant	Ural Federal University, Yekaterinburg, Russia
2016-2017	Teaching Assistant	Zewail City of Science and Technology, Egypt

RESEARCH INTERESTS

Dr. Zaky research interests center around numerical analysis and scientific computing with an emphasis on the development, analysis, and implementation of numerical algorithms for solving differential and integral equations arising from different applications. Dr. Zaky has published more than 95 papers, 2 book chapters, and 8 registered computer programs. He has received numerous awards for his research including 2021 and 2022 ISI Highly Cited Researcher by Thomson Reuters/Clarivate Analytics in the field of Mathematics, the best Ph.D. thesis in Egypt recognized by Beni-Suef University in 2018, the best M.Sc. thesis in Egypt recognized by Egyptian Mathematical Society in 2016, and the best Assistant Researcher award from the National Research Centre in 2016. He is a member of the Egyptian Committee for Mathematics. He is serving as Editor of Applied Numerical Mathematics (Elsevier), Associate Editor of Journal of Nonlinear, Complex and Data Science (De Gruyter), Editor of Computational Methods for Differential Equations, Editor of Plos one.

PUBLICATIONS

Book Chapters

[1] Zaky, M.A., Abdelkawy, M.A., Ezz-Eldien, S.S. and Doha, E.H., 2021. Pseudospectral methods for the Riesz space-fractional Schr¨odinger equation. Fractional-Order Modeling of Dynamic Systems with Applications in Optimization, Signal Processing, and Control, Elsevier p.323.

[2] Doha, E.H., Zaky, M.A. and Abdelkawy, M.A., 2019. Spectral methods within fractional calculus. In Applications in Engineering, Life and Social Sciences, Part B (pp. 207-232). De Gruyter.

Journal Articles

[1] Van Bockstal, K., Zaky, M. A., & Hendy, A. S. (2023). On the Rothe-Galerkin spectral discretisation for a class of variable fractional-order nonlinear wave equations. arXiv preprint arXiv:2303.03708.

[2] Abbaszadeh, M., Zaky, M. A., Hendy, A. S., & Dehghan, M. (2023). A two-grid spectral method to study of dynamics of dense discrete systems governed by Rosenau-Burgers' equation. Applied Numerical Mathematics, 187, 262-276.

[3] Chen, H., Qiu, W., Zaky, M. A., & Hendy, A. S. (2023). A two-grid temporal second-order scheme for the two-dimensional nonlinear Volterra integro-differential equation with weakly singular kernel. Calcolo, 60(1), 13.

[4] Elkot, N. A., Doha, E. H., Ameen, I. G., Hendy, A. S., & Zaky, M. A. (2023). A re-scaling spectral collocation method for the nonlinear fractional pantograph delay differential equations with non-smooth solutions. Communications in Nonlinear Science and Numerical Simulation, 118, 107017.

[5] Fardi, M., Zaky, M. A., & Hendy, A. S. (2023). Nonuniform difference schemes for multi-term and distributed-order fractional parabolic equations with fractional Laplacian. Mathematics and Computers in Simulation, 206, 614-635

[6] Guo, T., Zaky, M. A., Hendy, A. S., & Qiu, W. (2023). Pointwise error analysis of the BDF3 compact finite difference scheme for viscous Burgers' equations. Applied Numerical Mathematics, 185, 260-277.

[7] Hendy, A. S., Zaky, M. A., & Van Bockstal, K. (2023). Theoretical and numerical aspects for the longtime behavior of nonlinear delay time Caputo fractional reaction–diffusion equations. Nonlinear Dynamics, 111(4), 3525-3537.

[8] Zaky, M. A., Van Bockstal, K., Taha, T. R., Suragan, D., & Hendy, A. S. (2023). An L1 type difference/Galerkin spectral scheme for variable-order time-fractional nonlinear diffusion–reaction equations with fixed delay. Journal of Computational and Applied Mathematics, 420, 114832.

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form of Schnakenberg reaction-diffusion model with gene expression time delay. Applied Numerical Mathematics, 185, 295-310.

[10] ZAKY, M., HENDY, A., & ALDRAIWEESH, A. (2023). NUMERICAL ALGORITHM FOR THE COUPLED SYSTEM OF NONLINEAR VARIABLE-ORDER TIME FRACTIONAL SCHR ODINGER EQUATIONS. Romanian Reports in Physics, 75, 106.

[11] Mostafa, D., Zaky, M. A., Hafez, R. M., Hendy, A. S., Abdelkawy, M. A., & Aldraiweesh, A. A. (2023). Tanh Jacobi spectral collocation method for the numerical simulation of nonlinear Schr¨odinger equations on unbounded domain. Mathematical Methods in the Applied Sciences, 46(1), 656-674.

[12] Van Bockstal, K., Zaky, M. A., & Hendy, A. S. (2022). On the existence and uniqueness of solutions to a nonlinear variable order time-fractional reaction–diffusion equation with delay. Communications in Nonlinear Science and Numerical Simulation, 115, 106755.

[13] Van Bockstal, K., Hendy, A. S., & Zaky, M. A. (2022). Space-dependent variable-order time-fractional wave equation: existence and uniqueness of its weak solution. Quaestiones Mathematicae, 1-21.

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distributed-order fractional Rayleigh–Stokes problem for a generalized second grade fluid. Frontiers in Physics, 7, p.240.

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