

Curriculum Vita: Wajdi Mohamed Ratemi



Personal

Name: Wajdi Mohamed Ratemi

Birth: Tripoli, Nov.10th,1954

Work: Libyan Atomic Energy Establishment, LAEE

Title: Chairman of the Board of Directors of LAEE

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Education

- D.Eng., Kyoto University, Kyoto,Japan,1992.
- M.Sc. , Nuclear Engineering, University of Wisconsin, Madison, Wisconsin, USA,1982.
- B.Sc., Nuclear Engineering, University of Wisconsin, Madison, Wisconsin, USA,1977.

Scientific Activities (Publications+ Supervision)

- 1- Published Fifty six (56) research papers in Modeling , Simulation , and Control, and others in International journals, as well as in local, regional , and international conferences, 1987-2022.
- 2- A book Titled : Basics of Nuclear Engineering (In Arabic;pages:364), Publisher: Bureau of engineering research and consultancy, University of Tripoli, 2003.
- 3- Reviewed some engineering books for different publishers.
- 4- Evaluated other researchers' papers for publication in local journals, National conferences, and for University staff member promotions.
- 5- Supervised B.Sc. projects, and M.Sc. thesis in nuclear engineering, as well as Engineering Management
- 6- Contributed, as an educator, in developing a TED-Ed lesson titled

the Mathematical secrets of Pascal's Triangle, 2015, (number of viewers as of Aug.4th , 2022 is 2,563,439 viewers, and translated into 25 languages).

1-<https://ed.ted.com/lessons/the-mathematical-secrets-of-pascal-s-triangle-wajdi-mohamed-ratemi>

2-<https://amara.org/en/videos/00EH5XoZslyF/info/the-mathematical-secrets-of-pascals-triangle/>

Research Interests

- 1- Modeling, Simulation , and Control
- 2- Expert Systems
- 3- Neural Networks
- 4- Functional expansions, and probabilities calculations

Honors

#	Name of Honor	Honoring Organization	Date
1	High School Ranked # 15 on the country	Ministry of Education, Libya	1973
2	Dean of Engineering Honor List (Three times on the list)	University of Wisconsin, Madison, USA	1974-1976
3	Distinction in scientific activity	40th, anniversary of the Faculty of Engineering, University of Tripoli, Libya	2006

Academic Activities and Administration

- Head of General Studies Department, Faculty of Nuclear and Electronic Engineering, University of Tripoli, 1984-1985.
- Head of Scientific Committee, Faculty of Nuclear and Electronic Engineering, Tripoli University, 1986.
- Editor of the Journal of Engineering Thesis (JET), 1992-2000
- Vice Chair of the Union of Engineering Staff Faculty, University of Tripoli, 1995-1997.
- Head of Nuclear Engineering Department, University of Tripoli , 1997-2000.
- Head of Engineering Management Department, University of Tripoli ,

2005-2009.

- Member of the Faculty of Engineering Steering Committee, University of Tripoli , 9/2011-2012
- Member of the editing board of the Journal of Engineering Research, Faculty of Engineering, University of Tripoli, 2021-

Selected publications:

1. W.M. Ratemi, and J. Wakabayashi , *New Method for the Solution of Point Kinetics equation and its Application to Scram*, Tech.Rep. of IAE, Kyoto University, Report No. 208, Dec. 1987, Japan.
2. W.M. Ratemi, *RTC-Method for the Control of Nuclear Reactor Power*, Kybernetika, 1998, Vol. 34, p189-98.
3. W.M. Ratemi and A.E. Eshabo , *New Form of the Inhour Equation and its Universal ABC-Values for Different Reactor Types*, Annals of Nuclear Energy, 1998, Vol. 25, p377-86.
<https://www.sciencedirect.com/science/article/pii/S0306454997000662>
4. W.M. Ratemi, *A New Method for Regulating Nuclear Reactor Power*, Transactions of the American Nuclear Society, 1999, Vol. 80, p218.
5. W.M. Ratemi, Conceptual Design of Dual-purpose System: Reactimeter and Power Controller for Research Reactor Monitoring and control, Eighth Arab Conference for Peaceful Uses Of Atomic Energy, Amman, Jordan, 3-7/12/2006.
6. W.M. Ratemi, E. Al-Sagier, and K. Kabbar, Neural Network Based Nuclear Cross Sections Library, The First International Conference on Physics and Technology of Reactors and Applications (PHYTRA1), Marakech, Morocco, 14-15 March, 2007 .
7. Wajdi M. Ratemi, Hussein Abdullah, *The Guelph Expansion: A Special Mathematical Formulation for Polynomial Expansion* , in the Abstract: International Conference of Mathematical Sciences, 04-10 August 2009, Maltepe University, Istanbul, Turkey, p.381.
8. W.M. Ratemi, *Coefficient Based Model (CBM) of a Nuclear Reactor with Reactimeter and RTC- Control*, *Proceedings of the International Conference on Mathematical Applications in Engineering (ICMAE'10)*, 3-5 August 2010, Kuala Lumpur, Malaysia.
9. W.M. Ratemi, , Nuclear Reactor Kinetics: Reviewed, The Second International Conference on Physics and Technology of Reactors and Applications (PHYTRA2), Fez, Morocco, September 26-28, 2011.
10. Serge B. Provost and Wajdi M. Ratemi, *Polynomial expansions via embedded Pascal's Triangles*, ACTA ET COMMENTATIONES UNIVERSITATIS TARTUENSIS DE MATHEMATICA, Volume 15, Number 1, 2011.
11. Wajdi Mohamed Ratemi , *Embedded Pascal Triangles and Its Application for Minimal Cut Sets of Fault Tree Analysis*, Middle-East J. Sci. Res., 13 (Mathematical Applications in Engineering): 90-96, 2013.
12. W. M. Ratemi, TAGGING OF GENOMES USING EMBEDDED PASCAL TRIANGLES EXPANSION, Universal Journal of Mathematics and Mathematical

Sciences, Volume 5, Issue 2, Pages 121 - 132 (April 2014).

<http://www.pphmj.com/abstract/8309.htm>

13. Wajdi Mohamed Ratemi , A Generalization of Planar Pascal's Triangle to Polynomial Expansion and Connection with Sierpinski Patterns, World Academy of Science, Engineering and Technology International Journal of Mathematical, Computational, Physical, Electrical and Computer Engineering Vol:10, No:2, 2016. <http://waset.org/Publication/a-generalization-of-planar-pascal-s-triangle-to-polynomial-expansion-and-connection-with-sierpinski-patterns/10003438>
14. Wajdi Mohamed Ratemi, Stochastic Modeling of Nuclear Reactions Using Binomial and Multinomial Probability Distribution Functions, 15th Arab Conference on the Peaceful Uses of Atomic Energy, Aswan, Arab Republic of Egypt, 12-16 December 2021.

Non-Academic Experience

Organizations	Title	Duties	Dates
Libyan Atomic Energy Establishment	Engineer	A recent engineering graduate	1978
Tajura Research Center	Consultant	Supervising research Group on Reactor Dynamics	1990's
Libyan Atomic Energy Establishment, LAEE	Member of Directing Board	Strategic Planning and Decision making	2010-2020
Libyan Atomic Energy Establishment, LAEE	Chairman of the Directing Board	Directing LAEE	2020-