

# CURRICULUM VITAE

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Name: Zeinab Sayed Ibrahim Mansour

Date/Place of birth: 01.28.1976/Cairo/Egypt

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## 1. Scientific Degrees

- B. Sc. in Mathematics , 1998, Department of Mathematics, Faculty of Science, Cairo University, with grade distinction with honor.
- M. Sc., Mathematics, 2002, Department of Mathematics, Faculty of Science, Cairo University. The Master thesis is refereed by Professors Joaquin Bustoz, USA, Arizona state University, and professor Ali Azzam, Suez Canal University.
- Ph. D., Mathematics, 2006, Department of Mathematics, Faculty of Science, Cairo University. The dissertation is refereed by Professors W. Hayman, Imperial College London, and G.E. Andrews, The Pennsylvania State University.

My supervisors on the M.SC and Ph.D thesis were Prof. Mahmoud Annaby, Cairo University, Egypt, and Prof. Mourad Ismail, University of Central Florida, USA.

## 2. Positions Held

- Demonstrator, 1999–2001, Department of Mathematics, Faculty of Science, Cairo University, Egypt.
- Teaching Assistant, 2001–2006, Department of Mathematics, Faculty of Science, Cairo University, Egypt.
- Assistant Professor, September 2006, Department of Mathematics, Faculty of Science, Cairo University, Egypt.

### 3. List of Publications

1. Linear Sequential fractional  $q$ -difference equations, accepted for publication in 2009 on J. Fract. Calc. Appl. Anal.
2. (with M.H. Annaby) On the zeros of the second and third Jackson  $q$ -Bessel functions and their associated  $q$ -Hankel transforms, Math. Proc. Camb. Phil. Soc, 2009, **174**, 47–67.
3. ( with M.H. Annaby) Asymptotic formulae for eigenvalues and eigenfunctions of basic Sturm-Liouville problems. accepted for publications in Mathematische Nachrichten.
4. (with M.H. Annaby and O.A. Ashour), On reality and asymptotics of zeros of  $q$ -Hankel Transforms, J. Approx. Theory (2008), doi:10.1016/j.jat.2008.11.001
5. ( With M.H. Annaby )  $q$ -Taylor and interpolation series for Jackson  $q$ -difference operators. J. Math. Anal. Appl. 344 (2008), no. 1, 472–483. 39A13 (33D15)
6. (With M.H. Annaby) A basic analog of a theorem of Polya. Math. Z. 258 (2008), no. 2, 363–379. (Reviewer: M. E. Muldoon) 30C15 (33D15 33D60 42A38)
7. (With M.H. Abu Risha, M. H. Annaby, M.E. H. Ismail ) Linear  $q$ -difference equations. Z. Anal. Anwend. 26 (2007), no. 4, 481–494. 39A13 (34A30 39A12)
8. (With M.H. Annaby) On the zeros of basic finite Hankel transforms. J. Math. Anal. Appl. 323 (2006), no. 2, 1091–1103. (Reviewer: Luis Daniel Abreu) 33D15 (30C15 65H05)
9. (With M.H. Annaby) Corrigendum: “Basic Sturm-Liouville problems” [J. Phys. A 38 (2005), no. 17, 3775–3797; MR2145378]. J. Phys. A 39 (2006), no. 27, 8747. 39A13 (33D15 34L10)
10. (With M.H. Annaby) Basic Sturm-Liouville problems. J. Phys. A 38 (2005), no. 17, 3775–3797. (Reviewer: Panayiotis D. Sifarakas) 39A13 (33D15 34L10)
11. (With M.H. Annaby)  $q$ -fractional calculus and equations, submitted.
12. (With M.H. Abu Risha, M.H. Annaby, and M.E.H. Ismail) Existence and uniqueness theorems of  $q$ -difference equations, submitted.
13. (With M.E.H Ismail and S.J. Johnston) Structure Relations for  $q$ -Polynomials and Some Applications, submitted.
14. (With M.E.H Ismail)  $q$ -Analogue of Freud weights and nonlinear difference equations, accepted for publications in advances in applied mathematics journal.

### 4. Research interests

The basic topics of the previous research papers as well as the thesis mentioned below are the following.

1.  $q$ -series,  $q$ -difference equations, and  $q$ -fractional difference equations.
2. Orthogonal polynomials and special functions.
3. Asymptotics.

## 5. Journals I worked for as a referee

1. Journal of Approximation Theory.
2. The Proceeding of the International Conference of Numerical Analysis and Applied Mathematics 2008
3. Ramanujan Journal of Mathematics.
4. Journal of fractional calculus and applied analysis.
5. Journal Le Matematiche
6. Bulletin of Mathematical Analysis and Applications.

## 6. Fellowships and Visits

- November 1, 2006-January 31, 2007. Research fellowship from Alexandre von Humboldt foundation (The new European Islamic Program) in Germany, Kiel, with prof. Mahmoud Annaby. The host professor was Prof. Walter Bergweiler from Christian-Albrechts-University, Kiel-Germany.
- Academic year 2008-2009. Research fellowship from the Binational Fulbright Commission in Egypt to conduct research in University of Central Florida. My affiliate professor is Prof. Mourad Ismail.

## 7. Training workshops

- 21-23 August 2006: A workshop in the new direction in teachings: Faculty and Leadership Development Project- Cairo University.
- 28-31 August 2006: A workshop on Scientific teaching methods: Faculty and Leadership Development Project- Cairo University.
- 7-9 August 2006: A workshop on morals and missions rules: Faculty and Leadership Development Project- Cairo University.
- 14-16 August 2006: A workshop on affective communications skills: Faculty and Leadership Development Project- Cairo University.
- 4-6 January 2010: A workshop on credit hours system: Faculty and Leadership Development Project- Cairo University.
- 19-21 September 2010: The preparatory week of University teaching in King Saud University, Riyadh, KSA : Speakers are Professor Elizabeth Hammer and Dr. Jessica Irons.

## 8. Conferences

1. The International Conference on Mathematical Analysis and its Applications, ICMAA06, Assuit, Egypt, January, 3-6, 2006.
2. The international Fulbright conference on "Equity, Access, Diversity: the Future of Higher Education", Washington DC, April 19-21, 2009.
3. The 10th International Symposium on Orthogonal Polynomials, Special Functions and Applications (OPSF10). 20-25 July 25, 2009, Leuven, Belgium.
4. The international Congress of Mathematicians 2010 (ICM2010), 19-27 August 2010, Hyderabad, India.

## 9. Scientific Organizations membership

- a member of Siam ((Society of industrial and applied mathematics)
- a member of the Egyptian mathematical society.
- a member of the American mathematical Society.
- a member of TWOWS(third world organization for women in Science)

## 10. Courses

I taught/teach the following courses in Cairo University during Spring 2007, and the academic year 2007-2008

1. Calculus I, II.
2. Functional analysis

During my visit to UCF, I have attend on Fall 2008-2009, a graduate course with Prof. Mourad Ismail. He taught us selected topics from his book” on Classical and Quantum orthogonal polynomials in one variables”. Also I am currently on Spring 2009 attend a course in Algebraic topology with Prof. Joe Brennan.

## 11. Teaching philosophy

I have been teaching mathematics for the last nine years since I was a demonstrator and enjoy this work a lot. Even though nine years is not a huge amount of time, during this period I gradually developed my teaching goals, strategies and methods, that I will describe below. I also feel that the teaching of mathematics should be devoted to more than simply transferring mathematical facts from the teacher and a textbook to a students mind. As a mathematics professor, my objectives are:

- To invoke critical thinking of mathematical concepts in students;
- To instill in students a deep understanding of mathematics;
- To illustrate how mathematics is used to solve real-life problems;
- To ignite in students an interest in mathematics where such an interest does not exist. Doing this can be a difficult task, but it is a task I welcome and enjoy undertaking.

## 12. References

1. Professor M.H. Annaby, Department of Mathematics, Cairo University, Faculty of Science, Giza, Egypt. E-mail: mhannaby@yahoo.com
2. Professor M.E.H. Ismail, Department of Mathematics, University of Central Florida, P.O. Box 161364 Orlando, FL 32816-1364, USA. E-mail: ismail@math.ucf.edu
3. Professor Walter Bergweiler, Mathematics Seminar, Christian-Albrechts-Universität zu Kiel, Ludewig-Meyn-Str.4,24098 Kiel. Germany. E-mail: bergweiler@math.uni-kiel.de