Tadeusz J. Sawik, Professor of Industrial Engineering & Operations Research

1. Department for Operations Research
AGH University of Kraków
Al. Mickiewicza 30, 30-059 Kraków, Poland

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ResearcherID: D-1240-2013
Scopus: 7004866457

Curriculum Vitae

1. Education and Degree Earned

MS	**Master of Automation Engineering** (with special honors), AGH Krakow. Thesis: „*Stability Analysis of a Hydraulic System with Distributed Parameters".*
PhD	**Ph.D. in Operations Engineering**, AGH Krakow. Dissertation: „*Optimal Control Approach to a Multi-Facility, Multi-Product Production Scheduling*".
Habilitation	**Habilitation Degree** (qualification for a professorship) **in Operations Research**, (with special award from the Minister of Science and Higher Education) AGH, Krakow. Dissertation: *„State Space Approach to the Time-Optimal Scheduling in Discrete Manufacturing*".
Full Professor	**Professor**, state title conferred by the President of the Republic of Poland, Lech Wałęsa.

2. Employment

Current: **Visiting Professor** in Department of Engineering, Reykjavik University, Reykjavik, Iceland.

2016 – 2017: **Professor and Chair** of Department of Operations Research, Faculty of Management, AGH University.

2006 – 2016: **Professor and Chair** of Department of Operations Research & Information Technology, Faculty of Management, AGH University.

1993 – 2006: **Professor and Chair** of Department of Computer Integrated Manufacturing, Faculty of Management, AGH University.

1993 – 1996: **Associate Dean for Research** of the Faculty of Management, AGH University. Also, part-time professor at the Faculty of Mechanical Engineering and Robotics.

2002 – 2005, 2005 – 2008: **Member of Academic Senate** of AGH University.

1976 – 1992: **Assistant Professor, Associate Professor** at the Faculty of Mechanical Engineering and Robotics, AGH University.

1995 – 1998: **Author and Coordinator *of the Joint European Project TEMPUS*** no. S_JEP-09434-95: „*A new curriculum in industrial and management engineering*" developed in collaboration with the University of Mannheim, Germany, University of Piraeus, Greece, and INRIA Lorraine, Metz, France.

1990 – 2017: **Visiting Professor** at universities in Germany, Greece, Japan, Portugal, Spain, Sweden, and Switzerland.

2006 - **Founding Editor-in-Chief:** *Decision Making in Manufacturing and Services* – an international journal published by AGH University Press, www.dmms.agh.edu.pl

Member of Editorial Boards: *AGH University Press, International Journal of Business Analytics, International Journal of Production Research, Management and Production Engineering Review, Mathematical Problems in Engineering, Opsearch, Flexible Services and Manufacturing Journal*

2014– **Member of IFAC Technical Committee** on Manufacturing Modelling for Management and Control, http://tc.ifac-control.org/5/2

3. Teaching Activity

Global Online Certification Course:

"*Supply Chain Operations and Disruptions Management: A Way Forward"*

by invitation of National Institute of Industrial Engineering (NITIE), Mumbai, India. (Sept.29, 2021 – Oct.27, 2021: 30 hours of lectures including hands-on training on MIP modeling and AMPL programming) with 1600+ participants from 11 countries over 5 continents. www.nitie.ac.in

"*Supply Chain Operations and Disruptions Management: A Way Forward" 2nd edition*

by invitation of National Institute of Industrial Engineering (NITIE), Mumbai, India. (Sept.30, 2022 – Oct.20, 2022: 20 hours of lectures including hands-on training on MIP modeling and AMPL programming) with over 500 NITIE students.

"*Supply Chain Operations and Disruptions Management: A Way Forward" 3rd edition*

by invitation of Indian Institute of Management (IIM), Mumbai, India. (Oct.4-Oct.12, 2023: 20 hours of lectures including hands-on training on MIP modeling and AMPL programming) with over 500 IIM students.

"*Supply Chain Operations and Disruptions Management: A Way Forward" 4th edition*

by invitation of Indian Institute of Management (IIM), Mumbai, India. (Oct.14-Oct.22, 2024: 20 hours of lectures including hands-on training on MIP modeling and AMPL programming) with over 160 IIM students.

Undergraduate Courses:

- *Operations Research*
- *Flexible Manufacturing Systems*

Graduate Courses:

- *Discrete Optimization*
- *Combinatorial Optimization and Scheduling in Manufacturing and Services*
- *Production Planning and Scheduling*
- *Supply Chain Scheduling in High-Tech Industry*
- *Supply Chain Disruption Management*

Summer Short Courses for Mexican Students:

- *Discrete Optimization in Flexible Manufacturing Systems* (Monterrey University, Mexico) – since 2005

4. Research Activity (total grant funding equivalent to $6mln)

2014 – 2017: Decision making in the control of disrupted flows in global supply chains of high-tech products – grant of the **National Research Center, Poland.** (**Principal investigator**).

2010 – 2012: New computational methods, mathematical models and solution algorithms for the allocation of tasks and resources in customer driven supply chains – grant of the **National Research Committee, Poland.** (**Principal investigator**).

2007 – 2010: New mathematical models, IT and decision-making algorithms for supply chain management – grant of the **National Research Committee, Poland.** (**Key investigator**).

2005 – 2007: Computational issues in the optimization of resource allocation and scheduling in supply chains for high-tech products – grant of the **National Research Committee, Poland.** (**Principal investigator**).

2003 – 2004: Operations management in customer driven supply chains – grant of the **Motorola Advanced Technology Center, USA.** (**Principal investigator**).

2002 – 2003: Operations management of a distribution center for mass produced and mass customized products – grant of the **Motorola Advanced Technology Center, USA.** (**Principal investigator**).

2001 – 2003: New models and algorithms for short-term production planning and scheduling in computer integrated manufacturing – grant of the **National Research Committee, Poland.** (**Principal investigator**).

1999 – 2001: Monolithic MIP models and fast heuristics for scheduling flexible flow lines with limited in-process buffers (with applications to scheduling of SMT lines) – grant of the **Motorola Advanced Technology Center, USA.** (**Principal investigator**).

1998 – 2000: Decision support for production planning and control in Computer Integrated Manufacturing – grant of the **National Research Committee, Poland.** (**Principal investigator**).

1997 – 1999: Energy, Economy and the Environment in Transition Economies: A Regional Systems Analysis Approach – grant of the **Swiss National Science Foundation. (Principal co-investigator with Alain Haurie from University of Geneva)**.

1993 – 1995: Design, optimization and control in Flexible Assembly Systems – grant of the **National Research Committee, Poland.** (**Principal investigator**).

1991 – 1992: Operations management in Computer Integrated Manufacturing – research project of **AGH University of Science & Technology.** (**Principal investigator**).

1988 – 1990: Operations research models and applications to design, analysis and production planning and control in Flexible Manufacturing Systems – research project of the **Ministry of Education**. (**Principal investigator**).

I am a sole author of **over 150 scientific papers, three textbooks:** ***Discrete Optimization in Operations Research***, 1982, ***Analysis and Synthesis of Multivariable Control Systems***, 1984, and ***Operations Research for Industrial Engineers***, 1998, all published by AGH University Press, Krakow, **and eight monographs**: ***State Space Approach to the Time-Optimal Scheduling in Discrete Manufacturing***, AGH University Press, Krakow 1980 (award from the Minister of Science and Technology in 1981), ***Discrete Optimization in Flexible Manufacturing Systems***, WNT Publishers, Warsaw 1992 (award from the Minister of Education in 1993), ***Production Planning and Control in Flexible Assembly Systems***, WNT Publishers, Warsaw 1996 (award from the Minister of Education in 1997), and ***Production Planning and Scheduling in Flexible Assembly Systems***, Springer, Berlin 1999 (award from the Minister of Education in 2000), ***Scheduling in Supply Chains Using Mixed Integer Programming*****,** John Wiley & Sons, Inc., Hoboken, NJ 2011 (award from the Minister of Science and Higher Education in 2012), ***Supply Chain Disruption Management Using Stochastic Mixed Integer Programming*****,** Springer, New York (First Edition, 2018**,** Revised and Extended Second Edition, 2020), ***Stochastic Programming in Supply Chain Risk Management-Resilience, Viability, and Cybersecurity.*** Springer, New York, 2024.

I have been invited speaker for various international conferences, seminars and lectures organized by universities and research institutions in Europe, Australia, New Zealand, Japan and USA.

I have been consultant to industry and several research and development centers, including Motorola Advanced Technology Center, a Corporate Lab of Motorola in Schaumburg, IL, from 1999 to 2005.

In the 50th and 55th volumes anniversary issue of *International Journal of Production Research (IJPR),* a flagship journal in Production Research, I have been recognized as one of the Leading scholars in Production Research and one of the top authors who have had the greatest impact on defining the knowledge represented in *IJPR*.

In the ***World's Top 2% Scientists*** list released by Stanford University and published in PloS Biology https://doi.org/10.1371/journal.pbio.3000918, I have been ranked #140 in Operations Research until the end of 2020, and #59 during the single calendar year 2020. https://www.agh.edu.pl/en/news/detail/agh-university-in-the-worlds-top-2-scientists-2023-ranking

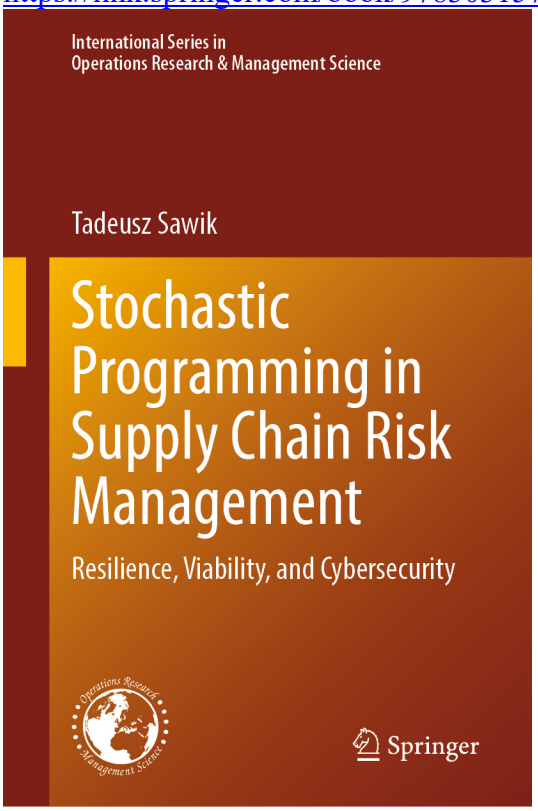
My biographical data has appeared in ***Cambridge Dictionary of International Biography*** **(UK)** and ***Who's Who in the World***, ***Who's Who in Finance and Industry***, ***Who's Who in Science and Engineering*** **(USA),** www.marquiswhoswho.com.
My current research interests include logistics and supply chain management in global economy, supply chain risk management, homeland and cyber security, planning and scheduling, mixed integer programming, stochastic and combinatorial optimization.

Selected refereed publications in

Industrial Engineering and Operations Research

Monographs and textbooks

1. **T. Sawik (2024):** ***Stochastic Programming in Supply Chain Risk Management-Resilience, Viability, and Cybersecurity.*** Springer International Series in Operations Research and Management Science, vol. 359, New York. https://link.springer.com/book/9783031579264



2. **T. Sawik (2020):** ***Supply Chain Disruption Management: using stochastic mixed integer programming*****.** (Revised and Extended Second Edition) Springer International Series in Operations Research and Management Science, vol.291, New York (monograph). https://www.springer.com/us/book/9783030448134

3. **T. Sawik (2018):** ***Supply Chain Disruption Management Using Stochastic Mixed Integer Programming*****.** Springer International Series in Operations Research and Management Science, vol.256, New York (monograph). http://www.springer.com/gp/book/9783319588223

4. **T. Sawik (2011):** ***Scheduling in Supply Chains Using Mixed Integer Programming*****.** John Wiley & Sons, Inc., Hoboken, NJ (monograph). http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470935731.html

5. **T. Sawik (1999):** ***Production Planning and Scheduling in Flexible Assembly Systems*****.** Springer, Berlin. (monograph)**.** http://www.springer.com/gp/book/9783540649984

6. **T. Sawik (1998):** ***Badania operacyjne dla inżynierów zarządzania*****. (Operations Research for Industrial Engineers).** AGH University Press, Kraków. (textbook in Polish)

7. **T. Sawik (1996):** ***Planowanie i sterowanie produkcji w elastycznych systemach montażowych*****. (Production Planning and Control in Flexible Assembly Systems).** WNT Publishers, Warszawa. (monograph in Polish with English summary)

8. **T. Sawik, P. Łebkowski (1992):** ***Elastyczne systemy produkcyjne*****. (Flexible Manufacturing Systems)** AGH University Press, Kraków. (textbook in Polish)

9. **T. Sawik (1992):** ***Optymalizacja dyskretna w elastycznych systemach produkcyjnych*****. (Discrete Optimization in Flexible Manufacturing Systems).** WNT Publishers, Warszawa**.** (monograph in Polish with English summary)

10. **T. Sawik (1984):** ***Analiza i synteza wielowymiarowych układów sterowania*****. (Analysis and Synthesis of Multivariable Control Systems).** AGH University Press, Kraków**.** (textbook in Polish)

11. **T. Sawik (1982):** ***Optymalizacja dyskretna w badaniach operacyjnych*****. (Discrete Optimization in Operations Research)** AGH University Press, Kraków**.** (textbook in Polish)

12. **T. Sawik (1980):** ***Teoria stanu w harmonogramowaniu czasowo-optymalnym dyskretnych procesów produkcyjnych*****. (State Space Approach to the Time-Optimal Scheduling in Discrete Manufacturing)**. AGH University Press, Kraków**.** (monograph in Polish with English summary)

Chapters in Books/Conference Proceedings

1. T. Sawik (2019): A multi-portfolio approach to integrated risk-averse planning in supply chains under disruption risks. Chapter in: D. Ivanov, A. Dolgui, B. Sokolov (eds.), ***Handbook of Ripple Effects in the Supply Chain***. Springer International Series in Operations Research and Management Science, 35-63.

2. T. Sawik, ed. (2017): ***Proceedings of 1st International Conference on Decision Making in Manufacturing and Services.*** AGH University Press, Zakopane, Sept.26-30, 2017 (www.dmms.zarz.agh.edu.pl).

3. T. Sawik, ed. (2016): ***Proceedings of 13th International Conference on Industrial Logistics.*** AGH University Press, Zakopane, Sept.28-Oct.1, 2016 (www.icil.zarz.agh.edu.pl).

4. T. Sawik (2010): A bi-objective supply chain scheduling. Chapter 13 in: K.D. Lawrence, R. K. Klimberg, V. M. Miori (eds.), ***The Supply Chain in Manufacturing, Distribution, and Transportation: Modeling, Optimization, and Applications***. Taylor & Francis, Boca Raton, FL, pp.243-275.

5. T. Sawik (2004): Master scheduling in make-to-order assembly by integer programming. In: M. Zaborowski (ed), ***Automation of Discrete Processes***, WNT, Warszawa, pp.285-294.

6. A. Haurie and **T. Sawik** (1994): Systems analytic methods: Industrial restructuring and the environment. In: C. Carraro, A. Haurie and G. Zaccour (eds.), ***Environmental Management in a Transition to Market Economy – A Challenge to Governments and Business***. Editions Technip, Paris, pp. 419-456.

7. T. Sawik (1994): Algorithms for simultaneous scheduling of machines and vehicles in a FMS. In: G.Cohen and J.-P.Quadrat (eds.), ***Discrete Event Systems***, Lecture Notes in Information Sciences 199, Springer-Verlag, 1994, pp. 616–621.

8. T. Sawik (1988): Scheduling flow-shops with parallel machines and finite in-process buffers by multilevel programming. In: M. Iri, and K. Yajima. (eds.) ***System Modelling and Optimization***. Springer-Verlag, Berlin, pp. 691–700.

9. T. Sawik (1980):Operations scheduling as a time-optimal control problem. In:M.Pelegrin and J.Delmas (eds.) ***Comparison of Automatic Control and Operational Research Techniques Applied to Large Systems Analysis and Control***, Pergamon Press, Oxford, pp.129-136.

Papers in Refereed International Journals

1. **T. Sawik** (2025): Economically viable reshoring of supply chains under ripple effect. ***Omega*** vol. 131 article 103228. https://doi.org/10.1016/j.omega.2024.103228

2. **T. Sawik** and **B. Sawik** (2024): Risk-Averse Decision-Making to Maintain Supply Chain Viability under Propagated Disruptions. ***International Journal of Production Research***, vol.62(8), 2853 - 286. https://doi.org/10.1080/00207543.2023.2236726

3. **T. Sawik** (2024): A new MIP approach for balancing and scheduling of mixed model assembly lines with alternative precedence relations. ***International Journal of Production Research***, vol.62(1-2), 110-121. https://doi.org/10.1080/00207543.2023.2233621

4. **T. Sawik** (2023): Reshore or not Reshore - A Stochastic Programming Approach to Supply Chain Optimization. ***Omega*** vol.118 (July) article 102863 (**Best Paper Award 2023**). https://doi.org/10.1016/j.omega.2023.102863

5. **T. Sawik** (2023): A stochastic optimization approach to maintain supply chain viability under the ripple effect. ***International Journal of Production Research***, vol.61(8), 2452-2469. (**IJPR Top Trending Article 2023**, *Essential Science Indicators Highly Cited Paper)* https://doi.org/10.1080/00207543.2023.2172964

6. **T. Sawik and B. Sawik** (2022): A rough cut cybersecurity investment using portfolio of security controls with maximum cybersecurity value. ***International Journal of Production Research***, vol.60(21), 6556–6572. https://doi.org/10.1080/00207543.2021.1994166

7. **T. Sawik** (2022): Stochastic Optimization of Supply Chain Resilience under Ripple Effect: A COVID-19 Pandemic Related Study. ***Omega***, vol.109C, 102596. (*Essential Science Indicators Highly Cited Paper)* https://doi.org/10.1016/j.omega.2022.102596

8. **T. Sawik** (2022): A linear model for optimal cybersecurity investment in Industry 4.0 supply chains. ***International Journal of Production Research***, vol.60(4), 1368 - 1385 https://doi.org/10.1080/00207543.2020.1856442

9. **T. Sawik** (2022): Balancing cybersecurity in a supply chain under direct and indirect cyber risks. ***International Journal of Production Research***, vol.60(2), 766-782. https://doi.org/10.1080/00207543.2021.1914356

10. **T. Sawik** (2021): On the risk-averse selection of resilient multi-tier supply portfolio. ***Omega. The International Journal of Management Science***, vol.101, article 102267. https://doi.org/10.1016/j.omega.2020.102267

11. **T. Sawik** (2020): A two-period model for selection of resilient multi-tier supply portfolio. ***International Journal of Production Research***, vol. 58(19), 6043-6060. http://dx.doi.org/10.1080/00207543.2019.1665204.

12. **T. Sawik** (2019): Disruption mitigation and recovery in supply chains using portfolio approach. ***Omega. The International Journal of Management Science***, vol.84, 232-248. (*Essential Science Indicators Highly Cited Paper)*, https://doi.org/10.1016/j.omega.2018.05.006

13. **T. Sawik** (2018): Two-period vs. multi-period model for supply chain disruption management. ***International Journal of Production Research***, vol.57(14), 4502-4518. https://doi.org/10.1080/00207543.2018.1504246

14. **T. Sawik** (2018): Selection of a dynamic supply portfolio under delay and disruptions risks. ***International Journal of Production Research***, vol.56(1-2), 758-780. DOI: 10.1080/00207543.2017.1401238

15. **T. Sawik** (2017): Mixed integer programming approaches to planning and scheduling in electronics supply chains. ***Decision Making in Manufacturing and Services***, vol.11(1-2), 5-17, https://journals.agh.edu.pl/dmms/article/view/2384/1868

16. **T. Sawik** (2017): Stochastic vs deterministic approach to coordinated supply chain scheduling. ***Mathematical Problems in Engineering***, vol. 2017, Article ID 3460721, 15 pages. DOI:10.1155/2017/3460721

17. **T. Sawik** (2017): A portfolio approach to supply chain disruption management. ***International Journal of Production Research***, vol.55(7), 1970-1991, DOI: 10.1080/00207543.2016.1249432

18. **T. Sawik** (2016): A note on the Miller-Tucker-Zemlin model for the asymmetric traveling salesman problem. ***Bulletin of the Polish Academy of Sciences, Technical Sciences,*** vol.64(3), 517-520. DOI: 10.1515/bpasts-2016-0057

19. **T. Sawik** (2016): Integrated supply, production and distribution scheduling under disruption risks. ***Omega. The International Journal of Management Science***, vol.62C, 131-144. *(Essential Science Indicators Highly Cited Paper)* http://dx.doi.org/10.1016/j.omega.2015.09.005

20. **T. Sawik** (2016): On the risk-averse optimization of service level in a supply chain under disruption risks. ***International Journal of Production Research***, vol.54(1), pp.97-112. http://dx.doi.org/10.1080/00207543.2015.1016192

21. **T. Sawik** (2015): On the fair optimization of cost and customer service level in a supply chain under disruption risks. ***Omega. The International Journal of Management Science***, vol.53, pp. 58–66. http://dx.doi.org/10.1016/j.omega.2014.12.004

22. **T. Sawik** (2014): On the robust decision-making in a supply chain under disruption risks. ***International Journal of Production Research***, vol. 52(22), pp. 6760 - 6781. http://dx.doi.org/10.1080/00207543.2014.916829

23. **T. Sawik** (2014): Optimization of cost and service level in the presence of supply chain disruption risks: Single vs. multiple sourcing. ***Computers and Operations Research***, vol.51C, pp.11-20. *(ScienceDirect Top 25 Hottest Articles)* http://dx.doi.org/10.1016/j.cor.2014.04.006

24. **T. Sawik** (2014): A mixed integer program for cyclic scheduling of flexible flow lines. ***Bulletin of the Polish Academy of Sciences, Technical Sciences,*** vol. 62(1), pp.121-128. DOI: 10.2478/bpasts-2014-0014

25. **S. Liu, T. Sawik, L. Papageorgiou** (2014): Corrigendum to "Multiobjective optimisation of production, distribution and capacity planning of global supply chains in the process industry" [Omega 41 (2013) 369-382]. ***Omega. The International Journal of Management Science***, vol.44(1), p.149. http://dx.doi.org/10.1016/j.omega.2013.10.007

26. **T. Sawik** (2014): Joint supplier selection and scheduling of customer orders under disruption risks: Single vs. dual sourcing. ***Omega. The International Journal of Management Science***, vol.43(2), pp. 83–95. *(Essential Science Indicators Highly Cited Paper)* http://dx.doi.org/10.1016/j.omega.2013.06.007

27. **T. Sawik** (2013): Integrated selection of suppliers and scheduling of customer orders in the presence of supply chain disruption risks. ***International Journal of Production Research***, vol.51(23-24), pp. 7006-7022. http://dx.doi.org/10.1080/00207543.2013.852702

28. **T. Sawik** (2013): Selection and protection of suppliers in a supply chain with disruption risks. ***International Journal of Logistics Systems and Management***, vol.15(2-3), pp.143-159.

29. **T. Sawik** (2013): Selection of optimal countermeasure portfolio in IT security planning. ***Decision Support Systems,*** vol.55, pp.156-164. http://dx.doi.org/10.1016/j.dss.2013.01.001

30. **T. Sawik** (2013): Selection of resilient supply portfolio under disruption risks. ***Omega. The International Journal of Management Science***, vol.41, pp. 259–269. *(Essential Science Indicators Highly Cited Paper)* http://dx.doi.org/10.1016/j.omega.2012.05.003

31. **T. Sawik** (2012): Batch versus cyclic scheduling of flexible flow shops by mixed-integer programming. ***International Journal of Production Research***, vol.50(18), pp.5017–5034. http://dx.doi.org/10.1080/00207543.2011.627388

32. **T. Sawik** (2011): Supplier selection in make-to-order environment with risks. ***Mathematical and Computer Modelling***,vol.53(9-10), pp. 1670–1679. *(ScienceDirect Top 25 Hottest Articles)* doi:10.1016/j.mcm.2010.12.039

33. **T. Sawik** (2011): Selection of a dynamic supply portfolio in make-to-order environment with risks. ***Computers and Operations Research***, vol.38 (4), pp. 782-796. *(ScienceDirect Top 25 Hottest Articles)* doi:10.1016/j.cor.2010.09.011

34. **T. Sawik** (2011): Selection of supply portfolio under disruption risks. ***Omega. The International Journal of Management Science***, vol.39, pp.194-208. *(ScienceDirect Top 25 Hottest Articles)* doi:10.1016/j.omega.2010.06.007

35. **T. Sawik** (2010): Single vs. multiple objective supplier selection in a make to order environment. ***Omega. The International Journal of Management Science***, vol. 38 (3-4), pp.203-212. *(ScienceDirect Top 25 Hottest Articles)* doi:10.1016/j.omega.2009.09.003

36. **T. Sawik** (2010): An integer programming approach to scheduling in a contaminated area. ***Omega. The International Journal of Management Science***, vol. 38 (3-4), pp.179-191. doi:10.1016/j.omega.2009.08.003

37. T. Sawik (2009): Multi-objective due-date setting in a make-to-order environment. ***International Journal of Production Research***, vol. 47 (22), pp. 6205-6231.

38. T. Sawik (2009): Monolithic versus hierarchical approach to integrated scheduling in a supply chain. ***International Journal of Production Research***, vol. 47 (21), pp. 5881-5910

39. T. Sawik (2009): Coordinated supply chain scheduling. ***International Journal of Production Economics***, vol. 120 (2), pp. 437-451. *(ScienceDirect Top 25 Hottest Articles)*

40. **T. Sawik** (2007): A multi-objective customer orders assignment and resource leveling in make-to-order manufacturing. ***International Transactions in Operational Research***, vol.14 (6), pp.491-508.

41. **T. Sawik** (2007): Integer programming approach to reactive scheduling in make-to-order manufacturing. ***Mathematical and Computer Modelling***, vol.46 (11-12), pp. 1373-1387. *(ScienceDirect Top 25 Hottest Articles)*

42. **T. Sawik** (2007): Multi-objective master production scheduling in make-to-order manufacturing. ***International Journal of Production Research***, vol. 45(12), pp.2629-2653.

43. **T. Sawik** (2007): A lexicographic approach to bi-objective scheduling of single-period orders in make-to-order manufacturing. ***European Journal of Operational Research***, vol.180 (3), pp.1060-1075.

44. **T. Sawik** (2006): Hierarchical approach to production scheduling in make-to-order assembly. ***International Journal of Production Research***, vol.44 (4), pp. 801-830.

45. **T. Sawik** (2005): Integer programming approach to production scheduling for make-to-order manufacturing. ***Mathematical and Computer Modelling***, vol.41, pp. 99-118. *(ScienceDirect Top 25 Hottest Articles)*

46. **T. Sawik** (2005): A cyclic versus flexible approach to materials ordering in make-to-order assembly. ***Mathematical and Computer Modelling***, vol.42 (3-4), pp. 279-290.

47. **T. Sawik** (2004): Loading and scheduling of a flexible assembly system by mixed integer programming. ***European Journal of Operational Research***, vol.154, (1), pp.1-19.

48. **W. Kaczmarczyk, T. Sawik, A. Schaller and T.M. Tirpak** (2004): Optimal versus heuristic scheduling of surface mount technology lines. ***International Journal of Production Research,*** vol.42 (10), pp.2083-2110.

49. **T. Sawik, A. Schaller and T.M. Tirpak** (2002): Scheduling of printed wiring board assembly in surface mount technology lines. ***Journal of Electronics Manufacturing,*** special issue on *Production Planning and Scheduling in Electronics Manufacturing,* vol.11 (1), pp.1-17.

50. **T. Sawik** (2002): Balancing and scheduling of surface mount technology lines. ***International Journal of Production Research,*** vol.40, pp.1973-1991.

51. **T. Sawik** (2002): Monolithic vs. hierarchical balancing and scheduling of a flexible assembly line. ***European Journal of Operational Research***, vol.143, pp.115-124

52. **T**. **Sawik** (2002): An exact approach for batch scheduling in flexible flow lines with limited intermediate buffers. ***Mathematical and Computer Modelling***, vol. 36, pp. 461-471. *(ScienceDirect Top 25 Hottest Articles)*

53. **T. Sawik** (2001): Mixed integer programming for scheduling surface mount technology lines. ***International Journal of Production Research,*** vol.39(14), pp. 2319- 3235.

54. **T. Sawik** (2000): An LP-based approach for loading and routing in a flexible assembly line. ***International Journal of Production Economics,*** vol. 64 (1-3), pp. 49-58.

55. **T. Sawik** (2000): Mixed integer programming for scheduling flexible flow lines with limited intermediate buffers. ***Mathematical and Computer Modelling***, vol. 31, pp. 39-52. *(ScienceDirect Top 25 Hottest Articles)*

56. **T. Sawik** (2000): Simultaneous versus sequential loading and scheduling in flexible assembly systems. ***International Journal of Production Research,*** vol.38 (14), pp. 3267-3282.

57. **T. Sawik** (1998): A lexicographic approach to bi-objective loading of a flexible assembly system. ***European Journal of Operational Research***, vol. 107, pp. 658–668.

58. **T. Sawik** (1998): Simultaneous loading, routing and assembly plan selection in a flexible assembly system. ***Mathematical and Computer Modelling***, vol. 28(9), pp. 19-29.

59. **T. Sawik** (1997): An interactive approach to bicriterion loading of a flexible assembly system. ***Mathematical and Computer Modelling***, vol. 24(6), pp. 71–83.

60. **T. Sawik** (1996): A multilevel machine and vehicle scheduling in a flexible manufacturing system. ***Mathematical and Computer Modelling***, vol. 23(7), pp. 45–57.

61. **T. Sawik** (1995): Scheduling flexible flow lines with no in-process buffers. ***International Journal of Production Research***, vol. 33, pp. 1359–1370.

62. **T. Sawik** (1995): Integer programming models for the design and balancing of flexible assembly systems. ***Mathematical and Computer Modelling***, vol. 21 (4), pp. 1–12.

63. **T. Sawik** (1993): A scheduling algorithm for flexible flow lines with limited intermediate buffers. ***Applied Stochastic Models and Data Analysis***, special issue on *Manufacturing Systems*, vol. 9, pp. 127–138.

64. **T. Sawik** (1991): Task allocation, operation scheduling and vehicle routing in a flexible manufacturing system. ***Archiwum Automatyki i Robotyki,*** vol.36(1), 19-38.

65. **T. Sawik** (1990): Modelling and scheduling of a flexible manufacturing system. ***European Journal of Operational Research***, vol. 45, pp. 177–190.
66. **T. Sawik** (1989): Production scheduling in a flexible manufacturing system. ***Systems Science,*** vol.15(4), pp. 113-124.
67. **T. Sawik** (1988): Modelling and scheduling a batch-type production on identical machines. ***European Journal of Operational Research***, vol. 35, pp. 393–400.
68. **T. Sawik** (1987): Multilevel scheduling of multistage production with limited in-process inventory. ***Journal of the Operational Research Society***, vol. 38, pp. 651–664.
69. **T. Sawik** (1987): A critical path algorithm for scheduling a batch-type production on non-identical machines. ***Foundations of Control Engineering,*** vol.12 (1), 31-44.
70. **T. Sawik** (1985): Scheduling lots of dependent unit-time operations on identical machines to minimize schedule length. ***European Journal of Operational Research***, vol.19, pp. 331-336.
71. **T. Sawik** (1982): Scheduling multi-operational tasks on nonidentical machines as a time-optimal control problem. ***European Journal of Operational Research***, vol.10, pp. 173-181.
72. **T. Sawik** (1982): Scheduling nonpreemptive dependent operations of unequal processing times on non identical machines - a state space approach. ***Foundations of Control Engineering,*** vol.7, pp. 17-30.
73. **T. Sawik** (1978): Stochastic programming models for production-inventory problems, ***Archiwum Automatyki i Telemechaniki***, vol.23, pp. 115-127.
74. **T. Sawik** (1978) Stochastic control of production scheduling under random periods of facilities availability for assignment. ***Podstawy Sterowania,*** vol.8, pp. 201-216.
75. **T. Sawik** (1978): Operations scheduling as a control problem with boolean variables. ***Podstawy Sterowania***, vol.8, pp. 409-416.
76. **T. Sawik** (1977): An optimal control approach to production scheduling problems. ***Archiwum Automatyki i Telemechaniki***, vol.22, pp. 121-133.
77. **T. Sawik** (1977): Time-optimal, multi-product production scheduling with time-varying set of available facilities. ***Archiwum Automatyki i Telemechaniki***, vol.22, pp. 473-486.
78. **T. Sawik** (1977): On the decomposition of time-optimal, multi-operation scheduling problem. ***Podstawy Sterowania***, vol.7, pp. 251-262.
79. **T. Sawik** (1977): Stochastic optimal control of a multi-facility, multi-product production scheduling with random times of supplies. ***Control & Cybernetics***, vol.6(3-4), pp. 21-35.
80. **T. Sawik** (1976): Time-optimal, multi-product production scheduling. ***Archiwum Automatyki i Telemechaniki***, vol.21, pp. 327-340.
81. **A. Pizoń, T. Sawik** (1976): Application of the theory of complete functions for the stability analysis of a hydraulic system with distributed parameters. ***Archiwum Budowy Maszyn***, vol.23, pp. 3-19.

<u>Selected Papers/Presentations in Refereed Conference Proceedings</u>

1. **T. Sawik** (2019): Supply chain risk management using a portfolio approach. **CLC**

2019: 9th Carpathian Logistics Congress, December 2 - 4, 2019, Zakopane Poland (plenary lecture).

2. **T. Sawik** (2018): Supply chain disruption management using a multi-portfolio approach. ***ICIL 2018: 14th International Conference on Industrial Logistics***, May 15 - 17, 2018, Ben Gurion University, Be'er Sheva, Israel (keynote lecture).

3. **T. Sawik** (2016): From scheduling in supply chains to supply chain disruption management (subtitle: from MIP to stochastic MIP). ***20th Jubilee National Conference on Automation in Discrete Manufacturing***. Zakopane, Poland, September 21-24, 2016 (invited plenary talk).

4. **T. Sawik** (2016): Resilient vs. robust supply portfolio under disruption risks. In: ***Proceedings of ICIL 2016 : 13th International Conference on Industrial Logistics***, September 28–October 1, 2016, Zakopane, Poland, AGH University of Science & Technology, pp. 255–263.

5. **T. Sawik** (2016): Stochastic vs. deterministic approach to supply chain risks management. In: ***Proceedings of MOTSP 2016: International Conference on Management of Technology,*** 11–3 June 2016, Porec, Croatia, University of Zagreb.

6. **T. Sawik** (2015): Scheduling in electronics supply chains by mixed integer programming. In: ***Proceedings of MOTSP 2015: International Conference on Management of Technology,*** 10–12 June 2015, Brela, Croatia, University of Zagreb. (invited plenary talk)

7. **T. Sawik** (2015): Integrated supply chain scheduling under multi-level disruptions. In: ***Preprints of the 15th IFAC Symposium on Information Control Problems in Manufacturing*** May 11-13, 2015. Ottawa, Canada, pp.1560-1565. (Best Paper Award). 10.1016/j.ifacol.2015.06.301

8. **T. Sawik** (2014): Cost vs. customer service level in supply chains under major disruptions. In: ***Proceedings of LISS 2014. 4th International Conference on Logistics, Informatics and Service Science***, July 23-26, 2014, UC Berkeley, CA, Springer, NY, pp. 1075-1079.

9. **T. Sawik** (2014): An equitable optimization of cost and service level in the presence of supply chain disruption risks. In: ***Proceedings of ICIL 2014 : 12th International Conference on Industrial Logistics***, June 11–13, 2014, Bol, Croatia, University of Zagreb, pp.39–45.

10. **T. Sawik** (2013): Scheduling of supplies and customer orders in the presence of supply chain disruption risks. In: ***Proceedings of MOTSP 2013: International Conference on Management of Technology,*** 28–31 May 2013, Novi Vinodolski, Croatia, University of Zagreb.

11. **T. Sawik (**2012): *Selection and protection of suppliers in a supply chain with disruption risks.* In: ***Proceedings of ICIL 2012: 11th International Conference on Industrial Logistics***, June 14–16, 2012, Zadar, Croatia, University of Zagreb, pp. 168–174.

12. **T. Sawik** (2011): Mixed integer programs for different modes of scheduling flexible assembly lines. In: ***Proceedings of TLM 2011 - Total Logistic Management***, Zakopane, December 8-10.

13. **T. Sawik** (2010): Multi-objective supplier selection in supply chains with risks. In: A. Świerniak, J. Krystek (eds.) ***Automatyzacja procesów dyskretnych : teoria i zastosowania***, Gliwice, vol. 2, pp. 197–205.

14. **T. Sawik** (2009): A bi-objective mixed integer program for supplier selection. ***Zeszyty Naukowe AGH, Automatyka,*** vol.13, no.2, pp.573-582.

15. **T. Sawik** (2008): Integrated scheduling in a supply chain by mixed integer programming. ***Total Logistic Management,*** vol.1, pp.153-161.

16. **T. Sawik** (2007): Customer order acceptance and due date setting in make-to-order environment. In: ***Wybrane Zagadnienia Logistyki Stosowanej,*** Komitet Transportu PAN, no.4, pp. 160-168.

17. **T. Sawik** (2007): Integrated scheduling in a customer driven supply chain. ***Zeszyty Naukowe AGH, Automatyka,*** vol.11, no.1-2, pp.243-256.

18. **T. Sawik** (2006): Reactive scheduling in make-to-order manufacturing by mixed integer programming. ***Zeszyty Naukowe Politechniki Śląskiej, Automatyka,*** no.144, pp.79-94.

19. **W. Kaczmarczyk, T. Sawik, A. Schaller, T. Tirpak** (2006): Production planning and coordination in customer driven supply chains. In: ***Wybrane Zagadnienia Logistyki Stosowanej,*** Komitet Transportu PAN, no.3, pp.81-89.

20. **T. Sawik** (2005): Materials ordering policies for make-to-order assembly. In: ***Wybrane Zagadnienia Logistyki Stosowanej,*** Komitet Transportu PAN, no.2, pp.112-119.

21. **T. Sawik** (2005): A multi-objective assignment of customer orders to planning periods in make-to-order manufacturing. ***Zeszyty Naukowe AGH, Automatyka,*** vol**.** 5, no.1-2, pp. 211-222.

22. **T. Sawik** (2005): Multi-objective master production scheduling in make-to-order discrete manufacturing. ***Proc. 5th International Conference on Analysis of Manufacturing Systems – Production Management,*** Zakynthos Island, Greece, May 20-25, pp.209-216.

23. **T. Sawik** (2004): A hierarchical framework for production scheduling in make-to-order assembly. In: ***Proceedings 7th Conf. on Total Logistic Management***, Zakopane, Dec.4-6, 2003, pp.45-52.

24. **T. Sawik** (2003): Loading and scheduling of a flexible flow line with multi-capacity machines, part I: A monolithic approach. ***Zeszyty Naukowe AGH, Automatyka,*** vol.7, no.1-2, pp.251-257.

25. **T. Sawik** (2003): Loading and scheduling of a flexible flow line with multi-capacity machines, part II: A two-level approach. ***Zeszyty Naukowe AGH, Automatyka,*** vol.7, no.1-2, pp.259-265.

26. **T. Sawik** (2003): Mixed integer programming for loading and scheduling of a hybrid flowshop with non-identical machines. In: ***Proceedings IEPM'03 International Conference on Industrial Engineering and Production Management,*** Porto, May 26-28, 2003.

27. **W. Kaczmarczyk, T. Sawik, A. Schaller and T.M. Tirpak** (2003): Configuring and scheduling of surface mount technology lines. ***Zeszyty Naukowe AGH, Automatyka,*** vol.7, no.1-2, pp.129-139.

28. **T. Sawik** (2002): Scheduling batches of printed wiring boards in surface mount technology lines. ***Zeszyty Naukowe Politechniki Śląskiej, Automatyka,*** no.134, pp.339-349.

29. **T. Sawik** (2002): Simultaneous loading and scheduling with no revisiting of stations in a flexible assembly system. ***Zeszyty Naukowe Politechniki Śląskiej, Automatyka,*** no.134, pp.351-361.

30. **T. Sawik** (2001): Buffer allocation in surface mount technology lines with machine downtimes. ***Zeszyty Naukowe AGH, Automatyka,*** vol.5, no.1/2, pp. 493-500.

31. **T. Sawik** (2001): Scheduling of printed wiring board assembly in surface mount technology lines by mixed integer programming. In: ***Proceedings of the Third International Conference on Design and Analysis of Manufacturing Systems***, May 19-22, Tinos Island, Greece, 181-190.

32. **T. Sawik** (2000): Discrete programming model for scheduling SMT lines. ***Zeszyty Naukowe Politechniki Śląskiej, Automatyka,*** no.129, pp.343-352.

33. **T. Sawik, A. Schaller and T.M. Tirpak** (2000): Issues in loading and scheduling of SMT lines. ***Zeszyty Naukowe Politechniki Śląskiej, Automatyka,*** no. 129, pp. 331-341.

34. **T. Sawik** (2000): Simultaneous versus sequential balancing and scheduling of a flexible assembly line. In ***Proceedings of IFAC/IFIP/IEEE Second Conference on Management and Control of Production and Logistics***, Grenoble July 5-8, 2000.

35. **A. Korcyl, P. Łebkowski and T. Sawik** (1999): An LP model for a steel mill capacity expansion planning. ***Zeszyty Naukowe AGH, Automatyka,*** vol.3, no.1, pp. 185-190.

36. **T. Sawik** (1998): District heating network topology and capacity expansion planning model. ***Zeszyty Naukowe Politechniki Śląskiej, Automatyka,*** no. 125, pp. 89-99.

37. **T. Sawik** (1998): Bi-objective loading and routing in a flexible assembly system. In ***Proceedings of 1998 Japan-U.S.A. Symposium on Flexible Automation***, Otsu, July 12–15, 1998, vol. 3, pp. 1333-1336.

38. **T. Sawik** (1997): Regional development planning models for environmental management, Part I: A Monolithic approach. ***Zeszyty Naukowe AGH, Automatyka,*** vol.1, no.1, pp. 481-487.

39. **T. Sawik** (1997): Regional development planning models for environmental management, Part II: A Two-level approach. ***Zeszyty Naukowe AGH, Automatyka,*** vol.1, no.1, pp. 489-499.

40. **T. Sawik** (1997): Loading, routing and assembly sequence selection in a FAS: an integer programming approach. ***Zeszyty Naukowe AGH, Automatyka,*** vol.1, no.1, pp. 363-372.

41. **T. Sawik** (1997): Flexible assembly line balancing with alternate assembly plans and duplicate task assignments. In ***Proceedings of the 6th IEEE International Conference on Emerging Technologies and Factory Automation***, UCLA, CA September 9-12, 1997, pp. 171-176.

42. **T. Sawik** (1997): An LP-based approach for loading and routing in a flexible assembly system. In: ***Proceedings of International Conference on Industrial Engineering and Production Management***. Lyon, October 20-24, pp. 216–225.

43. **T. Sawik** (1996): Sequential loading and routing in a FAS. In ***Proceedings of Rensselaer's Fifth International Conference on Computer Integrated Manufacturing & Automation Technology***, Grenoble May 29-31, 1996, pp. 48–53.
44. **T. Sawik** (1996): A two-level heuristic for machine loading and assembly routing in a FAS. In ***Proceedings of the 5th IEEE International Conference on Emerging Technologies and Factory Automation***, Kauai, HI November 18-21, 1996, pp. 143–149.
45. **T. Sawik** (1996): Production planning and control issues in flexible assembly systems. ***Zeszyty Naukowe Politechniki Śląskiej, Automatyka,*** no. 119, pp. 73-85.
46. **A. Korcyl and T. Sawik** (1996): Selection of assembly sequence and task assignment a flexible assembly cell. ***Zeszyty Naukowe Politechniki Śląskiej, Automatyka,*** no. 119, pp. 35-42.
47. **T. Sawik** (1995): Balancing machine workload and part movement in a flexible manufacturing system. ***Zeszyty Naukowe AGH, Elektrotechnika,*** vol.14, no.4, pp. 357-367.
48. **T. Sawik** (1995): Dispatching scheduling of machines and vehicles in a flexible manufacturing system. In ***Proceedings of the INRIA/IEEE Symposium on Emerging Technologies and Factory Automation***, Paris Oct. 10-13, 1995, vol. 2, pp. 3–13.
49. **A. Korcyl, P. Łebkowski and T. Sawik** (1995): Selection of assembly sequences and balancing workloads in a flexible assembly line. In ***Proceedings of the INRIA/IEEE Symposium on Emerging Technologies and Factory Automation***, Paris Oct. 10-13, 1995, vol. 1, pp. 349–359.
50. **T. Sawik** (1994): New algorithms for scheduling flexible flow lines. In ***Proceedings of Japan-U.S.A. Symposium on Flexible Automation***, Kobe, July 11-18, 1994, vol. 3, pp. 1091–1096.
51. **A. Korcyl and T. Sawik** (1994): A tabu search algorithm for balancing of a flexible assembly system. ***Zeszyty Naukowe Politechniki Śląskiej, Automatyka,*** no. 114, pp. 176-185.
52. **T. Sawik** (1994): Integer programs for the design and balancing of flexible assembly systems. ***Zeszyty Naukowe Politechniki Śląskiej, Automatyka,*** no. 115, pp. 113-123.
53. **T. Sawik** (1993): Scheduling of machines and vehicles in a FMS: Single-level versus multi-level approach. ***Zeszyty Naukowe AGH, Automatyka,*** no.64, pp. 541-568.
54. **A. Korcyl and T. Sawik** (1992): A tabu search algorithm for part type selection and machine loading in a flexible manufacturing system. ***Zeszyty Naukowe Politechniki Śląskiej, Automatyka,*** no. 109, pp. 147-158.
55. **T. Sawik** (1992): Scheduling of parts in a flexible flow line with no intermediate buffers. ***Zeszyty Naukowe Politechniki Śląskiej, Automatyka,*** no. 109, pp. 203-210.
56. **T. Sawik** (1992): On two-level machine loading and scheduling in a flexible manufacturing system. In ***Proceedings of 8th International Conference on CAD/CAM, Robotics and Factories of the Future,*** Metz, France August 17-19, 1992, pp. 1596-1609.

INFORMS Contributed/Invited Presentations

1. **T. Sawik** (2016): A robust decision-making in a supply chain under disruption risks. ***2016 INFORMS Annual Meeting***, Nashville, TN, November 13-16.

2. **T. Sawik** (2015): A fair optimization of expected cost and expected service under disruption risks. ***2015 INFORMS Annual Meeting***, Philadelphia, PA, November 1-4.

3. **J. R. Marszewska, T. Sawik** (2015): Comparison of supply chain recovery policies after a major disruption. ***2015 INFORMS Annual Meeting***, Philadelphia, PA, November 1-4.

4. **T. Sawik** (2014): Coordinated selection of supply portfolio and scheduling of customer orders under major disruptions. ***2014 INFORMS Annual Meeting***, San Francisco, CA, November 9 – 12.

5. **T. Sawik** (2013): A mixed integer programming approach to cyber security risk planning. ***2013 INFORMS Annual Meeting***, Minneapolis, MN, October 6–9.

6. **T. Sawik** (2012): Optimal selection of countermeasures in IT security planning. ***2012 INFORMS Annual Meeting***, Phoenix, AZ, October 13-16.

7. **T. Sawik** (2011): Selection of supply portfolio in make-to-order supply chain with disruption risks. ***2011 INFORMS Annual Meeting***, Charlotte, NC, November 13-16.

8. **T. Sawik** (2010): Supplier selection in make-to-order environment with risks. ***2010 INFORMS Annual Meeting,*** Austin, TX, November 7–10.

9. **T. Sawik** (2009): Supplier selection and order allocation in make to order environment. ***CORS-INFORMS International***, Toronto, Canada, June 14-17.

10. **T. Sawik** (2009): Scheduling in a contaminated area by integer programming. ***2009 INFORMS Annual Meeting***, San Diego, CA, October 11-14.

11. **T. Sawik** (2008): Bi-objective due date setting in make-to-order manufacturing by integer programming. ***IFORS 2008 International Federation of Operational Research Societies, Triennial Conference***, Sandton, South Africa, July 13-18.

12. **T. Sawik** (2008): Multi-objective supply chain scheduling. ***2008 INFORMS Annual Meeting***, Washington DC, October 12-15.

13. **J. R. Marszewska, T. Sawik** (2008): Scheduling of a linguistic project. ***2008 INFORMS Annual Meeting***, Washington DC, October 12-15.

14. **T. Sawik** (2007): Integrated scheduling in a supply chain. ***2007 INFORMS Annual Meeting,*** Seattle, November 4-7.

15. **T. Sawik** (2007): Multi-objective customer order acceptance and due-date setting. ***INFORMS International Conference,*** Puerto Rico, July 8-11.

16. **T. Sawik** (2006): A MIP based reactive scheduling with service level constraints in make-to-order manufacturing. ***2006 INFORMS Annual Meeting***, Pittsburgh, PA, November 5-8.

17. **T. Sawik** (2005): A lexicographic approach to multi-objective master production scheduling in make-to-order manufacturing. ***IFORS 2005, International Federation of Operational Research Societies 2005, Triennial Conference,*** Honolulu, HI, July 11-16.

18. **T. Sawik** (2005): A multi-objective customer order assignment and resource leveling in make-to-order manufacturing. ***2005 INFORMS Annual Meeting,*** San Francisco, November 13-16.

19. **T. Sawik** (2004)**:** Master scheduling in make–to-order discrete manufacturing**.** ***2004 INFORMS Annual Meeting,*** Denver, CO, October 24-27.

20. **T. Sawik** (2003)**:** Batch scheduling of printed wiring boards in surface mount technology lines**.** ***EURO/ INFORMS 2003,*** Istanbul, July 3-6.

21. **T. Sawik** (2003)**:** Integer programming approach to production scheduling in make – to-order assembly**.** ***2003 INFORMS Annual Meeting,*** Atlanta, GA, October 19-22.

22. **T. Sawik** (2002)**:** Simultaneous vs. sequential balancing and scheduling of surface mount technology lines**.** ***2002 INFORMS Annual Meeting,*** San Jose, CA, November 17-20.

23. **T. Sawik** (2001): Scheduling of printed wiring board assembly by mixed integer programming. ***INFORMS International Hawaii***, Hawaii, Maui, June 17-20.

24. **T.Sawik** (2000): Integer programming models for scheduling Surface Mount Technology lines. ***2000 INFORMS Fall Meeting***, San Antonio, TX, November 5-8.

25. **T. Sawik** (2000): Mixed integer programming for scheduling flexible flow lines with finite capacity buffers. ***2000 INFORMS Spring Meeting***, Salt Lake City, UT, May 7-10.

26. **T. Sawik** (1999): Monolithic vs. hierarchical approach for scheduling in flexible assembly systems. ***1999 INFORMS Fall Meeting***, Philadelphia, PA, November 7-10.

27. **T. Sawik** (1998): A monolithic approach to loading and scheduling in a flexible assembly system. ***1998 INFORMS Fall Meeting***, Seattle, WA, October 25-28.

28. **T. Sawik** (1998): A 2-level approach for balancing a flexible assembly line. ***INFORMS/CORS Spring Meeting***, Montreal, Canada, April 26-29.

29. **T. Sawik** (1997): A hierarchical approach to bi-objective loading of a flexible assembly system. ***EURO XV/INFORMS XXXIV***, Barcelona, July 14-17.

30. **T. Sawik** (1995): A bicriterion machine loading and part routing in a flexible manufacturing system. ***1995 INFORMS Fall Meeting***, New Orleans, LA, October 29 - November 1.

31. **T. Sawik** (1994): A multi-level machine and vehicle scheduling in a flexible manufacturing system. ***TIMS/ORSA Joint National Meeting***, Boston, MA, April 24-27.

32. **T. Sawik** (1992): A two-level routing control and scheduling in a flexible manufacturing system. ***EURO XII/TIMS XXXI Joint International Conference***, Helsinki June 29 - July 1.

Master Theses/Dissertations Advised, Co-advised or Reviewed

I have advised over 50 Master's Theses in the area of Industrial Engineering and Operations Management and I have supervised seven doctoral dissertations defended with distinctions.
I have been co-adviser or reviewer of over 50 doctoral and habilitation dissertations.

I have provided several letters of assessment of professional achievements of candidates for promotion to the rank of Full Professor or Departmental Chair, requested by different universities in EU and USA.

Selected Awards

1981, 1993, 1997, 2000, 2012: Scientific Excellence Award from the Minister of Science and Higher Education.
1994: Award from the Committee on Organization and Management Sciences, Polish Academy of Sciences.
1980 – 2017: Scientific Excellence Award from the Rector of AGH University (over 25 times).
2004: Golden Cross of Merit for service in higher education, from the President of Poland, Aleksander Kwaśniewski.
2015: Best Paper Award at the 15th IFAC/IEEE/IFIP/IFORS Symposium on Information Control Problems in Manufacturing, Ottawa, Canada, May 11-13, 2015: T. Sawik, *Integrated supply chain scheduling under multi-level disruptions.*

Recent Awards
2023: Best Paper Award 2023: T. Sawik, *Reshore or not Reshore - A Stochastic Programming Approach to Supply Chain Optimization.* ***Omega*** vol.118 (July) article 102863

2023: IJPR Top Trending Article 2023: T. Sawik (2023): A stochastic optimization approach to maintain supply chain viability under the ripple effect. ***International Journal of Production Research***, vol.61(8), 2452-2469. (*Essential Science Indicators Highly Cited Paper)*

CERTIFICATE

IJPR Top Trending Article 2023

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