Dr. Abdel-Salam G. Abdel-Salam

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Academic Background	Virginia Polytechnic Institute and State University (**Virginia Tech**) ,　　　**Blacksburg, VA.**

- **PhD**, Department of Statistics, December 2009.
  Dissertation: *"Profile Monitoring with Fixed and Random Effects using Nonparametric and Semiparametric Methods"*
  Advisor: Dr. Jeffrey B. Birch

- **MS**, Department of Statistics, Virginia Tech, December 2006.

Cairo University, Economics and Political Science,　　　　　**Giza, Egypt.**

- **MS** in Operations Research, Department of Statistics, May 2004.
  Thesis: *"Selection of Variables in Discriminant Analysis using Mathematical Programming Approach with an Environmental Application"*
  Advisors: Dr. Ramadan Hamed and Dr. Ali El-Hefnawy

- **BS** in Statistics with Minor in Economics, May 1998.

Research Interests	Economic Capital Models, Regression Analysis, Mixed Models, Nonparametric and Semiparametric Regression, Exploratory and Robust Data Analysis, Profile Monitoring, Quality Control, Quality Improvement, Industrial Applications, Operations Research and Multivariate Analysis.

Professional Experience	**Assistant Vice President**, Mortgage Banking-Modeling and Forecasting, JPMorgan Chase & Co., 1111 Polaris Parkway, Columbus, Ohio.　　　**November 2012 - Present**

Assistant Vice President, Business Banking Risk Management, JPMorgan Chase & Co.,
1111 Polaris Parkway, Columbus, Ohio.　　　**January 2011 - November 2012**

Visiting Assistant Professor in the Department of Statistics in Oklahoma State University, Oklahoma.　　　**August 2010 - January 2011**

Assistant Professor in the Department of Statistics at the Faculty of Economics and Political Science, Cairo University, Giza, Egypt.　　　**May 2010 (On Leave)**

Instructor in the Department of Statistics in Virginia Polytechnic Institute and State University, Virginia.　　　**January 2010 - May 2010**

Teaching Assistant in the Department of Statistics in Virginia Polytechnic Institute and State University, Virginia.　　　**August 2005 - December 2009**

Assistant Lecturer in the Faculty of Economics and Political Science, Cairo University, Giza, Egypt.　　　**August 1998 - August 2005**

Courses Taught Introductory Statistics, Applied Statistics, Engineering Statistics, Statistical Methods I for Social Sciences, Statistical Methods I, Mathematical Programming, Operations Research, Statistics for Economics, Mathematical Analysis, Stochastic Process, Time Series, Game Theory, Linear Algebra, Econometrics, Linear Models, Regression Analysis, Introduction to Quality Control, Biological Statistics I & II, Statistics I and Multivariate Analysis.

Honors and Awards

- **Jesse C. Arnold Award for Teaching Excellence**, given for superior teaching by a teaching assistant, Department of Statistics, Virginia Polytechnic Institute and State University, 2008-2009.

- **Richard A. Freund International Scholarship** from American Society for Quality (ASQ), for outstanding graduate study of the theory and application of Quality Control, Quality Assurance, Quality Improvement, and Total Quality Management, 2009.

- **Mary G. Natrella Scholarship** from Quality and Productivity Section of ASA, for demonstrating interest in Quality applications as evidenced by course work, research topic, and prior work experience, 2008.

- **Best student paper** presentation award in Virginia Academy of Science , 86th Annual Meeting, Hampton University , Hampton, Virginia, May 21-23, 2008.

- **Graduate School's Featured Graduate Student** for February 2008, Virginia Tech, 2008.

- **Graduate Teaching Assistantship**, Department of Statistics, Virginia Tech, 2005-2009.

- **Undergraduate Academic Excellence Award**, for an outstanding undergraduate student, College of Economics and Political Science, Cairo University, Egypt, 1994-1998.

- **Academic Excellence Award** from "Suez Canal Bank", College of Economics and Political Science, Cairo University, Egypt, 1997.

Academic Experience

Oklahoma State University,   **Stillwater, Oklahoma**
- **Visiting Assistant Professor**   **August 2010 - January 2011**
  Taught three graduate and undergraduate courses: Engineering Statistics, Statistical Methods I for Social Sciences, and Statistical Methods I.

Virginia Tech,   **Blacksburg, Virginia.**
- **Instructor**   **January 2010 - May 2010**
  Taught "'Biological Statistics I & II"', three section for undergraduate students. One of them had over 100 students.

- **Graduate Student**   **August 2005 - December 2009**
  Included PhD research, PhD and Masters level coursework, research/Senior Statistician for consulting projects and Instructor for STAT 3615 and STAT 3616 "Biological Statistics I & II".

- **Graduate Research Assistant**   **January 2008 - December 2008**
  Statistician for quality control and quality assurance, Department of Civil and Environmental Engineering.

- **Senior Statistician**   **Summer 2007 - 2009**
  Virginia Tech Transportation Institute (VTTI) quantified the safety impact associated with access control spacing along arterial crossroads in the vicinity of freeway interchanges. The report of this study was introduced to Virginia Transportation Research Council.

Academic Experience (Cont.)	**Cairo University**,	**Giza, Egypt.**

- **Assistant Professor**   **May 2010 (On Leave)**
  Statistics Department, Faculty of Economics and Political Science, Cairo University, Egypt.

- **Assistant Lecturer/Teaching Assistant**   **1998-2005**
  Statistics Department, Faculty of Economics and Political Science, Cairo University, Egypt.

- **Research Assistant**   **1996-2002**
  Public Administration Research & Consultation Center, Department of Public Administration.

Consulting Experience	**JPMorgan Chase & Co.**

Assistant Vice President   **January 2011 - Present**

- Develop economic capital models for the home mortgage business to identify the level of capital needed to ensure that the entity continues to operate even in the event of an extreme economic environment, considering all possible events that may result in adverse influences on the mortgage business.

- Implement advanced statistical/economic analysis, including statistical and financial models, to evaluate the performance of different business segment relationships. Extract and manipulate large data sets using SAS programming.

- Perform multi-stage regression models with various risk levels to forecast the criticized, non-accrual, and charge offs in commercial portfolios based on internal rating information PD (probability of default), EAD, UAD, and LGD (loss given default). Construct the datasets for modeling by manipulating data from various sources with more than 2 million observations. Develop a set of SAS MACRO programs for historical data constructing, model estimation, and forecasting. Examine the model performance by back-testing. Write reports illustrating the methodology, procedures of model implementation, and results of forecasting and back-testing.

- Support the stress test by providing the forecasts under baseline and stress scenarios. Involve in consumer loan roll rate model validation.

- Leverage cumulative default/prepay models to analyze performance of subprime graded portfolio under various economic scenarios. Write portfolio performance analysis monthly report and deliver/present to senior management of finance, treasury and other department. Write the Basel II documentation (PD, LGD, EAD, and UAD).

Senior Consultant

Virginia Tech, Laboratory for Interdisciplinary Statistical Analysis   **August 2006 - May 2010**

- Consulted with 120 research clients from the following departments: Industrial System Engineering, Biomedical Engineering, Biology, Chemical Engineering, Horticulture, Forestry and Fisheries & Wildlife.

- The techniques used include experimental design, multiple linear regression, logistic regression, ordinal regression, multivariate analysis, ANOVA, mixed models, regression power analysis, sequential testing, quality control, response surface methods, and probability modeling. Additional duties included organizing meetings and mentoring Associate Consultants.

Relevant Coursework	Quality Control Methods, Advanced Quality Control Methods, Experimental Design, Response Surface Methods, Applied Reliability, Statistical Computing, Statistical Methods and Theory, Linear Models, Regression and Advanced Regression, Mixed Models, Generalized Linear Models, Multivariate Statistics, Exploratory Data Analysis, Operations Research, Stochastic Processes, Statistical Consulting.

Refereed Journal Articles:

Waterman, Jeffrey B. Birch and **Abdel-Salam G. Abdel-Salam** (2013), Several nonparametric and semiparametric approaches to linear mixed model regression, *Journal of Statistical Computation and Simulation.* DOI: 10.108000949655.2013

Abdel-Salam G. Abdel-Salam, Jeffrey B. Birch, and Willis A. Jensen (2013), A Semiparametric Mixed Model Approach to Phase I Profile Monitoring, *Quality and Reliability Engineering International*, 29, pp. 555-569.

Nesma A. Saleh, Mahmoud A. Mahmoud, **Abdel-Salam G. Abdel-Salam** (2013), The Performance of the Adaptive Exponentially Weighted Moving Average Control Chart with Estimated Parameters, *Quality and Reliability Engineering International*, 29, pp. 595-606.

Ihab El-Shawarby, **Abdel-Salam G. Abdel-Salam**, Huan Li, and Hesham Rakha (2012), Driver Behavior at the Onset of Yellow Indication for Rainy/Wet Roadway Surface Conditions, *Journal of the Transportation Research Board*, Accepted.

M.G.Al-Saghir, Liesta Walker and **Abdel-Salam G. Abdel-Salam** (2012), Determining the Degree to Which Students Meet the Learned Goal Objectives in Microbiology through the Utilization of Pre and Post Testing Mechanisms, *International Journal of Microbiological Research*, 3, pp. 192-194.

M.G.Al-Saghir, and **Abdel-Salam G. Abdel-Salam** (2011), Genetic Diversity in North American Soybean (Glycine Max L.) Cultivars as Revealed by RAPD Markers, *Journal of Plant Sciences*, 6, pp. 36-42. Ihab El-Shawarby, Ahmed Amer, **Abdel-Salam G. Abdel-Salam**, and Hesham Rakha (2011), Empirical Study of Yellow and Red Light Running Behavior on High-Speed Signalized Intersection Approaches, *Operations and Traffic Management-OPS:Journal of the Transportation Research Board*, No. 2075, Transportation Research Board of the National Academies, Washington, D.C., 2011. http://amonline.trb.org/12kf39/1

Rakha, H., Arafeh M., **Abdel-Salam G. Abdel-Salam**, and Medina Flintsch A. (2009), Linear Regression Crash Prediction Models: Issues and Proposed Solutions, *Efficient Transportation and Pavement Systems, Taylor & Francis group, ISBN 978-0-415-48979-9*, pp. 241-256.

William H. Woodall, J. Brooke Marshall, Michael D. Joner, Shannon E.Fraker, and **Abdel-Salam G. Abdel-Salam** (2008), On The Use Of Scan Methods In Prospective Public Health Surveillance, *Journal of the Royal Statistical Society, Series A*, 171, pp. 223-237.

Medina Flintsch, A., Rakha, H., Arafeh, M., Dua, D., **Abdel-Salam G. Abdel-Salam**, and Abbas, M. (2008), Safety Impacts of Access Control Standards on Crossroads in the Vicinity of Highway Interchanges, *Transportation Research Record: Journal of the Transportation Research Board*, No. 2075, Transportation Research Board of the National Academies, Washington, D.C., 2008, pp. 42-52. http://trb.metapress.com/content/7218627675l6g5n1/fulltext.pdf

Papers Submitted for Publication:

Mohammed A Ibrahim-Alobaide, Kalkunte S Srivenugopal, **Abdel-Salam G. Abdel-Salam**, Kakil Ibrahim Rasul, Ruiwen Zhang , Hytham Alobaidi (2014), Bioinformatic characterization of alternative promoters in genes conferring tumor resistance to cisplatin, submitted to the *Advances in*

Applied Biomedicine.

Conference Proceedings:

Abdel-Salam G. Abdel-Salam, Ramadan Hamed and Ali El-Hefnawy (2004), Mathematical Programming Approach for Variable Selection in Discriminant Analysis: an Environmental Application, 39th *Annual Conference on Statistics, Computer Sciences and Operation Research*, Institute of Statistical Studies And Research, Cairo University, Giza, Egypt, pp. 80-94.

Abdel-Salam G. Abdel-Salam, Ramadan Hamed and Ali El-Hefnawy (2003), Selection of Variables in Discriminant Analysis Using Mathematical Programming Approach, 38th *Annual Conference on Statistics, Computer Sciences and Operation Research*, Institute of Statistical Studies And Research, Cairo University, Giza, Egypt, pp. 115-131.

Technical Reports:

Megan J. Waterman, Jeffrey B. Birch, and **Abdel-Salam G. Abdel-Salam** (2012), Nonparametric and Semiparametric Linear Mixed Models, Technical Report,
$http://www.web-e.stat.vt.edu/dept/web-e/tech\_reports/Technical\_Report\_12-4.pdf$

Abdel-Salam G. Abdel-Salam, Jeffrey B. Birch, and Willis A. Jensen (2010), Nonparametric and Semiparametric Methods for Phase I Profile Monitoring, Technical Report,
$http://www.web-e.stat.vt.edu/dept/web-e/tech\_reports/Technical\_Report\_10-2.pdf$

Rakha, H., Medina Flintsch A., Arafeh, M., **Abdel-Salam G. Abdel-Salam**, Dua, D., and Abbas, M., Access Control Design on Highway Interchanges, *submitted to Virginia Transportation Research Council (VTRC 08-CR7).*

Books/Chapter(s):

Rakha H., Arafeh M., **Abdel-Salam G. Abdel-Salam**, Guo F., and Medina (2008), "Linear Regression Crash Prediction Models: Issues and Proposed Solutions," *Efficient Transportation and Pavement Systems: Characterization, Mechanisms, Simulation and Modeling* (Editors: Al-Qadi, Sayed, Alnuaimi, and Masad), Taylor and Francis, ISBN: 978-0-415-48979-9 (Hand Book), ISBN: 978-0-203-88120-0 (Electronic Book), pp. 241-256.

Work in Progress **Abdel-Salam G. Abdel-Salam**, and Jeffrey B. Birch (2014), Phase *I* Profile Monitoring based on Residuals using Nonparametric and Semiparametric Methods.

Abdel-Salam G. Abdel-Salam, and Jeffrey B. Birch (2014), Nonlinear Mixed Model Robust Regression.

James D. Williams, Jeffrey B. Birch and **Abdel-Salam G. Abdel-Salam** (2014), Outlier Robust Nonlinear Mixed Model Estimation.

M.G.Al-Saghir, and **Abdel-Salam G. Abdel-Salam** (2013), Genetic Diversity in Hordeum Spontaneum C. Koch of Northern Jorden as Revealed by RAPD and AFLP. Collaboration with *Department of Environmental and Plant Biology, Ohio University Zanesville, Ohio.*

Conference Presentations

- Interview Strategies and Practical Tips: Personal Experiences from Academics to Business, *Invited Session*, Ohio State University, ESA, Columbus, Ohio. **(January 2013)**.

- Model Robust Regression, *Invited Talk*, Dow AgroSciences, Global Business, Indianapolis, Indiana. **(September 2012)**.

- A Semiparametric Mixed (Linear & Non-Linear) Model Approach to Phase I Profile Monitoring, *Invited Talk*, Information Systems, Statistics & Management Science, The University of Alabama, Tuscaloosa, Alabama. **(March 2012)**.

- Nonparametric and Semiparametric Profile Monitoring by Nonlinear Mixed Effects Modeling, *Contributed Paper*, 2011 Quality and Productivity Research Conference, Roanoke, Virginia. **(June 2011)**.

- New Methods for Profile Monitoring, *Invited Talk*, Department of Statistics, Oklahoma State University, Stillwater, Oklahoma. **(December 2010)**.

- Model Robust Regression: An Overview and Update, *Invited Talk*, JPMorgan Chase & Co., Columbus, Ohio. **(December 2010)**.

- New Methods for Profile Monitoring, *Gulf Coast Conference on Probability and Statistics-GCCPS*, University of South Florida, Tampa, Florida. **(February 2010)**.

- Profile Monitoring with Fixed and Random Effects using Nonparametric and Semiparametric Methods, *Section on Quality and Productivity*, The 2009 Joint Statistical Meetings (JSM), Washington, DC. **(August 2009)**.

- Parametric Regression Analysis: A Short Overview, *Short Course*, Graduate Graduate Life Center, Laboratory for Interdisciplinary Statistical Analysis at Virginia Tech, Blacksburg, Virginia.
(July 2009).

- Interpreting Multiple Regression: A Short Overview, *Invited Talk*, Graduate Seminar Course, The Alliance of Transportation Engineering Students at Virginia Tech, Blacksburg, Virginia.
(January 2009).

- Profile Monitoring using Nonparametric and Semiparametric Methods, *Contributed talk*, 2008 Quality and Productivity Research Conference, Madison, Wisconsin. **(June 2008)**.

- Profile Monitoring using Nonparametric and Semiparametric Methods, Virginia Academy of Science, *Statistics Session*, 86th Annual Meeting, Hampton University, Hampton, Virginia. **Winner Best Student Paper Award**. **(May 2008)**.

- Selection of Variables in Discriminant Analysis Using Mathematical Programming Approach, *Applied Statistics*, 38th Annual Conference on Statistics, Computer Sciences and Operation Research, Institute of Statistical Studies And Research, Cairo University, Giza, Egypt.
(April 2003).

Computer Skills

Statistical Software: SAS, SPSS, R, Design Expert, JMP, Minitab.

Office Package: LaTeX, Word, Excel, Powerpoint.

Program: Matlab, Maple.

Operating Systems: Linux, Windows.

Professional Society Memberships

- American Statistical Association (ASA) 2005-present.
- Institute of Mathematical Statistics (IMS) 2007-present.
- American Society for Quality (ASQ) 2008-present.
- Principal of ISNRV Sunday School, 2008/2009-2009/2010.
- Vice President of Virginia Tech Chapter of Mu Sigma Rho (National Statistics Honor Society), 2008/2009.
- Sigma Xi, The Scientific Research Society, 2009-present.
- Virginia Tech Postdoctoral Association, 2010-present.

References

Dr. Jeffrey B. Birch *(Advisor - PhD)*, Professor, Director of Graduate Programs in Statistics, (0439) Blacksburg, VA 24061, Office: (540) 231-7934   *E-mail: jbbirch@vt.edu*

Dr. Ibrahim A. Ahmad, Regents Professor & Department Head, Department of Statistics, Oklahoma State University, OK 74078, Office: (405)744-5684   *E-mail:iahmad@okstate.edu*

Dr. William H. Woodall *(PhD - Committee member)*, Professor, Department of Statistics, Virginia Tech, VA 24061, Office: (540)231-7792   *E-mail:bwoodall@vt.edu*