

CURRICULUM VITAE

Benson-Karhi Diamanta, Ph.D.

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Personal

Born: Beer-Sheva, Israel 13.3.1972

Marital Status: Married + 3

Professional Education

1996 B.Sc. Industrial Engineering and Management, Ben-Gurion University
of the Negev, Beer-Sheva, Israel

2001 M.Sc. Industrial Engineering and Management, Ben-Gurion
University of the Negev, Beer-Sheva, Israel

2007 Ph.D. Industrial Engineering and Management, Ben-Gurion University
of the Negev, Beer-Sheva, Israel

Academic Appointments

2006-2010 Lecturer, Sapir Academic College

2008 - 2009 Visiting Lecturer, The Open University of Israel

2010-present Lecturer, The Open University of Israel

Administrative Activities

2001-2002 Supervisor of the new Intel advanced lab, IEM Dept. Ben-Gurion
University

2006 Participating in organizing the annual Industry and Academy
conference, Sapir Academic College

- 2006-2009 Representing the Industrial Management Dept. in the Final Projects Unit, Sapir Academic College
- 2006-2009 Member, Industrial Management Dept. Teaching Committee, Sapir Academic College
- 2008-2011 Member, Engineering subcommittee, The Open University
- 2008-2012 Member, Social Sciences, Management and Economics and Mathematics and Computer Science subcommittees, The Open University
- 2008- Member, The Open University Faculty Council
- 2011- Member, the research committee, Research Center for Innovation in Learning Technologies, The Open University
- 2012-2013 Member, special committee assigned to examining the use of virtual labs in the Open University
- 2013- Member, Approval of Programs of Study Committee, The Open University
- 2013 Participating in organizing professional workshop on measurements and standards in quality management, a joint activity with the Israel Society for Quality, The Open University
- 2014- Head of the Industrial Engineering and Management Program, The Open University
- 2014- Member, Accreditation of Prior Studies Committee, The Open University
- 2015 Organizing professional workshop on Applied Statistics and Quality Improvement in Industry and Medicine, a joint activity with the Israel Society for Quality and IsENBIS, the Open University

Fields of Research

- Industrial Engineering
- Statistics
- Empirical Modeling
- Measurement theory
- Statistical Process Control
- Reliability and maintenance engineering
- Modeling and monitoring fetal biometry

Scholarships

1996-2006 Subsistence scholarship for master's and doctoral students, Ben-Gurion University

2001-2006 High-Tech scholarship for outstanding Ph.D. students in the high technology fields, Ben-Gurion University

Prizes

2002, Prize for outstanding research, the 12th Industrial Engineering & Management Conference

Sponsored Research

- 2010, the Open University, Encouragement Research Award for submitting research proposals to NIH and ISF at the same year, 20,000 IS.
- 2012, the Open University, Personal Research Fund, "Monitoring fetal growth via customized growth model", 22,500 IS.

Membership in Professional Societies

ISA — the Israeli Statistical Association

ENBIS — European Network for Business and Industrial Statistics

Participation in Scientific Conferences

- 2002 12th Industrial Engineering & Management Conference, Tel-Aviv, Israel, *Technological Forecasting using Inverse Normalizing Transformations*
- 2004 13th Industrial Engineering & Management Conference, Tel-Aviv, Israel, *Applying RMM for Empirical Modeling in Chemical Engineering*
- 2005 ICCMSE: International Computational Methods in Sciences and Engineering, Loutraki, Korinthos, Greece, *Applying Response Modeling Methodology to Model Temperature-Dependency of Vapor Pressure*
- 2006 14th Industrial Engineering & Management Conference, Tel-Aviv, Israel, *Variance Estimation of a Normal Process with Significant Round-off Errors*
- 2006 14th Industrial Engineering & Management Conference, Tel-Aviv, Israel, *Empirical Modeling in Engineering: an Example of using RMM for Empirical Modeling in Chemical Engineering*
- 2007 AIChE: American Institute of Chemical Engineering, Salt Lake City, Utah, *Prediction of Temperature-Dependent Properties by Correlations Based on Similarity of Molecular Structures*
- 2009 4th Industrial Engineering & Management **Research** Conference, Maalot, Israel, *Process and Product Design: Empirical Modeling and Prediction of Temperature-Dependent Properties of Pure Compounds*
- 2010 16th Industrial Engineering & Management Conference, Tel-Aviv, Israel, *Process and Product Design: Empirical Modeling and Prediction of Temperature-Dependent Properties of Pure Compounds*
- 2010 The third isENBIS Conference, Raanana, Israel, *Forecasting S-Shaped Market Diffusion Processes of New Products via Response Modeling Methodology (RMM)*
- 2010 Workshop: Measurement for Quality Improvement, Raanana, Israel, *Estimation of a Normal Process Variance from Measurements with Large*

Round-Off Errors

- 2011 The 4th International Conference on Manufacturing, Quality and Production Systems (MEQAPS'2011), Barcelona, Spain (chair), *Estimation of Normal Process Variance from Measurements with Large Round-Off Errors*
- 2011 Workshop: New directions in Quality Management, Raanana, Israel, *Monitoring Fetal Growth by customized fetal growth curves*
- 2012 17th Industrial Engineering & Management Conference, Tel-Aviv, Israel, *Monitoring fetal growth via customized growth curves*
- 2012 5th Galilee Quality Conference, Carmiel, Israel, *SPC-based Control Scheme to Monitor Fetal Growth*
- 2012 5th Galilee Quality Conference, Carmiel, Israel, *Estimation of Normal Process Variance from Measurements with Large Round-Off Errors*
- 2012 22th World Congress on Ultrasound in Obstetrics and Gynecology (ISUOG 2012), Copenhagen, Denmark, *Monitoring fetal growth via customized dynamically-updated growth model* (was accepted for oral presentation in 9-22 September 2012)
- 2012 Workshop: Lessons and trends in Quality Management, Raanana, Israel, *SPC in Healthcare: the example of Customized Fetal Growth Modeling and Monitoring*
- 2013 6th Industrial Engineering & Management **Research** Conference, Maale Hachamisha, Israel, *Modeling and Monitoring Fetal Growth – SPC Approach*
- 2013 ENBIS Spring Meeting 2013, Measurement systems and process improvement: Towards best practice and standards, National Physical Laboratory, London, England, *Point and Interval Estimation of Normal Process Variance using Measurements with Large Round-Off Errors*
- 2014 18th Industrial Engineering & Management Conference, Tel-Aviv, Israel, *Segmentation of Expected Duration of Maintenance Activities in Semiconductor Fabs*
- 2014 14th Annual Conference of ENBIS, Linz, Austria, *Customized Fetal Growth*

Modeling and Monitoring - A Statistical Process Control Approach

2015 15th Annual Conference of ENBIS, Prague, Czech Republic, *A New Model for Duration and Segmentation of Maintenance Activities in Semiconductor Fabrication Factories (Fabs)*

Teaching Responsibility for Open University Courses

- Work Measurement and Methods Improvement
- Operations Management I
- Operations Management II
- Facility Layout and Associate Systems Design
- Final Project
- Dynamic Planning: Applications in Human Resources
- Statistical Techniques for Manpower Planning
- Quality Control

Other Teaching Experience

1998-2009 Teaching:

1. Dept. of Industrial Management, Sapir College, Courses: Probability, Mathematics, Quality Control, Reliability, Work Study
2. School of Management, Departments: business administration, Management, Hotel & Tourism Management, Ben-Gurion University, Courses: Statistics, Mathematics, Statistical Process Control
3. Dept. of Industrial Engineering and Management, Ben-Gurion University, Course: Work Study
4. Faculty of Health Sciences, Dept. of Health Systems Management, Ben-Gurion University, Courses: Statistics,

Mathematics, Work Study

1994-1998 Teaching Assistant:

1. Dept. of Industrial Engineering and Management, Ben-Gurion University, Courses: Probability, Statistics, Quality Control, Production Planning & Control, Operation Research
2. School of Management, Departments: business administration (MBA), Management, Hotel & Tourism Management, Ben-Gurion University, Courses: Probability, Statistics, Mathematics, Production Planning & Control, Operation Research
3. Technological Pre Academic Dept. of Ben-Gurion University, Mathematics course
4. Faculty of Health Sciences, Dept. of Health Systems Management, Ben-Gurion University, Course: Probability, Statistics, Mathematics

2004-2015 Supervision for Undergraduate Projects:

1. 2004-2015, Supervision for 18 undergraduate final projects, Ben-Gurion University
2. 2008-2015, Supervision for 10 undergraduate final projects, The Open University
3. 2012, Supervision for seminar project, The Open University

2012 Supervision for M.Sc. thesis, Industrial Engineering and Management, Ben-Gurion University, "Monitoring fetal growth via customized dynamically-updated growth model".

2014 Supervision for M.Sc. thesis, Industrial Engineering and Management, Ben-Gurion University, "Segmentation of Expected Duration of Maintenance Activities in Semiconductor Fabs".

2015 Supervision for M.Sc. thesis, Industrial Engineering and Management, Ben-Gurion University, "Control Charts for Variables Measured with Large Round-Off Errors".

- 2015** Supervision for M.Sc. thesis, Industrial Engineering and Management, Ben-Gurion University, "Analyzing the difference of teaching surveys between graduates and undergraduate students of IEM core courses".

Other Professional Activities

- 2004 Participating in submitting a research proposal to the United States-Israel Binational Science Foundation (BSF). Principle investigators: Prof. Haim Shore, Prof. Mordechai Shacham (Israel) and Prof. Richard L. Rowely (U.S.A) - as a Ph.D. student in Ben-Gurion University. Failed despite the excellent reviews - was recommended to resubmit after revision.
- 2006 Participating in revising and resubmitting the 2004 research proposal to BSF. Principle investigators: Prof. Haim Shore, Prof. Mordechai Shacham (Israel) and Prof. Richard L. Rowely (U.S.A) - as a Ph.D. student (following the submission of the Ph.D. dissertation). Was rejected.
- 2005 Certification for BasicMOST Applicator, H. B. Maynard and Company, Inc. Pittsburgh, Pennsylvania.
- 2010 Submitting, as a principle investigator, a research proposal titled: "A Technique for Generating Customized Fetal Growth Curves" to the National Institute of Health (NIH). Cooperated with Prof. Haim Shore, Dr. Yisrael Parmet and Dr. Asher Bashiri (Soroka University Medical Center and Ben-Gurion University). Failed despite the good reviews.
- 2010 Submitting, as a principle investigator, a research proposal titled: "Monitoring Fetal Biometry Based On Individual Growth Curves" to the Israel Science Foundation (ISF). Cooperated with Prof. Haim Shore, Dr. Yisrael Parmet and Dr. Asher Bashiri (Soroka University Medical Center and Ben-Gurion University). Failed despite the good reviews.
- 2010- Submitting two different requests to the Helsinki Committee; Proposal title: "A Technique for Generating Customized Fetal Growth Curves";

Both requests were approved and one was renewed on 2011, 2012, 2013 and was resubmitted and approved on 2015.

- 2011 Seminar Talk: Statistics Seminar, Ben-Gurion University of the Negev, Beer-Sheva, Israel, Estimation of Normal Process Variance from Measurements with Large Round-Off Errors
- 2011 Review: Riba, JR., Canals, T. and Cantero, R.; Comparative Study of Multivariate Methods to Identify Paper Finishes Using Infrared Spectroscopy; IEEE Transactions on Instrumentation & Measurement
- 2011 Review: Xu, L., wang, J., Li, X. and Quan, Z.; Quantitative Evaluation of Impacts of Random Errors on ALS Accuracy Using Multiple Linear Regression Method; IEEE Transactions on Instrumentation & Measurement
- 2011 Referee: M.Sc. thesis, Industrial Engineering and Management, Ben-Gurion University, "Solving a Mixture Distribution Problem via Mixture Linear Regression – A Comparison Study of Two Approaches"
- 2012 Review: Picinbono, B.; Measurements of some Relaxed Properties of Simulated Point Processes; IEEE Transactions on Instrumentation & Measurement
- 2012 Review: wang, J., Xu, L., Li, X. And Quan, Z.; Quantitatively Evaluating Random Attitude Measurement Errors' Impacts on DSM Elevation Accuracy from Airborne Laser Scanning; IEEE Transactions on Instrumentation & Measurement
- 2013 Review: Xue, Q., Wang, R., Sun, F., Huang, L. and Han, L.; Continuous Measurement-While-Drilling Utilizing Strap-down Multi-model Surveying System; IEEE Transactions on Instrumentation & Measurement
- 2013 Resubmitting, as a principle investigator, a research proposal titled: "Monitoring Fetal Biometry Based On Individual Growth Curves" to the Israel Science Foundation (ISF). Cooperated with Prof. Haim Shore and Prof. Asher Bashiri (Soroka University Medical Center and

- Ben-Gurion University). Failed despite the good reviews.
- 2014 Seminar Talk: Ben-Gurion University of the Negev, Beer-Sheva, Israel, Work Study as a Basic Tool for Industrial Engineers
- 2014 7th Galilee Quality Conference, Carmiel, Israel, Chair of the Academic session
- 2014 Seminar Talk: Department of Obstetrics and Gynecology, Soroka University Medical Center, Beer-Sheva, Israel, Customized Fetal Growth Modeling and Monitoring - A Statistical Process Control Approach
- 2015 Member of the advisory committee for the 19th Industrial Engineering & Management Conference; 2015
- 2015 8th Galilee Quality Conference, Carmiel, Israel, Chair of the Academic session
- 2015 Referee: M.Sc. thesis, Industrial Engineering and Management, Ben-Gurion University, "Robust and Optimal Parameter Design to a process with one or more Quality Characteristic in order to maximize the process yield"
- 2008-2015 Participating as a referee in the annual undergraduate final-projects conference, Ben-Gurion University
- 2015-2016 Member of the advisory committee for the 19th Industrial Engineering & Management Conference; 2016

List of Publications

Articles in Refereed Journals

1. **Benson-Karhi, D.**, Shore, H. and Shacham, M.; Applying Response Modeling Methodology to Model Temperature-Dependency of Vapor Pressure; Lecture Series on Computer and Computational Sciences; 4; 2005; 835-838, Brill Academic Publishers, The Netherlands.
2. Shore, H. and **Benson-Karhi, D.**; Forecasting S-shaped diffusion processes via response modeling methodology; *Journal of Operational Research Society*; 58; 2006; 720-728.
3. **Benson-Karhi, D.**, Shore, H. and Shacham, M.; Modeling Temperature-Dependent Properties of Water via Response Modeling Methodology (RMM) and Comparison with Acceptable Models; *Industrial and Engineering Chemistry Research*; 46; 2007; 3446-3463.
4. Shacham, M., Brauner, N., Shore, H. and **Benson-Karhi, D.**; Predicting Temperature-Dependent Properties by Correlations Based on Similarity of Molecular Structures: Application to Liquid Density; *Industrial and Engineering Chemistry Research*; 47; 2008; 4496-4504.
5. Shore, H. and **Benson-Karhi, D.**; Modeling Temperature-Dependent Properties of Oxygen, Argon and Nitrogen via RMM; *Industrial and Engineering Chemistry Research*; 49; 2010; 9469-9485.
6. **Benson-Karhi, D.**, Dvir, E., Regev, I. and Schechtman, E.; Estimation of a Normal Process Variance from Measurements with Large Round-Off Errors; *IET Science, Measurement & Technology*; 7; 2013; 180-189.
7. Shore, H., **Benson-Karhi, D.**, Malamud, M. and Bashiri, A.; Customized Fetal Growth Modeling and Monitoring – A Statistical Process Control Approach; *Quality Engineering*; 26:3; 2014; 290-310.
8. **Benson-Karhi, D.**, Dvir, E., Regev, I. and Schechtman, E.; Using Measurements with Large Round-Off Errors for Interval Estimation of Normal Process Variance; *IET Science, Measurement & Technology*; was revised and resubmitted.
9. **Benson-Karhi, D.**, Shore, H. and Malamud, M.; Modeling Fetal Growth with

Response Modeling Methodology (RMM); *Computational Statistics and data analysis*; under consideration for publication.

10. Regev, I. and **Benson-Karhi, D.**; Segmentation of the Expected Duration of Maintenance Activities in Semiconductor Fabs; *Ieee Transactions on Semiconductor Manufacturing*; under consideration for publication.

In Progress

1. **Benson-Karhi, D.**, Shore, H. and Bashiri, A.; New fetal weight estimation model.
2. **Benson-Karhi, D.**, Shore, H. and Bashiri, A.; Reference Centiles of Fetal Biometry via Customized Fetal Growth Modeling and Monitoring.

Articles in Refereed Conference Proceedings

1. Shore, H., **Benson-Karhi, D.**, Brauner, N. and Shacham, M.; Prediction of Temperature-Dependent Properties by Correlations Based on Similarity of Molecular Structures; AIChE: American Institute of Chemical Engineering; 2007; paper 335I.
2. **Benson-Karhi, D.**, Dvir, E., Regev, I. and Schechtman, E.; Estimation of a Normal Process Variance from Measurements with Large Round-Off Errors; Recent Advances in Manufacturing Engineering; Proceedings of The 4th International Conference on Manufacturing, Quality and Production Systems (MEQAPS'2011) 2011; 297-302.

Articles in Conference Proceedings

Not including proceedings on CD and Abstract proceedings.

1. **Benson-Karhi, D.** and Shore, H.; Technological Forecasting using Inverse Normalizing Transformations; 12th Industrial Engineering & Management Conference; 2003; 126-130.
2. **Benson-Karhi, D.**, Shore, H. and Shacham, M.; Process and Product Design: Empirical Modeling and Prediction of Temperature-Dependent Properties of Pure Compounds; 4th Industrial Engineering & Management Research Conference; 2009; 203-218.

3. Regev, I., Eshel, R. and **Benson-Karhi, D.**; Segmentation of the Expected Duration of Maintenance Activities in Semiconductor Fabs; 18th Industrial Engineering & Management Conference; 2014.
4. Regev, I. and **Benson-Karhi, D.**; Segmentation of the Expected Duration of Maintenance Activities in Semiconductor Fabs; Advanced Semiconductor Manufacturing Conference (ASMC - SEMI); 2015.

Open University Books

- 2009 Study guide for the book: "Zandin, K. B., (2003), *MOST Work Measurement Systems*, 3rd Ed., Marcel Dekker Inc.", for the course "Work Study", author, (Hebrew).
- 2008-2009 Professional editing of the book "Work Study" written by prof. Yosi Hadad for The Open University, (Hebrew).
- 2010-2013 Study guide for the book: "Montgomery, D. C., (2008), *Introduction to Statistical Quality Control*, 6th Ed., Wiley, New York"; for the course "Quality Control"; author, (Hebrew).
- 2012 Academic Responsibility for updating the course "Dynamic Planning: Applications in Human Resources", (Hebrew).