Curriculum Vitae (Updated on 2017.02.12):

Wafik Boulos Lotfallah, Ph.D.
Professor of Mathematics
Department of Mathematics and Actuarial Science
The American University in Cairo

Address in Egypt: Villa 26, 18th St. (off 9th St.), Mokattam, Cairo, Egypt
Address in the USA: 1010 S. Brooks St., Madison, WI, 53715
Phone Number in Egypt: +20-1111-333-707, in the USA: 608-609-2507
E-mail: lotfallah@aucegypt.edu; lotfalla@math.wisc.edu
Homepage: http://www.aucegypt.edu/fac/wafiklotfallah

PERSONAL INFORMATION:
   Date & Place of Birth: Jan. 15, 1968, Cairo, EGYPT
   Citizenships: USA, Egypt

EDUCATION & DEGREES

1994-1998	**Ph.D.**, Mathematics, Dec. 1998, University of Wisconsin-Madison, USA Specialty: Mathematical Logic, Minor: Computer Science Thesis: Strong Laws in Finite Model Theory Advisor: Prof. H. Jerome Keisler
1994-1995	**M.A.**, Mathematics, Dec. 1995, University of Wisconsin-Madison, USA
1990-1993	**M.Sc.**, Eng. Mathematics, Dec. 1993, Cairo University, Egypt Thesis: Automated Theorem Proving: A Mathematical Approach Advisors: Prof. H.L. Abd-El-Malek, Prof. A.M. Abd-El-Moneim
1990-1992	**B.Sc.** (Distinction with Honor), Department of Mathematics, Faculty of Science, Cairo University, Egypt
1985-1990	**B.Sc.** (Distinction with Honor), Department of Communications & Electronics, Faculty of Engineering, Cairo University, Egypt
1977-1985	German Evangelical High School, Cairo, Egypt
1973-1977	Lycée Francais, Cairo, Egypt

WORK EXPERIENCE IN EGYPT

Aug 2014 – to date	Professor, Department of Mathematics and Actuarial Science, **The American University in Cairo, Egypt**
Sep 2009 – July 2014	Associate Professor, Department of Mathematics and Actuarial Science, **The American University in Cairo, Egypt**
Sep 2003 – Aug 2009	Associate Professor (2005-2009), Assistant Professor (2003-2005), Mathematics Department, **The German University in Cairo, Egypt** (On leave from the Department of Engineering Mathematics and Physics, Faculty of Engineering, **Cairo University, Egypt**)
Sep 2000 – May 2003	Adjunct Assistant Professor, Faculty of Computer Science, **October University for Modern Sciences and Arts, Egypt**
Sep 1990 – Aug 2003	Assistant Professor (2000-2003), Assistant Lecturer on leave (1994-2000), Teaching Assistant (1990-1994), Department of Engineering Maths and Physics, Faculty of Engineering, **Cairo University, Egypt**

WORK EXPERIENCE IN THE USA

Jan 1994 – Aug 2014	Senior Lecturer (Summers of 2010 – to date), Lecturer (Summers of 2000-2009), Faculty Assistant (1998-1999), Teaching Assistant Coordinator (1996-1998), Research Assistant (Summer of 1997), Teaching Assistant (1994-1998), **Mathematics Department, University of Wisconsin-Madison**
Summer 2008, and Sep 1998 – Aug 1999	Visiting Researcher (Summer 2008), Research Associate (Sep 1998 – Aug 1999), **Department of Civil and Environmental Engineering, University of Wisconsin-Madison**
Summer 2000	Lecturer, **Computer Science Department, University of Wisconsin-Madison**

HONORARY VISITING POSITIONS ABROAD

Sep 2009 – to date	Visiting Associate Professor **Department of Civil and Environmental Engineering, University of Wisconsin-Madison**
Sep 2002 – Aug 2004, and Sep 2009 – Aug 2010	Honorary Fellow **Mathematics Department, University of Wisconsin-Madison**

2010	Best Paper Award of **The ASCE Journal of Construction Engineering and Management**
2007	Egyptian Encouragement Award in Mathematics, **The Egyptian Academy of Scientific Research and Technology**
2006	Award for Outstanding Lecturer, **The German University in Cairo, Egypt**
1997	Teaching Award given to outstanding teaching assistants, **Mathematics Department, The University of Wisconsin-Madison, USA**
1992	Award for the highest B.Sc. score, **Faculty of Science, Cairo University, Egypt**

EDITORIAL OF: Journal of ISRN Industrial Engineering, Hindawi Publishing Corp; American Journal of Computer Technology and Application

REFEREE FOR VARIOUS JOURNALS AND CONFERENCES INCLUDING: Annals of Pure and Applied Logic, Mathematical Logic Quarterly, FotFS Conference Series (Proceedings Volume), International Symposium on Logic-based Program Synthesis and Transformation, ACM Transactions on Programming Languages and Systems (TOPLAS), Journal of Construction Engineering and Management

PANELIST FOR: The Mathematical Sciences Panel, The NSF Graduate Research Fellowship Program Evaluation Meeting Feb 2008 and Feb 2010, Washington D.C., USA

MEMBER OF THE ASSOCIATION OF SYMBOLIC LOGIC-COMMITTEE FOR LOGIC IN AFRICA: Selected to represent Egypt as a member in the Association of Symbolic Logic-Committee for Logic in Africa. This committee has the role of promoting logic in Africa through creating new activities, conferences, and schools.

REFERENCES:

1) Research References
- H. Jerome Keisler, Vilas Professor Emeritus, Department of Mathematics, University of Wisconsin-Madison, keisler@math.wisc.edu
- Awad Hanna, Professor, Department of Civil and Environmental Engineering, University of Wisconsin-Madison, hanna@engr.wisc.edu

2) Teaching References
- Ali Hadi, Professor, Department of Mathematics and Actuarial Science, The American University in Cairo, ahadi@aucegypt.edu
- Robert Wilson, Professor, Former Summer Chair, Department of Mathematics, University of Wisconsin-Madison, wilson@math.wisc.edu

PUBLICATIONS (IN REVERSE CHRONOLOGICAL ORDER)

PAPERS PUBLISHED IN INTERNATIONAL REFEREED JOURNALS

1) Hanna, A.S.; Ibrahim, M.W.; Lotfallah, W.B.; Iskandar, K.A.; and Russell, J.S.: "Modeling Project Manager Competency: An Integrated Mathematical Approach", **ASCE Journal of Construction Engineering and Management, August 2016**, Vol. 142, No. 8, August 2016, Online publication date: February 25, 2016.

2) Hanna, A.S.; Lotfallah, W.B.; Aoun, D.G.; and El Asmar M.: "Mathematical Formulation of the Project Quarterback Rating: New Framework to Assess Construction Project Performance", **Journal of Construction Engineering and Management, August 2014**, Vol. 140, No. 8, pp. 04014033-1,..,8

3) Rasga, J.; Lotfallah, W.B. and Sernadas, C.: "Completeness and Interpolation of Almost-Everywhere Quantification over Finitely Additive Measures", **Mathematical Logic Quarterly, August 2013,** Vol. 59, Issue 4-5, pp. 286–302.

4) El Asmar, M.; Lotfallah, W.B.; Loh, W.Y. and Hanna, A.S.: "Reducing Bias and Uncertainty in Multi-Evaluator Multi-Criterion Decision Making", **Journal of Computing in Civil Engineering**, **March 2013**, Vol. 27, No. 2, pp. 167-176.

5) El Asmar, M.; Lotfallah, W.B.; Loh, W.Y.; and Hanna, A.S.: "Uncertainty Reduction in Multi-Evaluator Decision Making", **Journal of Computing in Civil Engineering**, **January 2012**, Vol. 26, No. 1, pp. 105-112.

6) Keisler, H.J. and Lotfallah, W.B.: "Rank Hierarchies for Generalized Quantifiers", **Journal of Logic and Computation**, **April 2011,** Vol. 21, No. 2, pp. 287-306**.**

7) El Asmar, M.; Lotfallah, W.B.; Whited, G.; and Hanna, A.S.: "Quantitative Methods for Design-Build Team Selection", **Journal of Construction Engineering and Management, August 2010,** Vol. 136, Issue 8, pp. 904-912**.**
   (This paper received the "2010 Best Paper Award of the ASCE Journal of Construction Engineering and Management".)

8) Keisler, H.J. and Lotfallah, W.B.: "Almost everywhere elimination of probability quantifiers", **Journal of Symbolic Logic**, **December 2009,** Vol. 74, No. 4**,** pp. 1121-1142.

9) El-Zekey, M.S.; Lotfallah, W.B.; and Morsi, N.N.: "Computational complexities of axiomatic extensions of monoidal t-norm based logic", **Soft Computing**, **September 2009,** Vol. 13, Issue 11, pp. 1089-1097.

10) Lotfallah, W.B.: "Characterizing unambiguous precedence systems in expressions without superfluous parentheses", **International Journal of Computer Mathematics**, **January 2009,** Vol. 86, Issue 1, pp. 1-20.

11) Morsi, N.N.; Lotfallah, W.B.; and El-Zekey, M.S.: "Corrigendum to: The logic of tied implications, part 2: Syntax", **Fuzzy Sets & Systems**, **August 2006**, Vol. 157, Issue 17, pp. 2416-2417.

12) Morsi, N.N.; Lotfallah, W.B.; and El-Zekey, M.S.: "The logic of tied implications, part 2: Syntax", **Fuzzy Sets & Systems**, **August 2006**, Vol. 157, Issue 15, pp. 2030-2057.

13) Morsi, N.N.; Lotfallah, W.B.; and El-Zekey, M.S.: "The logic of tied implications, part 1: Properties, applications and representation", **Fuzzy Sets & Systems**, **Mar 2006,** Vol. 157, Issue 5, pp. 647-669.

14) Keisler, H.J. and Lotfallah, W.B.: "A local normal form theorem for infinitary logic with unary quantifiers", **Mathematical Logic Quarterly, Feb 2005,** Vol. 51, No. 2, pp. 137-144.

15) Keisler, H.J. and Lotfallah, W.B.: "Shrinking games and local formulas", **Annals of Pure and Applied Logic, August 2004,** Vol. 128, No. 1, pp. 215-225. **(This paper has been in the top 25 hottest articles chosen by ScienceDirect for this journal).**

16) Lotfallah, W.B.: "An Ehrenfeucht-Fraïssé class game", **Mathematical Logic Quarterly, March 2004**, Vol. 50, No. 2, pp. 179-188.

17) Keisler, H.J. and Lotfallah, W.B.: "First order quantifiers in monadic second order logic", **Journal of Symbolic Logic, March 2004,** Vol. 69, No. 1, pp. 118-136.

18) Lotfallah, W.B.: "On the complexity of the first order random theory", **Journal of Logic and Computation, April 2003,** Vol. 13, No. 2, pp. 261-271.

19) Hanna, A.S.; Lotfallah, W.B.; and Lee, M.J.: "Statistical-fuzzy approach to quantify cumulative impact of change orders", **Journal of Computing in Civil Engineering**, **October 2002**, Vol. 16, No. 4, pp. 252-258.

20) Lotfallah, W.B.: "Strong convergence laws in finite model theory", **Journal of Symbolic Logic, September 2002,** Vol. 67, No. 3**,** pp. 1083-1092.

21) Lotfallah, W.B.: "Strong 0-1 laws in finite model theory", **Journal of Symbolic Logic, December 2000**, Vol. 65, No. 4, 1686-1704.

22) Hanna, A.S. and Lotfallah, W.B.: "A fuzzy logic approach to the selection of cranes", **Automation in Construction, June 1999**, Vol. 8, No. 5, 597-608.

PAPERS PUBLISHED IN CONFERENCE PROCEEDINGS

1) El Asmar M.; Lotfallah, W.B.; Loh, W.Y. and Hanna, A.S.: "RBU: A Model for Reducing Bias and Uncertainty in Multi-Evaluator Multi-Criterion Decision Making", **The Proceedings of the 2012 ASCE International Conference on Computing in Civil Engineering, Clearwater Beach, Florida, June 17-20, 2012**, Edited by R. Raymond Issa, Ph.D., J.D., P.E.; and Ian Flood, Ph.D., American Society of Civil Engineers, pp. 73-80.

2) Safwat, S.; Lotfallah, W.B. and Farag, I.: "Descriptive Complexity of a Fragment of C Language", **The Proceedings of the Annual International Conference on Infocomm Technologies in Competitive Strategies (ICT 2010-2011), October 2010,** Singapore, pp. 103-108.

3) El Asmar M.; Lotfallah, W.B.; Whited, G.; and Hanna, A.S.: "Quantitative Methods for Design-Build Team Selection", **The Proceedings of The Transportation Research Board 88th Annual Meeting, January 11-15, 2009**, Washington D.C.

4) Morsi, N.N.; Lotfallah, W.B.; and El-Zekey, M.S.: "Propositional calculus for associatively tied implications", **The Proceedings of The Third International Conference on Informatics and Systems**, **Cairo University, March 2005.**

PAPERS PUBLISHED IN LOCAL JOURNALS

1) Lotfallah, W.B., and Youssef, M.R.: "On the freedom of Spoiler in Ehrenfeucht-Fraïssé games", **Scientific Bulleting of the Faculty of Engineering, June 2005,** Ain Shams University, Vol. 40, No. 2, pp. 877-891.

SUBMITTED PAPERS

1) Elnashar, A. and Lotfallah, W.B.: "Minimal Complete Propositional Natural Deduction Systems", submitted to the Journal of Philosophical Logic.
2) Hanna, A.; Iskandar, K.; Lotfallah, W.B.; William, M.; and Russell, J.: "Modeling Project Manager Competencies: A Data-driven Approach", submitted to Engineering, Construction and Architectural Management.
3) Hanna, A.; Iskandar, K.; Lotfallah, W.B.: "Benchmarking Project Performance: A Guideline for Assessing Vulnerability to Productivity Loss", submitted to the Journal of Construction Engineering and Management.

PAPERS AND BOOKS IN PREPARATION

1) Amin, Z.; Hadi, A. and Lotfallah, W.B.: "Regression Modeling with Hidden Parameters: Models 0 and 1".
2) Amin, Z.; Hadi, A. and Lotfallah, W.B.: "Regression Modeling with Hidden Parameters: Model 2".
3) Lotfallah, W.B.: Book: "Logical Foundations of Computer Science".

COURSES TAUGHT

Mathematics Courses:
      Department of Mathematics and Actuarial Science,
      The American University in Cairo:
            MACT 131 (Calculus I),
            MACT 132 (Calculus II),
            MACT 231 (Calculus III),
            MACT 200 (Discrete Mathematics),
            MACT 362 (Formal and Mathematical Logic)
            MACT 403 (Modern Algebra),
            MACT 440 (Graph Theory),
            SEMR 199 (The Mathematics of Music)

      Mathematics Department, University of Wisconsin-Madison:
            MATH 112 (College Algebra),
            MATH 113 (Trigonometry),
            MATH 210 (Finite Mathematics),
            MATH 211 (Applied Calculus),
            MATH 221-3, 234 (Calculus 1-3),
            MATH 340 (Linear Algebra),
            MATH 319 (Ordinary Differential Equations)
            MATH 431 (Probability Theory)

      Mathematics Department, The German University in Cairo:
            MATH 101 (Calculus for Management students),
            MATH 102 (Calculus for Pharmacy students),
            MATH 202 (Probability & Statistics for Pharmacy students)
            MATH 203 (Calculus II and Linear Algebra)
            MATH 301 (Advanced Engineering Mathematics)

      Department of Engineering Mathematics, Cairo University:
            Preparatory year (Calculus, Algebra, Analytical Geometry)
            1st year (Differential Equations, Infinite Series, Series Solution of DEs, Partial
            Differentiation, Fourier Analysis, Laplace Transform)
            2nd year (Complex Analysis, Linear Algebra)
            3rd year (Probability, Partial Differential Equations, Integral Transforms)
            A Graduate Course in Partial Differential Equations
            A Graduate Course in Algorithmic Complexity
            A Graduate Course in Technical English Writing

      Faculty of Computer Science, MSA:
            MATH 103 (Discrete Mathematics),
            MATH 205 (Linear Algebra and Differential Equations)

Computer Science Courses:

Computer Science Department, UW-Madison:
MATH 540 (Introduction to Artificial Intelligence)

Mathematics Department, German University in Cairo:
A Graduate course on Logic in Computer Science
A Graduate course on Complexity Theory

Department of Engineering Mathematics, Cairo University:
A Graduate Course in Complexity Theory
A Graduate Course in Computational Complexity

Faculty of Computer Science, MSA:
MATH 411 (Theory of Computing), MATH 461 (Artificial Intelligence)

Mathematics Entertaining Courses:

Department of Mathematics and Actuarial Science,
American University in Cairo:
Infinity and Beyond (A Short Course on the different concepts of Infinity in Mathematics)
Games 101: An Introduction to Combinatorial Game Theory
Problem Solving Course for Mathematics Competitions

Mathematics Department,
German University in Cairo:
Infinity and Beyond (http://math.guc.edu.eg/infinity/)
Games 101
Problem Solving (http://math.guc.edu.eg/competition/)
Music vs. Math./Physics/CS