Emil Sobhy Shoukralla

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Cairo, Egypt.

Current Position:

Prof. Dr. of mathematics at the Engineering Mathematics and Physics, Faculty of Electronic Engineering, Menofia University, Egypt. The Faculty obtained accreditation from the National Authority for Quality Assurance and Accreditation on July 3, 2006

Education:

PhD Mathematics **1988**
Lvov University, Lvov City, Ukraine, Soviet Union.

- Thesis: "Numerical Solutions of Open Boundary Potential Type Problems via Integral equations"

M.S. Mathematics **1982**
Ain Shams University, Cairo, Egypt.

- Research project: "Fundamental Units of Quadratic Fields''

B.S. Mathematics **1978**
Ain Shams University, Cairo, Egypt.

Faculty positions:

- The head of the Dept. of Engineering Mathematics and Physics, Faculty of Electronic Engineering, Menoufia University**.** **November, 2010/2013**
- The Vice Dean of Community and Environmental Development, Faculty of Electronic Engineering, Menoufia University. **October 31, 2007/2009**
- The head of the Dept. of Engineering Mathematics and Physics, Faculty of Electronic Engineering, Menoufia University. **August, 2003 to July, 2006**.

Academic Career:

- Prof. Dr. of Math. (Numerical Analysis), Dept. of Eng. Math and Phys. Faculty of Electronic Eng., Menoufia University, Egypt. **June, 1999 to present**.
- Assistant Prof. of Math. (Numerical Analysis), Dept. of Eng. Math and Phys. Faculty of Electronic Eng., Menoufia University, Egypt. **January, 1993 to June, 1999.**
- Lecturer of Math., Dept. of Eng. Math and Phys. Faculty of Electronic Eng., Menoufia University, Egypt. **November, 1988 to January, 1993**.
- Assistant Lecturer of Math., Dept. of Eng. Math and Phys. Faculty of Electronic Eng., Menoufia, Egypt. **January, 1983 October, 1984.**

- Administrator, Dept. of Eng. Math and Phys. Faculty of Electronic Eng., Menoufia University, Egypt.

September, 1981 to December, 1982.

Teaching Experience:

- Courses of Mathematics, Menofia University, Faculty of Electronic Engineering, Egypt

1**981-up to now**.

- Courses of Mathematics, Zagazig University, Egypt. **1992-1993**.
- Courses of Mathematics, Faculty of Petroleum, Suez Canal University, Sues City, Egypt. **1996-2012**.
- Courses of Mathematics, Institute of Computer Science and Aviation Technology, Egypt. **2002-2003.**
- Courses of Mathematics, Misr International University MIU, Faculty of engineering, Egypt.

2004-2009.

- of Mathematics, Future University FUE, Faculty of engineering, Egypt.

2007 -.2013

- Courses of Mathematics, Full Mandate, Professor of Mathematics, Faculty of Engineering and Technology, Future university in Egypt

2013-2016

Scientific Missions:

Postgraduate Scholarship in Math., Lvov State University, Ukraine, Soviet Union. **October 1984 to September 1988**.

Postdoctoral Research Fellow, Faculty of Applied Math. Lvov University, Lvov, Ukraine. **June 1992 to September 1992**.

Visiting Assistant Professor, Institute of Education, Dragobytch, Ukraine. **March 1996 to September 1996**.

Visiting Professor, Faculty of Applied Math. And Mechanics, Lvov University, Lvov City, Ukraine. **June 2000 to September 2000.**

Languages:

Arabic (native speaker)
Fluent Russian and Ukrainian
High level in English

Awards and Honors:

- The Prize of Al–Ahram Books' Club for the Best Book, January 2002, Al – Ahram Organization, Egypt.
- Shut Shield Menoufia University.
- Appreciation Certificate from Menoufia University at the annual celebration December 25, 2006, in appreciation of the effort made to achieve the University's sublime mission.
- Appreciation Certificate from Menoufia University at the annual celebration December 25, 2016, in appreciation of the effort made to achieve the University's sublime mission.

Gradate Thesis Co-Supervised

- Ph.D. Thesis in Engineering Mathematics, Department of Engineering Physics and Mathematics, Faculty of Engineering, Helwan University, Mataria, Egypt on "Numerical Solutions of Singular Fredholm Integral Equation of the second Kind", by Nermien Saber, Registered on March 5, 2020

- Ph.D. Thesis in Engineering Mathematics, Department of Electronics and Communications Engineering, Faculty of Electronic Engineering, Menofia University, Egypt on "Manipulation of Particles using Non- Uniform Electric Field", by Kyrillos Youssef, Registered on September 6, 2020

- MSc Thesis in Engineering Science, Department of Electronics and Communications Engineering, Faculty of Electronic Engineering, Menoufia University, on "Implementation of Encryption Algorithm using Quaternion Mathematics", By Mohamed Essam Abdelaziz", Registered on 2017

- MSc Thesis in Engineering Science, Department of Electronics and Communication Engineering, Faculty of Electronic Engineering, Menoufia University, on "Efficient Implementation of Adaptive Filters using Quaternion Mathematics", By Mahmoud Ahmed Nasr", Registered on 2017.

- M. Sc. Thesis in Science at the Dept. of Math., Faculty of Science, Menoufia University, Egypt, by Ramadan –Elsaid Saad on "*Numerical Solutions of Fredholm Integral Equation of the First kind in the Theory of Potential"*, defended on February 19, 1995

- M. Sc. Thesis in Engineering at the Dept. of Eng. Communication, Faculty of Electronic Eng., Menoufia University, Egypt, by Aziz El-Masry on *"Nonlinear Optical Wave guides"*, defended on, January 4, 1997

- Ph.D. Thesis in Engineering at the Dept. of Eng. Communication, Faculty of Electronic Eng., Menoufia University, Egypt, by Aziz El-Masry on *"Improvement* Performances of Optical Communication Network", granted on January 2, 2002

- MSc Thesis in Engineering Mathematics, Department of Engineering Physics and Mathematics, Faculty of Electronic Engineering, Menoufia University, on "Cartesian products of orthogonal double covers of graphs" by Ahmed El Masad, defended and granted on 2014
- MSc Thesis in Engineering Mathematics, Department of Engineering Physics and Mathematics, Faculty of Electronic Engineering, Menoufia University, "A study of the orthogonal Double Cover of Caley Graphs", by Hanan Shabana, defended and granted on 2014

- MSc Thesis in Engineering Mathematics, Department of Engineering Physics and Mathematics, Faculty of Electronic Engineering, Menoufia University, on "Numerical Solutions of Fredholm Integral Equation of the second Kind", by Nermien Saber, granted on 2015

- MSc Thesis in Engineering mathematics, Dept. of Eng. Physics and Mathematics, Faculty of Electronic engineering, Menoufia University, on "Numerical Solutions of Singular Fredholm Integral Equation of the first Kind, By Mina Abu Seta", granted on 2019

- MSc Thesis in Engineering mathematics, Dept. of Eng. Physics and Mathematics, Faculty of Electronic engineering, Menoufia University, on

"Numerical Solutions of Volterra Integral Equation of the second Kind", By Basma Magdy", granted on 2019

Activities:

Author of about 34 scientific papers published in local journals, conferences, and prestigious international journals

Author of about 12 scientific textbooks in mathematics and mechanics published in Local prestigious Published Company. Most of these books are scheduled to teach in many Arab countries.

Author of the textbook *Mathematics and Statistics* for the Faculty of Technology at the ministry of Higher Education.

Co-author of the textbook *"Mathematics for Pharmacy Student"* for the Faculty of Pharmacist, Misr International University MIU, Egypt

Participate in the scientific board of regulations and Bylaws for the Faculty of electronic engineering, Menoufia University, and the Faculty of Petroleum and Mining Engineering, Suez Canal University.

Participate in many TV Seminars on Nile TV Channel to discuss various community issues.

Writer in section "Space of opinion" of the widespread issued electronic newspaper "Elaph".

Writer in many national and independent newspapers in the subjects that contribute to providing solutions that address the issues and concerns of the Egyptian citizen such education and scientific research

Papers presented at Conferences:

- A new computational method for solving weakly singular Fredholm integral equations of the first kind, *IEEE International Conf. on Computer Engineering and Systems (ICCES 2018)*, Cairo, Egypt, 202-207. 2018
- Numerical Solutions of integral equations of first kind. Presented at the *"Second Republic Engineering Science Conference"*, Kiev, USSR, 1986
- A Numerical Method To Singular Integral Equations. Presented at *"The Second International Conference on Eng. Math. & Phys."*, Vol. 3, pp. 297-306, Cairo University, Cairo, Egypt, 1994
- *Solution of Poisson's Equation for an Open Boundary in Space. "The Second International Conference on Eng. Math. & Phys.", Cairo University, Cairo, Egypt, 1994*
- *Three – Dimensional Helmholtz Equation for Open-Boundary. Presented at "1st international mania Conference", Minia University, Egypt, 1995*
- *A Matrix Iterative Technique for the Solution of Fredholm Integral Equations of the Second Kind, the Second International Conference on New Horizons in Basic and Applied Science, Cairo, Egypt, Aug. 2016.*

- Energy and Continuous Development. Presented at the *"11th Conference-Egypt 2000, Ministry of Electricity"*, Cairo, Egypt, 1995

- Approximate Solutions of Fredholm Integral Equations of the Second Kind Using a Combine Method, *International Conference on Mathematics and Information Silences in Zeweil University,* Egypt, Feb. 2016.

- Multi-techniques method for Solving Volterra Integral Equations of the Second Kind, 14th International Conference on Computer Engineering and Systems (ICCES). IEEE, Ain Shams University, Cairo, Egypt 2019.

- Numerical Solutions of Volterra Integral Equations of the Second Kind Using Barycentric Lagrange with Chebyshev Interpolation, the 1 ST International conference on Electronic Engineering, Menoufia University (ICEEM), 2019

Publications:

- **E. S. Shoukralla**, *"A Numerical Method for Solving Fredholm Integral Equations of the First Kind with Logarithmic Kernels and Singular Unknown Functions"* Journal of Applied and Computational Mathematics, Springer Nature, (2020) 6:172
- **E. S. Shoukralla,** and M. A. Markos, *"The economized monic Chebyshev polynomials for solving weakly singular Fredholm integral equations of the first kind"*, Asian-European Journal of Mathematics (World Scientific Publishing Company), vol. 12, no. 1, pp. 1-10, 2019.

- **E. S. Shoukralla**, and M. A. Markos, *"Numerical Solution of a Certain Class of Singular Fredholm Integral Equations of the First Kind via the Vandermonde Matrix"*, International Journal of Mathematical Models and Methods in applied science", Volume 14, 2020, pp. 48-53.

- **E. S. Shoukralla,** M. Kamel, and M. A. Markos, *"Numerical solution of Fredholm integral equations of the first kind with singular logarithmic kernel and singular unknown function via monic Chebyshev polynomials"* Accepted in Int. J. Computing Science and Mathematics (in press), Jan 2020.

- **E. S. Shoukralla**, H. Elgohary and B. M. Ahmed, *"Barycentric Lagrange interpolation for solving Volterra integral equations of the second kind"*, Journal of Physics, England, Conference Series, 1447(2020),012002.

- **E. S. Shoukralla**, and B. M. Ahmed, *"Numerical Solutions of Volterra Integral Equations of the Second Kind using Lagrange interpolation via the Vandermonde matrix"*, Journal of Physics, England, Conference Series, 1447(2020), 012003.

- **E. S. Shoukralla**, H. Elgohary and B. M. Ahmed, *"Barycentric - Maclaurin Interpolation Method for Solving Volterra Integral Equations of the Second Kind"* Menoufia J. of Electronic Engineering Research (MJEER), 29(1) (2020) 1-16.

- **E. S. Shoukralla,** *"A Technique For The Solution of a Certain Singular Integral Equation of The First Kind",* "Intern. J. Computer Math.", Tomson Routers, England, Vol. 69, pp. 165 – 173,1998.

- **Shoukralla, E. S.,** "*Approximate Solution to Weakly Singular Integral Equations*", J. Applied. Math. Modeling, Elsevier, New York, Vol. 20, pp. 800- 803, Nov. 1996.

- **Shoukralla, E. S.,** *"Numerical Solution of Helmholtz Equation for an Open-Boundary in space",* J. Applied. Math. Modeling, Elsevier, New York, Vol. 21, pp. 231-232, April 1997

- **Shoukralla, E. S.,** *Solution of Two Dimensional Non-Stationary Open – Boundary Problems",* Scientific Bulletin, Ain shams university, Egypt, Vol. 33, No. 4, P. 667 – 681. Dec. 1998.

- **Shoukralla, E. S.,** *"Solution of Poisson's Equation for an Open Boundary in Space",* Journal of the Faculty of Education, Ain Shams University, No. 20, pp. 837-892, Cairo, Egypt, 1995. And Second International Conference on Eng. Math. & Phys., Vol. 3, pp. 189-196, Cairo, 1994
- **Shoukralla, E. S.,** *"Double-Shifted Legendre Polynomials For the solution of Fredholm Integral Equation of The Second Kind",* Electronic Engineering Bulletin, No. 13, pp. 1 – 5, Egypt, January 1997.

- **Shoukralla, E. S.,** *"Procedure for Numerical Solution of Fredholm Integral Equation of the second kind",* Scientific Bulletin, Faculty of Eng., Ain Shams University, Vol. 29, Pat 4, PP. 223-230, 1994.

- **Shoukralla, E. S.,** *"Numerical Solutions of Fredholm Integral Equations of Second Kind"*, Eng. Bulletin, Ain Shams University, Vol. 27, No. 3, P. 411-417, Egypt, Sept., 1992.

- **Shoukralla, E. S.,** "*Three–Dimensional Helmholtz Equation for Open-Boundary",* Alexandria Eng. Journal, Vol. 31, No. 4, P. D269-D272, Egypt, Oct. 1992.

- **Shoukralla, E. S.,** "*Neumann Open – Boundary Problem in a Plane",* Electronic Engineering Bulletin, No.2, P.175 -183, Egypt, July 1991.

- **Shoukralla, E. S.,** *"Numerical Solutions Of Neumann Open Boundary Problem in a Plane"* Engineering Bulletin, Ain Shams University, Vol. 26, No. 4, P. 313-325, Egypt, Dec., 1991.

- **Shoukralla, E. S.,** *"Numerical Solutions of Fredholm Integral Equations Via Splines"*, Journal of the Faculty of Education, Ain Shams University, No. 16, P. 47- 55, Cairo, Egypt, 1991.

- **Sobhy, Emil.,** *"Numerical solutions of integral equations of first kind in the theory of potential",* Journal of Problems of App. Math. And Mech.", Vesnek, No. 29, P. 37-39, Lvov, USSR, 1988.

- A. Mohammed, **E. S. Shoukralla**, A. A. M. Rizk, and F. Z. El-Halafawy, *"Closed Form Mathematical Treatment for Nonlinear Optical Wave guides"*, Electronic Engineering Bulletin, No. 13, PP. 48- 61, Egypt, January, 1997.

- **Shoukralla, E. S**., EL-Serafi, S. A., and El-Said, R. M., "*Numerical Solutions of Potential Type Fredholm Integral Equation of The First Kind"*, Electronic Engineering Bulletin, No. 7, PP. 352 – 359, Egypt, January, 1994.

- **Shoukralla, E. S**., EL-Serafi, S. A., *"The Dirichlet Problem of Laplace Equation for an Open – Boundary"*, Engineering Bulletin, Ain shams university, Vol. 25, No. 3, P. 544-551. Egypt Dec. 1990.

- Bakalets, V. A., Doroshenka, N. V., **Sobhy, E**., *"Numerical Solution of Integral Equations in two Dimensional Potential Theory"*, Journal of Theoretical Electro – Technka, No. 43, P. 33 – 36, Lvov, USSR, 1987.

- Bakalets, V. A., Doroshenka, N. V., **Sobhy Emil**., *"Numerical Solutions of Integral Equation of the First kind"*, Second Republic Engineering Science Conference, Vol. 2, P.19 – 20, Kiev, USSR, 1986.

Published books:

- *"Applied Numerical Analysis",* Al - Ahram Club for Books, Al- Ahram Organization, Cairo, Egypt, 2001, ISBN: 977-17-0389-7.

- *"Ordinary Differential Equations and Laplace Transforms",* Al -Ahram Club for Books, Al- Ahram Organization, Cairo, Egypt, 2002, ISBN: 977-17-0339-0.

- *"Principles of Mechanics (Static and Dynamics)",* Dar-Nashr for Universities, Cairo, Egypt, 2003, ISBN: 977-316-098-X.

- *"Principles of Mechanics (Static)",* Dar-Nashr for Universities, Cairo, Egypt, 2003, ISBN: 977-316-101-3.

- *"Differentiation and Integration",* 1997, ISBN: 977-46-33-1.

- *"Advanced Engineering Mathematics- Part I",* 2002, ISBN: 977-17-0688-1.

- *"Solved Problems In Engineering Mathematics – Part 0",* 1994, ISBN 977-00 - 7904-9.

- *"Engineering Mathematics – Algebra"*, 1997, ISBN. 977-19-4522.

- *"The Computer (what is this? How it Works"* In, 1998, ISBN 2-5501-19-977.

- *"Real Valued Functions with differentiation and integration calculus"* Dar-Nashr for Universities, Cairo, Egypt, 2003, ISBN 977-316-112-9.

- "*Mathematics and Statistics"* Ministry of Higher Education, 2005, 16480/2005.

- *"Mathematics for Pharmacy students"* Misr International university, 18616/2005.

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https://orcid.org/0000-0002-6508-1070