

Prof. Dr. Farid Abdel Aziz Tolbah



Education and Degrees:

| University | Degree | Major | Minor | From | To |
|--|--------|--------------------|----------------------|------|------|
| 1. Ain Shams Univ. Cairo , Egypt . | B.Sc. | Mech.Eng. | Power | 1961 | 1966 |
| 2. Ain Shams Univ. Cairo , Egypt . | M.Sc. | Mech.Eng. | Vibration Systems | 1966 | 1970 |
| 3. Moscow Power Ins. Moscow (USSR) | Ph.D. | Mechanical Eng. | Automatic Control | 1971 | 1975 |

Teaching Experience and Occupations:

1. Demonstrator at the Mechanical Eng. Department , The Faculty of Eng. ,Ain Shams University (1966 – 1971) .
2. Assistant lecturer at the same department (1971) .
3. Research student at Moscow Power Institute , Moscow , USSR (1971-1975).
4. Lecturer at the Machine Design and Production Eng. Dept. Eng. , The Faculty of Eng. , Ain Shams University - (1975 – 1980) .
5. Associate Prof. At the same dept. (1980 – 1985) .
6. Professor of Automatic Control at the department of machine design and production eng. , Ain Shams University (1985 – till now) .
7. Honor Research fellow at the Department of Mechanical Eng. , Birmingham University, United Kingdom (January 1986 – Sept. 1986).
8. Visiting professor to MIT – Boston-USA (1986).
9. Head of the Department of Automatic Control at the Technical College of Buridah , The Kingdom of Saudia Arabia , (1990 – 1996) .
10. Dean of The Industrial Education College (IEC) , Cairo , (1998- 2004) .
11. The advisor general of the integrated technology clusters of the Educational Development Fund (2011-2012).

The M. Sc. Thesis:

The thesis title : Modeling and Studying The Effect of Pre-stressing of Composite Beams and Leaf Springs on Damping Capacity and Stress Distribution.

The Department of Mechanical Engineering , The Faculty of Eng . Ain Shams University , (1971)

The Ph.D. Thesis :

The thesis title : The Method of Space Harmonics and its use in The Analysis of The Non-linear Control Systems .

The Department of Automatic Control of Thermal Processes , Moscow Power Institute , Moscow , USSR , (1975) .

The Published Research Work:

1. The International Publications (overseas) in Russian and English:

1. Rotach V.Y. , A.T.Farid : The analysis of the non-linear systems using the method of space harmonics . Izvestia Vishix Ochibnix zavedenee, Power , No. 4 , Moscow 1974 .
2. A.T. Farid , Rotach V.Y. :The response of the non-linear systems to the stochastic signals . Izvestia Vishix Ochibnix Zavedenee , Power , No.6 , Moscow 1974 .
3. Rotach V.Y., A.T.Farid : The response of the non-linear closed loop dynamic systems to stochastic signals . IVYZ , Energy ,No.1 Moscow 1978 .
4. A.T.Farid , Rotach V.Y. : Error analysis of an information system considering the randomness of the measured processes . The works of MAEE , ASYTP No.188 , 1980 .
5. A.T.Farid : Planning of experiments for identification industrial plants . Report for the research work MAEE (The library of MAEE , 410C ,1982.
6. Bendary F., Drouin M.,Tolbah F. : A closed loop hierarchical control of non-linear systems . 4th IFAC/IFORS Symposium , Large scale systems : Theory and applications , August 26-29 , 1986 , Swiss Fedral Institute of Technology ; Zurich , Switzerland .
7. F. Tolbah , Z.Ghoneim , F.Bendary : Power unit identification and control; First Symposium on Electric power systems in Fast Developing Countries ; (IEEE sponsered) ; Kingdom of Saudia Arabia ; MARCH 21-24 1987 .
8. Tolbah F.A. , Magdy A.H. : A reccurent Neural Network based sequential controller for automated manufacturing systems . The International Journal of Mechatronics , UK , (Accepted for publication on 2001) .
9. Tolbah F.A. , Magdy A.H. : A Neural Network based controller for flexible manufacturing systems . The International Journal of Flexible Manufacturin Systems , (Accepted for publication on 2001) .

2. Publications at International Conferences in Cairo:

10. Tolbah F.A.: About the approximate analysis of stochastic relay systems ; Proceedings of the first international Ain Shams University Conference on “ Production and Design for denelopment ; Cairo; December 1984.

12. Tolbah F.A. : A new design of an electro-hydraulic servo-positioner for automated assembly lines ; Second International Conference Proceedings ; Vol. II ; Alexandria , december 1984 .
13. Tolbah F.A. :Design and construction of a non-linear compensator for a gyroscopic system ; Proceedings of the 1st International Ain Shams University Conference on Production Eng. And design for development ; Cairo December , 1984 .
14. Tolbah F.A.,OmarA.A.,Saad El Din M.M.: Study of the performance of the pneumatic control system ; 2ed International Conference on Technology for Development ; General Organization for Industrialization ; Cairo, May 1982 .
15. Tolbah F.A., Nadim S.A., El Sabbagh A.S.: Identification of the traffic mobility in Medan El Tahrir ; 8th international congress for statistics , computer science ; Ain Shams University ; March 1983.
16. El Sabbagh A.S., Tolbah F.A. ,Nadim S.A. : Traffic cross-correlation analysis in Medan El Tahrir ; The same conference as above .
17. Tolbah F.A. : Identification and control of a steam boiler (Applied to Cairo West Power Station) ;5th international conference for mechanical power engineering ; Ain Shams University, October 1984 .
18. F.A. Tolbah : The optimum tuning of controllers in non-linear control systems ; Mechanical power Eng. International conf. ;Cairo , Nov.1979.
19. F.A. Tolbah : Determination of the probability density function of the state of some non-linear systems ; The fourth International Congress on Statistics and Computer Sciences , Cairo ; March 1979 .
20. F.A. Tolbah : An engineering approach for synthesis of a class of multivariable control systems ; Fifth International Conference on Automatic Control , EHCAC ; Cairo , Nov. 1980 .

3.Publications at national conferences :

21. Tolbah.F.A.: Decoupling and optimum control of a class of multi-input multi-output systems ; 1st conference on applied mechanical engineering; M.T.C. ; Cairo , May 1984 .
22. Tolbah F.A.: Optimum control of a gyroscopic stabilizer with stochastic disturbance ; the same conference as above .
23. Tolbah F.A.: An optimum learning algorithm for traffic modeling in Medan El Tahrir ; Proceedings of the 9th operations research conference , Zagazig University , February 1983 .
24. A.T.Farid : On the convergence of some algorithms of iterative tuning of industrial controllers using a sine-wave generator ; The third national conf. On Automatic Control ; E.H.C.A.C. ; Vol.1 , Cairo ,Nov. 1976 .
25. A.T.Farid: The method of space harmonics and its use for non-linear system analysis ;IFAC , national conference on Automatic Control ; Cairo Nov. 1976 .
26. A.T.Farid : Use of the analog computer to study the iterative tuning of controllers in industrial control systems ; The 4th annual operations research conf. ; Special issue ; Vol.4 No. 1 ; Feb.1978 .
27. F.A.Tolbah : Design and test of a non-linear filter for differentiating noisy signals ; The fifth annual operations research conf. ; Special issue Vol.5 , December 1978 .
28. F.A.Tolbah: Design of the functional block of industrial controllers ; 4th Conf. On Automatic Control ; EHCAC; Cairo, Nov.1979 .
29. F.A.Tolbah : Power unit identification and its impact on the on-line control system of the Egyptian Unified Power System .Program of Egyptian American Workshop on (ULP) in Energy Sector ;FRCU Supreme Council of Universities , Cairo 4-6 Jen. 1988, Egypt .
30. S.M.El-Mahdi,F.A.Tolbah,M.H.Refaat: Anew design of a pneumatic servo-system ; Third Conf. On theoretical and applied mechanics ; Academy of Science and Technology , Cairo 14-17 Nov.1988 ;Egypt.

The latest published research work:

31. F. A. Tolbah, A. M. Aly, and W. A. El-Badry, "Automated grading system for garnished wall plates: A mechatronic approach,". The 8th International Conference on Production Engineering and Design for Development (PEDD8), Cairo, Egypt, 2010.
32. F. A. Tolba, A. M. Aly, and W. A. El-Badry, "An Enhanced Vision System for Sorting Ceramic Plates Based on Hybrid Algorithm and USB Interfacing Circuitry," , The 27th National Radio Science Conference, Menoufia, Egypt, 2010.
33. Farid A.T., Magdy M.A., Ahmed R. : Control of industrial servo systems in presence of motor-load inertia mismatch using μ -synthesis; 8th International Conference on Electrical Engineering (ICEENG 2012); Military Technical College, Kobry El-Kobbah, Cairo, Egypt; 2012.
34. Waleed A. El-Badry, Ahmed Ali and Farid Tolbah :A Mechatronic Vision System For Inspection Of Garnished Wall Plates; ICIES2012 , 1st International Conference on Innovative Engineering; Alexandria, Egypt, Dec. 7-9 , 2012 .

Published Books:

The following books have been published in arabic :

1. كتاب " هندسة التحكم الأوتوماتي " - الناشر :عمادة شئون المكتبات - جامعة الملك سعود بالرياض - المملكة العربية السعودية , 1989
2. كتاب " تقنية التحكم الآلى فى المعدات الصناعية والميكاترونية " رقم الايداع بدار الكتب 10205
ISBN 977-19-5023 -1 /1997
3. الرسم بالأوتوكاد

- (2D) - ISBN 977-19-31-5 /1999
- (3D) - ISBN 977-5248-34-5 /2001

Translated Books:

I translated the following two books from Russian to English to the Library of Congress in USA .

1. About the movement and the control functions of humans (255 pages).
2. Micro-structural analysis of motor coordination in humans (173 pages) .

M.Sc. & Ph.D. Thesis Supervision Program:

A great effort and long periods of time are usually devoted to the supervision of the M.Sc. & Ph.D. thesis of the postgraduate students , and as a result of that the following results have been achived :

1. 16 holders of the M.Sc.
2. 1 holder of the Ph.D.
3. 8 students are currently under my supervision for the M.Sc. degrees.
4. 2 students are currently under supervision for the Ph.D. degrees .

Conference Organization Activities :

I am one of the permanent organizers of the International Conference for Design and Development (PEDD) , which is usually organized every 4 years by the department of “ Design and Production Engineering “ at the Faculty of Engineering – Ain Shams University . Usually I occupy the post of “ Secretary General “ of the conference e.g. PEDD3 – PEDD5 - PEDD6 – PEDD7- PEDD8 .

Membership in the Scientific Societies:

1. Member in the IEEE Control System Society .
2. Member in the IEEE Robotics and Automation Society .
3. Member in the IEEE Computers Society .
4. Member in the IEEE Instrumentation Society .
5. Member at the ASME Dynamic Systems and Control Division.

Industrial Experience & Research Projects:

1. Research project No.” FRCU 842017 “ , Supreme Council of Universities , ‘ Power Unit Identification and its Impact on the On-Line Control System of the Egyptian Unified Power System ‘ .
The research team : Dr. Tolbah F.A. Principal Investigator
Dr. Gohneim Z. Co-investigator
Dr. Wahdan A. Co-investigator
Dr. El Bendary F. Co-investigator
2. Engineering permanent consultant at the Medical Packing Company – Abassia , Cairo , Egypt , (1985 – 1990) .
3. Engineering permanent consultant at the Arab British Dynamics (Member of the Arab Organization of Industrialization) , (1986-1990) .
4. Engineering permanent consultant at El Shourbagy Fabric Preparation Factory (10 th of Ramadan City) , (1986-1990 , 1996- till now) .
5. Training courses for engineers at different industrial locations in the field of Automatic Control (e.g. at The Egyptian Society of Engineers , Shemto Com. , Military factory 18 ,...) .
6. Consultant of the Great Egyptian Project “ Al Salam Canal “ (1999 – till now) .

The National Committees membership:

- Member of the supreme council for colleges and technical institutes – The ministry of higher education.
- Member of the committee of Higher education and community in the national committee of higher education development and enhancement.
- Member of the the industrial education college sector committee of the supreme council of universities.
- Expert in the Egyptian Arabic language Institute .
- Member of the national committee for the development of the higher industrial institute reform and the technical colleges in Egypt.
- Member in the permanent committee for promotion of professors and associate professors in mechanical Eng. at the supreme council of universities.
- Member of the certificates equivalency committee at the supreme council of universities.