Dr. Boris Shnits, Senior Lecturer

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ORT Braude College, Department of Industrial Engineering and Management,
P.O. Box 78, Karmiel 21982, Israel
Tel.: 972-4-9086464, 794
E-mail: shnitsb@braude.ac.il

EDUCATION

Ph.D. 2006, Faculty of Industrial Engineering and Management, Technion – Israel Institute of Technology, Haifa, Israel

Dissertation: "Dynamic Scheduling and Control of Flexible Manufacturing Systems"

M.Sc. 2001, Faculty of Industrial Engineering and Management, Technion – Israel Institute of Technology, Haifa, Israel

Thesis: "A Genetic Algorithm for Robotic Assembly Line Balancing"

B.Sc. 1996, Faculty of Industrial Engineering and Management, Technion – Israel Institute of Technology, Haifa, Israel

RESEARCH INTERESTS

- Design, operations and real time control of flexible manufacturing systems
- Developing efficient shop floor control systems using real time and fast mode look-a-head simulations
- Multi-criteria decision making
- Dynamic and static scheduling
- Assembly line balancing

ACADEMIC EXPERIENCE

2010 – Present   Senior Lecturer, ORT Braude College, Karmiel, Israel

2006 – Present   Adjunct Lecturer, Faculty of Industrial Engineering and Management, Technion – Israel Institute of Technology, Haifa, Israel

2006 – 2010   Lecturer, ORT Braude College, Karmiel, Israel

2005 – 2006   Adjunct Lecturer, ORT Braude College, Karmiel, Israel

1999 – 2006   Teaching Assistant, Faculty of Industrial Engineering and Management, Technion – Israel Institute of Technology, Haifa, Israel

PROFESSIONAL EXPERIENCE

1998 – 1999   Israel Defense Forces, Israeli Navy Organizational Consulting Department – Professional Officer, Information System Consultant: Designed, specified and implemented computerized information systems in the field of human resource management

1996 – 1998   Israel Defense Forces, Israeli Navy Research Department – Professional Officer, Industrial Engineer: Conducted study works in the areas of resource capacity planning and organizational structure

TEACHING EXPERIENCE

ORT Braude College

Graduate Courses:

Flexible Manufacturing Systems (developed a new course)

Undergraduate Courses:

Production Systems: Control and Management

Computer Aided Manufacturing Systems

Advanced Computer Aided Manufacturing Systems (developed a new course)

Material Requirements and Recourse Planning (developed a new course)

Computer Integrated Manufacturing (CIM) Laboratory

Project in Industrial Engineering (supervisor)

Project in Applied Mathematics (supervisor)

Internship (supervisor)

Development of laboratories:

Computer Integrated Manufacturing Teaching Lab

Technion – Israel Institute of Technology

Undergraduate Courses:

Operations of Production and Service Systems

Manufacturing Systems Engineering

Computer Integrated Manufacturing

Laboratory in Basic Computer Skills

Development of laboratories:

Robotics and Computer Integrated Manufacturing (CIM) Teaching Lab

Project Supervision:

Robotics and Computer Integrated Manufacturing Lab, Supervising a project that included developing a simulation-based controller for a Flexible Manufacturing System (FMS) using the Rapid CIM Control Methodology

ACADEMIC AWARDS

2012	Faculty Excellence Award, ORT Braude College, Israel
2007	Faculty Excellence Award, ORT Braude College, Israel
2005	The Miriam and Aaron Gutwirth Scholarship Award for outstanding Ph.D. students
1999 – 2005	Technion - Israel Institute of Technology Scholarship

PROFESSIONAL ACTIVITIES

- Member of the M.Sc. Curriculum Committee, Department of Industrial Engineering and Management, ORT Braude College, since 2013

- Member of the Lecturers Excellence Committee, ORT Braude College, since 2013

- Member of the College Information Systems Committee, Ort Braude College, 2012 - 2013

- Member of the B.Sc. curriculum committee, Department of Industrial Engineering and Management, ORT Braude College, since 2011

- Member of the Excellence Program Committee, ORT Braude College, 2011-2012

- Academic consultant to 3rd year students, Department of Industrial Engineering and Management, ORT Braude College, since 2010

- Member of the Safety Committee, Department of Industrial Engineering and Management, Ort Braude College, since 2008

- Responsible for integrating SAP (Systems - Applications - Products in data processing) system in academic courses of the Department of Industrial Engineering and Management at ORT Braude College, since 2007

- In charge of the Computer Integrated Manufacturing (CIM) Teaching Lab, ORT Braude College, since 2006

- Member of the College Committee for Computerization, Ort Braude College, 2007-2011

- Member of the College Research Committee, Ort Braude College, 2007-2010

- Organizing the seminars of the Department of Industrial Engineering and Management at ORT Braude College, 2007-2009

- Member of the Organizing Committee of The 5th ORT Braude Interdisciplinary Research Conference, October 14-15, 2009

- Member of the Organizing Committee of The 4th ORT Braude Interdisciplinary Research Conference, October 22-23, 2008

- Reviewer of papers for publication in International Journal of Production Research

LIST OF PUBLICATIONS

Refereed Papers

1) Shnits B., 2012, "Multi-Criteria Optimisation-Based Dynamic Scheduling for Controlling FMS", International Journal of Production Research, Vol. 50, No. 21, pp. 6111-6121.

2) Avigad G., Eisenstadt-Matalon E. and Shnits B., 2011, "Supporting the Selection of Robust Engineering Concepts under Suppliers related Uncertainties", Journal of Engineering Design, Vol. 22, No. 8, pp. 543–563.

3) Shnits B., 2010, "Methods for Activating the Decision Making Process that is Used for Controlling Flexible Manufacturing Systems", International Journal of Production Research, Vol. 48, No. 24, pp. 7437–7462.

4) Sinreich D. and Shnits B., 2007, "A Robust FMS Control Architecture with an Embedded Adaptive Scheduling Mechanism", Journal of Manufacturing Systems, Vol. 25, No. 4, pp. 301-312.

5) Shnits B. and Sinreich D., 2006, "Controlling Flexible Manufacturing Systems Based on a Dynamic Selection of the Appropriate Operational Criteria and Scheduling Policy", International Journal of Flexible Manufacturing Systems, Vol. 18, No. 1, pp. 1-27.

6) Levitin G., Rubinovitz J. and Shnits B., 2006, "A Genetic Algorithm for Robotic Assembly Line Balancing", European Journal of Operational Research, Vol. 168, No. 3, pp. 811-825.

7) Shnits B., Rubinovitz J. and Sinreich D., 2004, "Multicriteria Dynamic Scheduling Methodology for Controlling a Flexible Manufacturing System", International Journal of Production Research, Vol. 42, No. 17, pp. 3457-3472.

Conference Proceedings and Abstracts

1) Shnits B., "Controlling FMS based on dynamically creating the local optimal schedules for dynamically selected appropriate operational criteria", Book of Abstracts of the 9th Interdisciplinary Research Conference (ORT Braude College), p. 24, 2013, Kibbutz Hagoshrim, Israel.

2) Shnits B., "Multi-Criteria Optimization-Based Dynamic Scheduling for Controlling FMS", Proceedings of the 17th Industrial Engineering and Management Conference (IE&M 2012), on CD, 2012, Tel Aviv, Israel.

3) Shnits B., "Mathematical modeling the dynamic scheduling problems with multiple objectives in FMS environment", Book of Abstracts of the 8th Interdisciplinary Research Conference (ORT Braude College), p. 31, 2012, Akko, Israel.

4) Shnits B., "Multi-Criteria Optimization-Based Dynamic Scheduling for Controlling FMS", Proceedings of the 21st International Conference on Production Research (ICPR-21), on CD, 2011, Stuttgart, Germany.

5) Shnits B., "Multi-Criteria Optimization-Based Dynamic Scheduling for Controlling FMS", Book of Abstracts of the 7th ORT Braude College Interdisciplinary Research Conference, p. 29, 2011, Kfar Blum, Israel.

6) Shnits B., "Methods for Activating the Decision Making Process that is Used for Controlling Flexible Manufacturing Systems", Proceedings of the 16th Industrial Engineering and Management Conference (IE&M 2010), on CD, 2010, Tel Aviv, Israel.

7) Shnits B., "Multi-Criteria Optimization-Based Dynamic Scheduling for Controlling Flexible Manufacturing Systems", Book of Abstracts of the 6th ORT Braude College Interdisciplinary Research Conference, p. 28, 2010, Haifa, Israel.

8) Shnits B., "Methods for Activating the Decision Making Process that is Used for Controlling Flexible Manufacturing Systems", Book of Abstracts of the 5th ORT Braude College Interdisciplinary Research Conference, p. 47, 2009, Nahariya, Israel.

9) Shnits B. and Sinreich D., "A Robust FMS Control Architecture with an Embedded Adaptive Scheduling Mechanism", Book of Abstracts of the 4th ORT Braude College Interdisciplinary Research Conference, p. 20, 2008, Nazareth Ilit, Israel.

10) Shnits B. and Sinreich D., "Multi-Criteria Dynamic Scheduling and Simulation-Based Control in Flexible Manufacturing Systems", Proceedings of the International Conference on Industrial Logistics (ICIL2008), 2008, Tel Aviv, Israel.

11) Shnits B. and Sinreich D., "Embedding an Adaptive Scheduling Mechanism in a Robust FMS Control System", Proceedings of the 15th Industrial Engineering and Management Conference (IE&M 2008), on CD, 2008, Tel Aviv, Israel.

12) Shnits B. and Sinreich D., "Controlling Flexible Manufacturing Systems Based on a Dynamic Selection of the Appropriate Operational Criteria and Scheduling Policy", Book of Abstracts of the 3rd ORT Braude College Interdisciplinary Research Conference, p. 5, 2007, Kibbutz Hagoshrim, Israel.

13) Shnits B. and Sinreich D., "Controlling Flexible Manufacturing Systems Based on a Dynamic Selection of the Appropriate Operational Criteria and Scheduling Policy", Proceedings of the 14th Industrial Engineering and Management Conference (IE&M 2006), on CD, 2006, Tel Aviv, Israel.

14) Shnits B., Sinreich D. and Rubinovitz J., "Multi-Criteria Dynamic Scheduling and Control for Flexible Manufacturing System", Proceedings of the 13th Industrial Engineering and Management Conference (IE&M 2004), pp. 113-114 + full paper on CD, 2004, Tel Aviv, Israel.

15) Sinreich D., Rubinovitz J. and Shnits B., "Dynamic Scheduling and Control for Flexible Manufacturing Systems", Proceedings of the 9 International Symposium on Manufacturing with Applications (ISOMA 2004), on CD, 2004, Seville, Spain.

16) Rubinovitz J., Sinreich D. and Shnits B., "Dynamic Scheduling and Control for Flexible Manufacturing System", Proceedings of the 17th International Conference on Production Research (ICPR-17), on CD, 2003, Blacksburg, Virginia, USA.

17) Shnits B., Rubinovitz J. and Levitin G., "A Genetic Algorithm for Robotic Assembly Line Balancing", Proceedings of the 12th Industrial Engineering and Management Conference (IE&M 2002), pp. 166-170, 2002, Tel Aviv, Israel.

18) Levitin G., Rubinovitz J. and Shnits B., "A Genetic Algorithm for Robotic Assembly Line Balancing", Proceedings of the 15th World Congress of the International Federation of Automatic Control (IFAC), on CD, 2002, Barcelona, Spain.