
Curriculum Vita: Stephen E. Chick

Professor

Technology and Operations Management Area

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<http://faculty.insead.edu/chick/>

Research interests:

Stochastic simulation, Bayesian statistics and decision analysis; mathematical modeling of complex systems; stochastic processes; applications to health care and operations management.

Academic Experience:

2009- Area Coordinator, Technology and Operations Management.

2008- Novartis Chair for Healthcare Management; Academic Director, Healthcare Management Institute, INSEAD.

2006- Professor of Technology and Operations Management, INSEAD, Fontainebleau, France.

2001-2006 Associate Professor of Technology and Operations Management, INSEAD, Fontainebleau, France. Member, Production and Operations Management group.

2001-2003 Associate Professor with Tenure, Dept. Industrial and Operations Engineering, Univ. Michigan, Ann Arbor (on leave of absence).

1995-2001 Assistant Professor, Dept. Industrial and Operations Engineering, Univ. Michigan, Ann Arbor. Member, operations research and quality engineering/statistical decision making groups.

1995 Visiting Scholar, Dept. Statistics, Stochastics, and Operations Research, Technical Univ. Delft, Holland, (January).

1992-1995 Teaching and Research Assistant, Systems Integration Laboratory, Dept. Industrial Engineering and Operations Research, Univ. California, Berkeley.

Education:

1995 Ph.D. Industrial Engineering & Operations Research, Univ. California, Berkeley. Tuition and stipend funded by NDSEG Fellowship, Department of Defense, Office of Naval Research. Research area: Engineering reliability. Minor: Telecommunications.

1992 M.S. Operations Research, Univ. California, Berkeley.

1990 B.S. Mathematics, Stanford Univ. Minor in Computer Science.

Industry Experience:

2002- Jurist, Industrial Excellence Award ('top factory' competition for France and Germany, organized by INSEAD, WHU with media partners *L'Usine Nouvelle*, and *WirtschaftsWoche*).

1996-2000 Tauber Manufacturing Institute (TMI) faculty advisor for summer projects. Projects include Chrysler (production), Carrier (global production), and Eli Lilly (supply chain).

1989-1990 Project Manager, TechniCon Computer Services, Emeryville, CA. Developed and delivered CAD and facilities layout software distributed on multiple platforms to 1000+ seats.

1988-1989 Software Engineer, Raya Systems, Inc., Mountain View, CA. Part of a team that developed a diabetes analysis software package that was distributed to physicians worldwide.

1985-1988 Industrial Systems Analyst, CKGP & Associates, Birmingham, MI. Led a dozen simulation analysis projects as part of team that designed material handling systems for the automotive industry.

Honors:

3. Keynote: Taxonomy of Model Structures for Health Economics. 3 Apr 2007. Inst. for Mathematics and Its Applications: Conf. on Quantitative Modelling in the Management of Health Care, London.
2. 2006 Pierskalla Award (SE Chick, H Mamani, D Simchi-Levi) from the INFORMS Health Applications Section (best OR paper in Health Care Applications), for Journal Article 34 below.
1. Keynote: Service Delivery System Improvements in the UK National Health Service. 30 Aug 2006. Hospital Management Asia 2006 Conference, Singapore.

Journal Articles:

38. Chick SE, J Branke, C Schmidt, 2010. Sequential Sampling to Myopically Maximize the Expected Value of Information, *INFORMS Journal on Computing*, 22(1) 71–80.
37. Chick SE, N Gans, 2009, Economic Analysis of Simulation Selection Problems. *Management Science*, 55(3) 421–437. With Online Companion.
36. Güneş ED, SE Chick, LN Van Wassenhove, 2010, Quality Competition for Screening and Treatment Services, *Annals of Operations Research*, 178(1): 201–222.
35. Stevenson MD, JE Oakley, SE Chick, K Chalkidou, 2009, The cost-effectiveness of surgical instrument management policies to reduce the risk of vCJD transmission to humans, *Journal of the Operational Research Society*, 60(4): 506–518.
34. Chick SE, H Mamani, D Simchi-Levi, 2008, Supply Chain Coordination and Influenza Vaccines, *Operations Research*, 56(6): 1493–1506. Special issue on OR in Health Care. Online Companion at <http://or.pubs.informs.org/Pages/collect.html>.
33. Loch CH, S Chick, A Huchzermeier, 2007, Can European Manufacturing Companies Compute? Industrial Competitiveness, Employment and Growth in Europe, *European Management Journal*, 25(4): 251–265.
32. Branke J, SE Chick, C Schmidt, 2007, Selecting a Selection Procedure, *Management Science*, 53(12): 1916–1932. With Online Companion.
31. He D, SE Chick, C-H Chen, 2007, The Opportunity Cost and OCBA Selection Procedures in Ordinal Optimization for a Fixed Number of Alternative Systems, *IEEE Transactions on Systems, Man, Cybernetics C: Applications and Reviews*, 37(5): 951–961.
30. Lin X, JS Koopman, SE Chick, 2007, Mathematical Model Comparisons of Potential Nontypeable *Haemophilus influenzae* Vaccine Effects, *Journal of Theoretical Biology*, 245: 66–76.
29. Chick SE, 2006, Six Ways to Improve a Simulation Analysis, *Journal of Simulation*, 1(1): 21–28.
28. Brennan A, SE Chick, R Davies, 2006, A Taxonomy of Model Structures for Economic Evaluation of Health Technologies, *Health Economics*, 15(12): 1295–1310. Online Companion at <http://faculty.insead.edu/chick/papers/HTAModel-AppTable.html>.
27. Ng S-H, SE Chick, 2006, Reducing Parameter Uncertainty for Stochastic Systems, *ACM Transactions on Modeling and Computer Simulation*, 15(1): 26–51.

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26. Chick SE, YZ Wu, 2005, Selection Procedures with Frequentist Expected Opportunity Cost Bounds, *Operations Research*, 53(5): 867–878. Online Companion at <http://or.pubs.informs.org/Pages/collect.html>.
 25. Ng S-H, SE Chick, 2004, Design of Follow-Up Experiments for Improving Model Discrimination and Parameter Estimation, *Naval Research Logistics*, 51(8): 1129–1148.
 24. Güneş ED, SE Chick, OZ Akşin, 2004, Breast Cancer Screening: Trade-offs in Planning and Service Provision, *Health Care Management Science*, 7(4): 291–303.
 23. Chick SE, S Soorapanth, JS Koopman, 2003, Inferring Infection Transmission Parameters That Influence Water Treatment Decisions, *Management Science*, 49(7): 920–935.
 22. Koopman JS, SE Chick, CS Riolo, CP Simon, G Jacquez, 2002, Stochastic effects on endemic infection levels of disseminating versus local contacts, *Mathematical Biosciences*, 180: 49–71.
 21. Chick SE, K Inoue, 2002, Corrigendum: New Selection Procedures, *Operations Research*, 50(3): 566.
 20. Chick SE, K Inoue, 2001, New Procedures for Identifying the Best Simulated System Using Common Random Numbers, *Management Science*, 47(8): 1133–1149.
 19. Chick SE, 2001, Input Distribution Selection for Simulation Experiments: Accounting for Input Uncertainty, *Operations Research*, 49(5):744–758.
 18. Chick SE, K Inoue, 2001, New Two-Stage and Sequential Procedures for Selecting the Best Simulated System, *Operations Research*, 49(5): 732–743.
 17. Koopman JS, G Jacquez, SE Chick, 2001, New Data and Tools for Integrating Discrete and Continuous Population Modeling Strategies, In Population Health and Aging: Strengthening the Dialog between Epidemiology and Demography. M. Weinstein, A. Hermalin, M.A. Stoto Eds. *Annals of the New York Academy of Sciences*, 954: 268–294.
 16. Riolo CS, JS Koopman, SE Chick, 2001, Methods and measures for the description of epidemiologic contact networks, *Journal of Urban Health*, 78(3): 446–457.
 15. Chick SE, JS Koopman, S Soorapanth, ME Brown, 2001, Infection Transmission System Models for Microbial Risk Assessment, *The Science of the Total Environment*, 274(1-3): 197–207.
 14. Chick SE, DC Barth-Jones, JS Koopman, 2001, Bias Reduction for Risk Ratio and Vaccine Effect Estimators, *Statistics in Medicine*, 20(11): 1609–1624.
 13. Koopman JS, SE Chick, CS Riolo, AL Adams, ML Wilson, MP Becker, 2000, Modeling Contact Networks and Infection Transmission in Geographic and Social Space Using GERMS, *Sexually Transmitted Diseases*, 27(10): 617–626.
 12. Chick SE, A Adams, JS Koopman, 2000, Analysis and Simulation of a Stochastic, Discrete-Individual Model of STD Transmission with Partnership Concurrency, *Mathematical Biosciences*, 166(1): 45–68.
 11. Chen C-H, J Lin, E Yücesan, SE Chick, 2000, Simulation Budget Allocation for Further Enhancing the Efficiency of Ordinal Optimization, *Discrete Event Dynamic Systems: Theory and Applications*, 10(3): 251–270.
 10. Chick SE, T Olsen, K Sethuraman, K Stecke, CC White, 2000, A Descriptive Multi-Attribute Model for Reconfigurable Machining System Selection that Examines Buyer-Supplier Relationships, *International Journal of Agile Management Systems*, 2(1): 33–48.

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9. Inoue K., SE Chick, C-H Chen, 1999, An Empirical Evaluation of Several Methods to Select the Best System, *ACM Transactions on Modeling and Computer Simulation*, 9(4): 381–407.
 8. A Adams, DC Barth-Jones, SE Chick, JS Koopman, 1998, Simulations to Evaluate HIV Vaccine Trial Methods, *Simulation*, 71(4): 228–241.
 7. G Welch, SE Chick, J Koopman, 1998, Effect of Concurrent Partnerships and Sex-Act Rate on Gonorrhea Prevalence, *Simulation*, 71(4): 242–249.
 6. Chick SE, MB Mendel, 1998, New Characterizations of the No-Aging Property and the ℓ_1 -Isotropic Models, *Journal of Applied Probability*, 35(4): 903–910.
 5. Chick SE, MB Mendel, 1998, Using Wear Curves to Predict the Cost of Changes in Cutting Conditions, *ASME Journal of Manufacturing Science and Engineering*, 120(2): 166–168.
 4. Chick SE, J Shortle, P van Gelder, M Mendel, 1996, A Model For the Frequency of Extreme River Levels Based On River Dynamics, *Structural Safety*, 18(4): 261–276.
 3. Black JJ, SE Chick, 1996, Michigan Simulation User Group Panel Discussion: How Do We Educate Future Discrete-Event Simulationists, *Intern. J. of Industrial Engineering*, 3(4): 223–232.
 2. Chick SE, 1996, Bayesian Models for Limiting Dilution Assay and Group Test Data, *Biometrics*, 52: 1055–1062.
 1. Chick SE, MB Mendel, 1996, An Engineering Basis for Statistical Lifetime Models With an Application to Tribology, *IEEE Transactions on Reliability*, 45(2): 208–215.

In Progress: Some available at <http://faculty.insead.edu/chick/chick-research.htm>.

8. Mamani H, SE Chick, D Simchi-Levi, 2010, Influenza Vaccine Supply Chain Coordination in the Presence of Interdependent Risk. *under review at Operations Research*.
7. Chick SE, P Frazier, 2010, Sequential Sampling for Selection with ESP, *resubmitted*.
6. Arlotto A, SE Chick, N Gans, 2010, Optimal Hiring and Retention Policies for Heterogeneous Workers that Learn. *under revision*.
5. Nasiry J, SE Chick, S Hasija, 2010, Coordinating Contract for Influenza Vaccine Supply is Robust to Assumptions about Operational Flexibility. *in preparation*.
4. Agrawal A, SE Chick, 2010, Supplier Quality and Relationship Choice Under Competition. *in preparation*.
3. Soorapanth S, SE Chick, 2011, Cost Utility Assessments for Several Behavioral Interventions for HIV Transmission Risk Reduction. *in preparation*.
2. Aral K, SE Chick, Grabosch A, 2011, Health and Wealth: A system dynamics approach to spending and health benefits for type 2 diabetes prevention and management. *in preparation*.
1. Glaa, B, SE Chick, Model for covering in-hospital cardiac arrest. *in preparation*.

Books/Chapters/Commentaries/Public Documents:

10. Chick SE, A Huchzermeier, CH Loch, 2010, Management Quality and Operational Excellence, In *Managing Money, Measurement and Marketing in the Allied Health Professions*, fourth volume in series for allied health professionals, R. Jones, F. Jenkins, Ed., Radcliffe Publishing Ltd., Abingdon, Oxford.

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9. Loch CH, SE Chick, A Huchzermeier, 2008, Management Quality and Competitiveness: Lessons from the Industrial Excellence Award, Springer-Verlag, Berlin Heidelberg. Also in German: Managementqualität und Wettbewerbsfähigkeit: Was Manager vom Industrial Excellence Award lernen können (2008).
 8. Chick SE, 2007, Comment on ‘Simple Models of Influenza Progression within a Heterogeneous Population’ by Richard C. Larson, *Operations Research*, 55(3): online commentary. (invited) Available at <http://orforum.blog.informs.org/>.
 7. Stevenson M, J Oakley, SE Chick, 2006, IPG196: Patient safety and reduction of risk of transmission of Creutzfeldt-Jakob disease (CJD) via interventional procedures: Final report, UK NICE National Institute for Health and Clinical Excellence, Available 21 Nov 2006, at <http://www.nice.org.uk/guidance/IPG196/>.
 6. Chick SE, 2006, Subjective Probability and Bayesian Methodology. In *Handbook in Operations Research and Management Science: Simulation*, Henderson, S.G., Nelson, B.L., Eds., p. 225–257. Elsevier.
 5. Loch C, SE Chick, 2006, II.2 Management Quality and Factory Performance (p. 32–39), IV.6 The Role of Management Quality in the Context of Operational Excellence (p. 131–137). In *Operational Excellence in the Pharmaceutical Industry*, T. Friedli, M. Kickuth, F. Stieneker, P. Thaler, J. Werani, Eds. Editio Cantor Verlag.
 4. Chick SE, S Soorapanth, JS Koopman, 2004, Microbial Risk Assessment for Drinking Water. In *Operations Research and Health Care: Handbook of Methods and Applications*, Brandeau, M.L., Sainfort, F., and Pierskalla, W.P., Eds., p. 467–494. Kluwer Academic Publishers.
 3. Koopman JS, X-M Lin, SE Chick, JR Gilsdorf, 2004, Non-Capsulated *Haemophilus influenzae* Immunity Affects Transmission More Than Pathogenicity. In *Operations Research and Health Care: Handbook of Methods and Applications*, Brandeau, M.L., Sainfort, F., and Pierskalla, W.P., Eds., p. 811–842. Kluwer Academic Publishers.
 2. Chick SE, M Hashimoto, K Inoue, 2001, Bayesian Sampling Allocations for Selecting the Best Population with Different Sampling Costs and Known Variances. In *System and Bayesian Reliability*, Xie, M., Irony, T.Z., Hayakawa, Y., eds., p. 333–349. World Scientific.
 1. Chick SE, J Shortle, P van Gelder, M Mendel, 1996, A Physics-Based Approach to Predicting the Frequency of Extreme River Levels, with critique and response. In *Engineering Probabilistic Design and Maintenance for Flood Protection*, Cooke, R.M., Mendel, M., Vrijling, H., eds., p. 87–103, 135–138. Kluwer.

Edited Volumes:

4. Chick S, E Yücesan, 2010, Guest Editors, *Special Issue of ACM Transactions on Modeling and Computer Simulation for the First INFORMS Simulation Society Research Workshop*, vol. 10, no. 1, with preface (pp. 9–10).
3. Chick S, E Yücesan, C-H Chen, S Henderson, eds., 2007, *Proceedings of the First INFORMS Simulation Society Research Workshop*, Fontainebleau, France.
2. Yücesan E, S Chick, eds., 2004, *FUTURE BUSINESS TECHNOLOGY (FUBUTECH) CONFERENCE PROCEEDINGS*, EUROSIS, Ghent, Belgium. (conference held in Fontainebleau, France)
1. Chick SE, PJ Sánchez, D Ferrin, DJ Morrice, eds., *Proceedings of the 2003 Winter Simulation Conference*, Institute of Electrical and Electronics Engineers, Inc. Piscataway, New Jersey.

Business Cases:

Computer models for some cases at faculty.insead.edu/chick/chick-teaching.htm.

13. Hourani H, SE Chick, 2010. Five Personal Perspectives on the Diabetes Crisis in the Gulf States of the Middle East. (06/2010-5709).
12. Hourani H, SE Chick, 2010. Imperial College London Diabetes Center in Abu Dhabi (ICLDC). (02/2010-5676).
11. Hourani H, SE Chick, 2010. Imperial College London Diabetes Centre in Abu Dhabi (ICLDC): (B) The broader healthcare context in the UAE. (02/2010-5676).
10. Hourani H, SE Chick, 2009. St. George Hospital University Medical Center in Beirut. (11/2009-5632).
9. Jokela P, D Nahmias, SE Chick, 2009. Deep Breeze Brings an Innovative Medical Device to Market. (INSEAD usage, 07/2009-5620).
8. Andersen M, R Chaparro Gazzo, T Nautin, D Jacquemont, JB Escoufier, J Ward, SE Chick, 2009. NexusBank's Journey Towards Lean Management: Applying the Toyota Production System in Financial Services, (INSEAD usage, 06/2009-5616).
7. Hourani H, SE Chick, 2009. Hotel Dieu de France: The Deployment and Improvement of a Disaster Relief Plan. (11/2009-5606). With Teaching Note (11/2009-TN-5606).
6. Van der Heyden L, M Pich, SE Chick, 2005. Process Control at Compaq[®] Computer Corp. (A): Understanding the Build-to-Order Decision. with Teaching Note (for A and B cases). (10/2005-5317)
5. Chick SE, M Pich, 2004. Process Control at Compaq[®] Computer Corp. (B): Computer Simulation - ProModel.
4. Téoul J, SE Chick, 2004. Roche Diagnostic Systems (A). 04/2004-4680 (ECCH 604-034-1). Revision of case written by Molloud, et al. in 1997.
3. Chick SE, 2003. Manzana Insurance: Fruitvale Branch (B). With ProModel computer simulation models. (INSEAD usage).
2. Chick SE, 2003. Assessing Waits in a Health Care Service Delivery Process. With ProModel computer simulation models and Teaching Note. (05/2004-5214).
1. Terwiesch C, CH Loch, SE Chick, 2002, Pumping Iron at Cliffs and Associates Teaching Note, (06/2002-5041).

Articles in Published Conference Proceedings: (Speaker in *italics*.)

33. A. Arlotto, *S.E. Chick*, N. Gans, 2010, Optimal Employee Retention When Inferring Unknown Learning Curves. In B. Johansson, S. Jain, J. Montoya-Torres, J. Hukan, and E. Yücesan, eds., Proc. Winter Simulation Conference, to appear, IEEE.
32. *S. Soorapanth*, S.E. Chick, 2010, Cost-Utility Analysis of Behavioral Interventions for HIV-Infected Persons to Reduce HIV Transmission in the USA. In B. Johansson, S. Jain, J. Montoya-Torres, J. Hukan, and E. Yücesan, eds., Proc. Winter Simulation Conference, to appear, IEEE.
31. S.E. Chick, P. Frazier, 2009, The Conjunction of the Knowledge Gradient and the Economic Approach to Simulation Selection. In M. D. Rossetti, R. R. Hill, B. Johansson, A. Dunkin, and R. G. Ingalls, eds., Proc. Winter Simulation Conference, p. 528–539, IEEE.

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30. S.E. Chick, N. Gans, 2008, Update on Economic Approach to Simulation Selection Problems. In S.J. Mason, R.R. Hill, L. Moench, O. Rose, eds., Proc. Winter Simulation Conference, p. 297–304, IEEE.
 29. S.E. Chick, H. Mamani, D. Simchi-Levi, 2008, Influenza Vaccine Supply Chain with Multiple Agencies, 2008 *Manufacturing & Service Operations Management* Conference.
 28. S.E. Chick, J. Branke, C. Schmidt, 2007. New Greedy Myopic and Existing Asymptotic Sequential Selection Procedures: Preliminary Empirical Results. In S.G. Henderson, B. Biller, M.-H. Hsieh, J. Shortle, J.D. Tew, and R.R. Barton, eds., Proc. Winter Simulation Conference, p. 289–296, IEEE.
 27. Chick, S.E., N. Gans, 2006. Simulation Selection Problems: Overview of an Economic Analysis. In L.F. Perrone, F.P. Wieland, J. Liu, B.G. Lawson, D.M. Nicol, and R.M. Fujimoto, eds., Proc. Winter Simulation Conference, p. 279–286, IEEE. (cf. 23 below).
 26. Chick, S.E., 2006. Bayesian Ideas for Discrete Event Simulation: Why, What and How. In L.F. Perrone, F.P. Wieland, J. Liu, B.G. Lawson, D.M. Nicol, and R.M. Fujimoto, eds., Proc. Winter Simulation Conference, p. 96–106, IEEE. (update of 21 below).
 25. S.E. Chick, H. Mamani, D. Simchi-Levi, 2006, Supply Chain Coordination and Influenza Vaccination, 2006 *Manufacturing & Service Operations Management* Conference.
 24. C. Schmidt, J. Branke, S. Chick, 2006, Integrating Techniques from Statistical Ranking into Evolutionary Algorithms. In F. Rothlauf et al. (eds.), *EvoWorkshops 2006, LNCS 3907, Applications of Evolutionary Computation*, p. 752–763, Springer-Verlag.
 23. S.E. Chick, N. Gans, 2006, Overview of an Economic Analysis of Simulation Selection Problems, In: Garnett J, Brailsford S, Robinson S, Taylor S (eds). Proc. of the Operational Research Society Simulation Workshop 2006 (SW06). Operational Research Society, Birmingham, UK. p. 77–84.
 22. J. Branke, S.E. Chick, C. Schmidt, 2005. New Developments in Ranking and Selection: An Empirical Comparison of the Three Main Approaches. In M.E. Kuhl, N.M. Steiger, F.B. Armstrong, and J.A. Joines, eds., Proc. Winter Simulation Conference, p. 708–717, IEEE.
 21. Chick, S.E., 2004. Bayesian Methods for Discrete Event Simulation. In R. Ingalls, M. Rossetti, J. Smith, and B. Peters, eds., Proc. Winter Simulation Conference, p. 89–100, IEEE.
 20. Chick, S.E., 2003, Expected Opportunity Cost Guarantees and Indifference-Zone Selection Procedures, In S.E. Chick, P.J. Sánchez, D. Ferrin, D.J. Morrice, eds., Proc. Winter Simulation Conference, p. 465–473, IEEE.
 19. Barton, R.R., Cheng, R.C.H, Chick, S.E., Henderson, S.G., Law, A.M., Leemis, L.M., Schmeiser, B.W., Schruben, L.W., Wilson, J.R., 2002. Panel on Current Issues in Simulation Input Modeling, In E. Yücesan, C.-H. Chen, J.L. Snowdon, J.M. Charnes, eds., Proc. Winter Simulation Conference. p. 353–369. IEEE.
 18. Ng, S.-H., Chick, S.E., 2002. Joint Criterion for Factor Identification and Parameter Estimation, In E. Yücesan, C.-H. Chen, J.L. Snowdon, J.M. Charnes, eds., Proc. Winter Simulation Conference. p. 400–406. IEEE.
 17. Ng, S.-H., Chick, S.E., 2001. Reducing Input Parameter Uncertainty For Simulations, In B.A. Peters, J. Smith, M. Rohrer, D. Madeiros, eds., Proc. Winter Simulation Conference. p. 364–371. IEEE.
 16. Soorapanth, S., Chick, S.E., Koopman, J.S., 2001, Simulation of Stochastic Infection Transmission Models Designed to Inform Water Treatment Decisions, In N. Giambiasi, C. Frydman, eds., Proc. European Simulation Symposium. p. 517–521. Society for Computer Simulation.

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15. *Chick, S.E.*, 2000. Bayesian Methods For Simulation, In J.A. Joines, R. Barton, P. Fishwick, K. Kang, eds., Proc. Winter Simulation Conference. p. 109–118. IEEE.
 14. *Chick, S.E.*, Inoue, K., 2000. New Results on Procedures that Select the Best System Using CRN, In J.A. Joines, R. Barton, P. Fishwick, K. Kang, eds., Proc. Winter Simulation Conference. p. 554–561. IEEE.
 13. Zhong, W., *Maier-Sperdelozzi, V.*, Bratzel, A., Yang, S., Chick, S.E., Hu, S.J., 2000, Performance Analysis of Machining Systems With Different Configurations, Proc. Japan USA Symposium on Flexible Manufacturing, Ann Arbor, Michigan.
 12. *Barth-Jones, D.C.*, Chick, S.E., Adams, A.L., Koopman, J.S., 2000. HIV vaccine trial design for measuring vaccine effects on infectiousness and the basic reproduction number, Proc. 13th International AIDS Conference, Durban, South Africa, July 9-14, 2000, Bologna, Italy: Monduzzi Editore, p. 693–697.
 11. *S. Chick*. 1999. Steps to Implement Bayesian Input Distribution Selection, In P.A. Farrington, H.B. Nembhard, D. Sturrock, J. Evans, eds., Proc. Winter Simulation Conference. p. 317–324. IEEE.
 10. *S. Chick, Inoue, K.*, 1999. A Decision-Theoretic Approach to Screening and Selection with Common Random Numbers, In P.A. Farrington, H.B. Nembhard, D. Sturrock, J. Evans, eds., Proc. Winter Simulation Conference. p. 603–610. IEEE.
 9. Adams, A.L., *Chick, S.E.*, Koopman, J.S., Yu, P., 1999. GERMS: An Epidemiologic Simulation Tool For Studying Geographic and Social Effects on Infection Transmission, In P.A. Farrington, H.B. Nembhard, D. Sturrock, J. Evans, eds., Proc. Winter Simulation Conference. p. 1549–1556. IEEE.
 8. *Koopman, J. S.*, Chick, S. E., Becker, M. P., Wilson, M. L., 1998, Partner Based Surveillance To Direct Control Toward Populations Where Undetected Infections Are Spreading, 12th World AIDS Conference Proceedings. Monduzzi Editore S.p.A. Bologna, Italy.
 7. *Barth-Jones, D.C.*, Adams, A., Lange, K., Chick, S.E., Koopman, J.S., 1998, Retrospective Partner Trials (RPT) HIV vaccine study design for measurement of vaccine effects, Proc. 12th World AIDS Conference Proceedings, Prevention and Epidemiology. Monduzzi Editore S.p.A. Bologna, Italy. p. 285–289.
 6. *Chick, S.E.*, Inoue, K., 1998, Sequential Allocations That Reduce Risk For Multiple Comparisons, In D. J. Medeiros, E. J. Watson, M. Manivannan, J. Carson, eds., *Proc. Winter Simulation Conference*. p. 669–676. IEEE.
 5. *Inoue, K.*, Chick, S.E., 1998, Comparison of Bayesian and Frequentist Assessments of Uncertainty for Selecting the Best System, In D. J. Medeiros, E. J. Watson, M. Manivannan, J. Carson, eds., *Proc. Winter Simulation Conference*. p. 727–734. IEEE.
 4. *Chick, S.E.*, 1997, Bayesian Analysis for Simulation Input and Output, In Andradottir, S., Healy, K., Withers, D., and Nelson, B., editors, *Proc. Winter Simulation Conference*, p. 253–260, IEEE.
 3. *Chick, S.E.*, 1997, Selecting the Best System: A Decision-Theoretic Approach, In Andradottir, S., Healy, K., Withers, D., and Nelson, B., editors, *Proc. Winter Simulation Conference*, p. 326–333, IEEE.
 2. Ahn, S., Chick, S.E., Mendel, M.B., 1994, Deriving Accelerated Lifetime Models From Engineering Curves with an Application to Tribology, *Proc. 40th Annual Technical Meeting and Exposition of the IES*.

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1. Ahn, S., Chick, S.E., *Mendel, M.B.*, 1994, Deriving Probability Models for Stress Analysis, *Advances in Structural Reliability Methods*, ed. P.D. Spanos, p. 1–10, Springer-Verlag.

Other Presentations: (Speaker in *italics*.)

42. *Arlotto, A.*, S. Chick, N. Gans, Optimal Hiring and Retention Policies for Workers with Heterogeneous Learning, INFORMS Fall Conference, Oct 2010.
41. *Arlotto, A.*, S. Chick, N. Gans, Hiring and Retention of Heterogeneous Workers, 2009 INFORMS Applied Probability Conference, Cornell, July 12-15, 2009; Also at INFORMS Fall Conference, Oct 2009.
40. 2008/2009: “An Economic Analysis of Simulation Selection Problems”, Lancaster University (1/10/08), Princeton University Dept. Operations Research and Financial Engineering (5/12/08); “Supply Chain Coordination and Influenza Vaccination” at London Business School (26/09/08), University College of London CORU (29/09/08), Warwick University Business School (3/10/08), Wharton School (07/01/09); “Industrial Excellence Award and Healthcare Delivery” at Henley-on-Thames UK NHS Cohort 2 Reunion Learning Set (24/09/08); INSEAD Abu Dhabi Centre HMI Seminar (10/11/08).
39. *Chick, S.E.*, (coauthor N. Gans), Should I bother to simulate? An economic approach to discrete optimization via simulation, INFORMS Simulation Society Research Workshop, July 5-7, 2007, Fontainebleau, France. Related presentation given: INFORMS Applied Probability Conference (07/2007) Eindhoven, Holland.
38. *Chick, S.E.*, (coauthors D. Simchi-Levi, H. Mamani) Supply chain coordination and influenza vaccination, May 10, 2007, Univ. Southampton, CORMSIS, UK.
37. *Stevenson, M.*, Oakley, J., *Chick, S.E.*, Chalkidou, K., Are single use instruments cost-effective in stopping iatrogenic vCJD transmission?, October 15-18, 2006, Annual Meeting of the Society for Medical Decision Making (with abstract).
36. *Chick, S.E.*, Noah Gans, An Economic Analysis of Simulation Selection Problems, 28 Oct 2005. INSEAD Technology and Operations Management Seminar.
35. *Chick, S.E.*, Noah Gans, A Bandit Approach to the Economics of System Selection with Simulation, 15 Sep 2005. MIT, Boston (Operations Research Center Seminar Series).
34. Invited Commemorative Address: Observations on Industrial Excellence. 16 Feb 2005. Karlsruhe University, Dept. Economics and Business Engineering, for Carl-Adam-Petri-Prize Ceremony.
33. *Chick, S.E.*, Focus Fortnight on Patient Simulation Modelling in Health Care: How Sensitive are My Conclusions to Model Structure? 12 Oct 2004. Univ. Sheffield, UK, CHEBS (Center for Health Economics and Bayesian Statistics).
32. *Chick, S.E.*, How sensitive are my conclusions to model structure? Insights from health care simulations. 8 Oct 2004. Warwick Business School, Operational Research & Systems Group.
31. *Evrin-Didem Gunes*, Stephen Chick, L. Van Wassenhove, A Model of Screening for a Disease: Does Competition Improve Screening Services?, INFORMS Denver, Oct 2004.
30. *Loch, C.*, *Chick, S.E.* Partnering and Adding Services in the Future of Manufacturing, EUROMA 2004, Industry/Academic Workshop on Industrial Excellence, June 30, 2004. With O. Kerbage (CEO, Imaje), H. Brumme (former Manager, HP Herrenberg plant).

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29. *Chick, S.E.* Diffusion approximations as an intermediate between ODE models and stochastic Monte Carlo models: Implications for simulation efficiency and for parameter estimation. Model Transition Sensitivity Analysis Workshop. Hosted by BioMedware. Ann Arbor, Michigan. July 24-25, 2003.
 28. *Güneş, E., Chick, S.E.,* Breast Cancer Screening: Trade-Offs in Planning and Provision of the Service. EuroINFORMS Joint International Meeting, Istanbul, July 2003.
 27. *Soorapanth, S., Chick, S.E., Koopman, J.S.,* Dynamics of Microbial Risk and Drinking Water Treatment Policy, Toxicology and Risk Assessment Conference. April 28-May 1, 2003.
 26. *Chick, S.E.,* 2002, Public Policy For Drinking Water Treatment: Surprising Results from an Innovative Risk Assessment, INSEAD, CMER Brown Bag Lunch.
 25. *Chick, S.E.,* 2001, Uncertainty in Service and Production System Models, Univ. Michigan, Ann Arbor, Business School, Hosmer Lecture.
 24. *Koopman, J.S., Chick, S.E., Jacquez, G.,* 2000, Analyzing Sensitivity To Model Form Assumptions Of Infection Transmission System Models, to American College of Epidemiology, September. Abstract: *Annals of Epidemiology.* 10(7):472.
 23. *Chick, S.E.,* 2000, Assessing and Reducing Uncertainty about Stochastic Models of Production and Service Systems, INSEAD, Technology and Operations Management Area, Fontainebleau, France.
 22. *Chick, S.E., Soorapanth, S., Koopman, J.S.,* Microbial Risk Assessments for Infection Transmission Systems, 2000, Toxicology and Risk Assessment Approaches for the 21st Century Conference, sponsored by US EPA/NCEA, April 10-13, Kings Island, Ohio.
 21. *Koopman, J.S., Riolo, C.S., Chick, S.E.,* 1999, Analyzing Human Interaction Patterns in Infection Models and in Phylogenetic Data, Univ. Michigan-Santa Fe Institute Fall Complexity Meeting, Ann Arbor, Michigan, November.
 20. *Chick, S.E., Koopman, J.S., Barth-Jones, D.C., Adams, A.L., Becker, M., Wilson, M.L.,* 1999, Stochastic Models of Individuals and Infection for Analysis and Control of Sexually Transmitted Diseases, INFORMS Applied Probability Conf., Ulm, Germany, July.
 19. *Koopman, J.S., Chick, S.E.,* 1999, Waterborne Infection And Transmission System Dynamics, U.S. Environmental Protection Agency (EPA), Workshop on Modeling Risk of Waterborne Pathogen Exposure, Disease Outbreak, Cincinnati, Ohio, July.
 18. *Barth-Jones, D.C., Koopman, J.S., Chick, S.E., Adams, A.L.,* 1999, Statistical power for the Retrospective Partner Trials (RPT) HIV vaccine study design, Thirteenth Meeting of the International Society for STD Research, Denver, July. Abstract # 228, p. 137.
 17. *Chick, S.E.,* 1999, Steps to Implement Bayesian Input Distribution Selection for Simulation, Georgia Tech, Dept. Industrial and Systems Engineering, Atlanta, Georgia.
 16. *Chick, S.E., Inoue, K.,* 1999, How to Allocate Resources to Select the 'Best' Alternative, Univ. Michigan Decision Consortium, Spring Meeting, May.
 15. *Chick, S.E.,* 1999, Multiple Comparisons with Common Random Numbers, INFORMS Joint National Meeting, Cincinnati, May.
 14. *Chick, S.E., Olsen, T., Stauffer, K., White III, C.C., Sethuraman, K., Stecke, K.E.,* 1998, A Decision Support Model To Select Appropriate Reconfigurable or Other Machining Systems That Considers Buyer-Supplier Relationships, Proc. 1998 Japan-USA Symposium on Flexible Automation, Ohtsu, Japan, July.

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13. Chick, S.E., Hashimoto, M., Inoue, K., 1998, Efficient Sampling Allocations for Multiple Selection from Gaussian Populations, With Linear Loss, Sixth Valencia International Meeting on Bayesian Statistics, June, poster presentation.
 12. Chick, S.E., 1998, A Decision-Theoretic Approach for Selecting the Best System, INSEAD, Technology Management Area, Fontainebleau, France.
 11. Chick, S.E., 1998, Sequential Budget Allocation for Selecting the Best Simulated System with Gaussian Output, INFORMS Joint National Meeting, Montreal, May.
 10. Chick, S.E., 1997, Bayesian Model Averaging for Discrete-Event Simulation, INFORMS Joint National Meeting, San Diego, May.
 9. Chick, S.E., 1997, Input Distribution Selection for Stochastic Simulations, Univ. Michigan, Dept. Statistics Seminar, Winter Semester. Also at: Production Modeling Corporation, Dearborn, MI.
 8. Chick, S.E., 1996, Operational Statistical Lifetime Models for Engineering Design and Accelerated Lifetime Testing, Joint Research Conference on Statistics in Quality, Industry, and Technology, NIST, Gaithersburg, MD, May 29.
 7. Chick, S.E., 1995, Design and Maintenance Decisions with Engineering-Based Statistical Models, Univ. of Michigan, Dept. Industrial and Operations Engineering.
 6. Chick, S.E., 1995, Flood Protection Activities in Holland Today, Univ. California, Berkeley, Dept. of Civil Engineering.
 5. Chick, S.E., 1995, Frequency of Extreme River Levels, Technical Univ. Delft, Holland, Dept. of Statistics, Stochastics, and Operations Research. Also at: Univ. California, Berkeley, Dept. Civil Engineering, Dec. 1994.
 4. Chick, S.E., 1992, Stochastic Modeling for Asynchronous Transfer Mode (ATM) Network Reliability, ORSA/TIMS Joint National Meeting, San Francisco, CA.
 3. Chick, S.E., 1992, Modeling ATM Output Buffers, UC Berkeley College of Engineering Industrial Liason Program, Berkeley, CA, March.
 2. Chick, S.E., Stevens, P., 1987, Engineering Approach to Simulation, Society of Manufacturing Engineers (SME) Simulation in Manufacturing Conference, Southfield, MI.
 1. Chick, S.E., 1985, Don't Intimidate Your Computer, International Intergraph User's Group, San Francisco, CA.

Other Works:

2. Chick, S.E., 2001, 2002, 2003, *A Demonstration of L^AT_EX Usage for WSC Papers*, (used in Winter Simulation Conference Author Kit several years running, adopted now by others).
1. Chick, S.E., 1995, Product and Process Design with Engineering-Based Statistical Models, Ph.D. Thesis, U.C. Berkeley, Dept. of Industrial Engineering and Operations Research.

Quotes or Write-Ups in Press:

4. Les Clés de l'Excellence Industrielle, *L'Usine Nouvelle*, April 4, 2005 (in French).
3. Excellence Industrielle: Trophée des Meilleures Usines, *L'Usine Nouvelle*, April 8, 2004 (in French); and An die Spitze (Die Beste Fabrik), *WirtschaftsWoche*, 15 April 2004 (in German).

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2. Algorithm Improves Efficiency of Computer Simulation. *Advanced Manufacturing Technology*, John Wiley & Sons. (3 Nov 00).
 1. Doctors: Vaccines could end AIDS, *Ann Arbor News*, 3 April 1998.

Patents:

1. Model Transition Sensitivity Analysis System and Method, with Prof. James S. Koopman and Dr. Geoffrey M. Jacquez (President, BioMedware, Inc.), patent pending.

Direction of Research:

- Ph.D. Thesis Chair:
 - Koichiro Inoue. Thesis defended: April 2000. Now: Supply chain management consultant for IT Frontier Corporation, Japan.
 - Szu Hui Ng. Thesis defended: June 2001. Now: Assistant Professor of Industrial and Systems Engineering, National University of Singapore.
 - Sada Soorapanth. Thesis defended: August 2002. Now: Assistant Professor, Decision Sciences, San Francisco State Univ. College of Business, (after postdoc at CDC, Atlanta).
 - Evrim D. Güneş. (co-chair with Z. Akşin). Thesis defended: August 2004. Now: Assistant Professor, Operations Management, Koç University, Istanbul, Turkey.
- Research Scientist:
 - Andy Adams. Modeler and developer of simulations of infection transmission, surveillance, and control as part of project to engineer STD surveillance programs for the CDC.
- Ph.D. Thesis Committee:
 - Students from MIT (Hamed Mamani), Karlsruhe (Christian Schmidt), several from of INSEAD's POM group, and Univ. Michigan's Industrial and Operations Engineering; Epidemiology; Statistics; Electrical Engineering and Computer Science departments.
- Masters Students:
 - Ann Bratzel. (MS '00) Thesis: Methods for Machine-Level Availability Modeling.
 - Peter Yu. (MS '99) Development of GUI and simulation tools for epidemiology analysis.

Classroom Teaching:

MBA: Process and Operations Management Required MBA course that covers operations strategy, plant management, process design and analysis, quality management, inventory control.

MBA: Management of Services Elective course on service operations.

PhD: Discrete Stochastic Processes Probability, Poisson process, renewal processes, discrete and continuous time Markov chains

PhD: Methods and Applications for Inference Inference techniques (asymptotic normality, nonnormal approximations, EM algorithm, data augmentation, MCMC, related stochastic process results) and applications.

PhD: Systems Simulation Stochastic process simulation, variance reduction, simulation optimization.

Exec Ed: Programme director for the Middle East Health Leadership Program (MEHLP)

Exec Ed: For National Health Service of United Kingdom. Process Thinking and Quality Improvement in Health Care

Exec Ed: Programs for multiple clients in the areas of on Process Management, Service Operations, Quality Management, Benchmarking and Operational Excellence.

IOE 373: Introduction to Information Systems Required junior-level course: the software design process; event-driven, object-oriented programming; elementary relational database concepts; and requires term projects that use Visual Basic and Access.

IOE 474: Simulation Senior/masters-level introduction to discrete-event simulation, random variate generation, relevant statistics, GPSS/H, ProModel.

IOE 574: Simulation Analysis Masters/doctoral-level class created to cover foundational aspects of discrete-event stochastic simulation, as well as applications of simulation to statistical inference and optimization.

IOE 591: Operations Research Models in the Public Sector Masters level class that covers deterministic and stochastic OR models in public sector applications, including flood protection and the control of epidemics.

IOE 640: Mathematical modeling Doctoral-level mathematical modeling studio (with S. Pollock).

Funded Research:

- Jan 2003-Dec 2004. Model Transition Sensitivity Analysis, SBIR Phase II project, funded by the National Institute of Allergy and Infectious Diseases to BioMedware, Inc. Consultants: S. Chick, J. Koopman.
- May 2001. Model Transition Sensitivity Analysis, SBIR Phase I project, funded by the National Institute of Allergy and Infectious Diseases to BioMedware, Inc. Consultants: S. Chick, J. Koopman.
- 5/2000-4/2003. Vaccine Trials Using Individual and Ecological Units. awarded by the National Institutes of Health (NIH DMID/NIAID). PI: Chick, S.E.; Co-investigators: Koopman, J.S., Gilsdorf, J.R., Simon, C.P. (\$871,648 over 3 years) Assessment of vaccine trial designs, application to *H. influenza*.
- 9/1999-8/2002. Disease Transmission Modeling For Pathogens in Drinking Water. awarded by the United States Environmental Protection Agency (EPA). PI: Chick, S.E.; Co-investigator: Koopman, J.S. (\$300,000 over 3 years) Development of mathematical infection transmission models to support water treatment decisions.
- 9/1997-8/2000. Use of Partner Histories to Focus HIV and STD Prevention. awarded by Center for Disease Control (CDC), Atlanta. PI: Koopman, J.S.; Co-investigators: Chick, S.E., Wilson, M., Becker, M. (\$334,082 over 3 years, \$53,000/year in CoE sub-account) Engineering approach to improving surveillance and intervention programs.
- 10/97-6/1998. Analysis of Reconfigurable Machining Systems. PI: Hu, J.; Co-PIs: Koran, Y., Chick, S., awarded by Univ. of Michigan/NSF ERC for Reconfigurable Machining Systems, Project 1.3. Evaluation of methodologies to determine effects of reliability on system performance, and means to efficiently select the best reconfigurable system.
- 2/1998. Optimization of Public Health Program Efficiency Through Simulation Analysis, PI: Chick, S., awarded by Univ. of Michigan, Office of Vice President for Research. (\$10,000).

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- 5/1997-5/1998. Problem Solving Utilizing Statistical Simulation Models. PI: Chick, S.; Co-PI: Henderson, S., awarded by Chrysler Challenge Fund. (\$50,000). Delivered EXCEL add-ins for to aid statistical decision-making, made available Chrysler-wide through the Reliability Group's WWW page.
 - 10/96-6/1998. A Multi-Attribute Method for Selecting Machine Tool Systems, PI: White, C.C.; Co-PIs: Chick, S., Olsen, T., Sethuraman, K., Stecke, K., awarded by Univ of. Michigan/NSF ERC for Reconfigurable Machining Systems, Project 1.3. (\$104,000).
 - 9/1995-9/1998. Rackham Research Initiation, awarded by Univ. of Michigan. (\$15,000).

Professional Activities:

- INFORMS Simulation Society (formerly College on Simulation) Officer (Past-President '08-'10); Elected posts: President '06-'08; Vice President/President-Elect, '04-'06; Secretary-Treasurer, '02-'04. Serving as Past President: '08-'10. Appointed posts: Newsletter Editor, '00-'02; Associate Newsletter Editor, '98-'00.
- Advisory Board: Production and Operation Management Society's College on Healthcare Operations Management (2008-2009).
- General Chair: First INFORMS Simulation Society Research Workshop (Fontainebleau, France, July 5-7, 2007).
- Editorial: Associate Editor, *Operations Research*, Simulation Area (Jan 2006-today); Associate Editor, *Management Science*, Stochastic Models (Jan 2009-today), Stochastic Models and Simulation Area (2001-Dec 2005); Area Editor, *ACM Transactions on Modeling and Computer Simulation*, Decision Making for Simulation (2006-Dec 2008); Editorial Board, *Health Care Management Science* (Jan 2004-Dec 2005); Associate Editor, *Naval Research Logistics* (2004-2005).
- Co-Editor: Proceedings of the 2003 Winter Simulation Conference.
- Referee/reviewer (alphabetical):
Journals: ACM Transactions on Modeling and Computer Simulation; American Journal of Epidemiology; BioMed Central Infectious Diseases; Central European Journal of Operational Research; Decision Analysis; Environmental Science and Technology; Expert Review of Pharmacoeconomics and Outcomes Research; Expert Review of Vaccines; European Journal of Operations Research; Health Care Management Science; Interfaces; IEEE Transactions on Man, Machine, and Cybernetics; IIE Transactions; INFORMS Journal on Computing; International Trans. in Operational Research (ITOR); Interactive Trans. of ORMS (ITORMS); J. American Statistical Association; Journal of Simulation; Microbes & Infection; Naval Research Logistics; Management Science; Mathematical Biosciences; Operations Research; OR Spectrum; Production and Operations Management (including guest Associate Editor for special issue on health); Risk Analysis; SIAM Journal on Control and Optimization; Vaccine;
Conferences: 2001 IEEE Conference on Control Applications; MSOM; Winter Simulation Conference (several years);
Books: Cambridge University Press; John Wiley & Sons; McGraw-Hill; MIT Press;
Agencies: National Institutes of Health (NIAID), National Science Foundation (Decision, Risk and Management Science; Cyber-Enabled Discovery and Innovation);
Awards: Meritorious Service Award from Operations Research (twice).
- Member: American Association for the Advancement of Science; American Statistical Association; Institute for Operations Research and Management Science (INFORMS), including the Simulation Society, Health Applications, Applied Probability and MSOM groups; Sigma Xi.

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- Other Positions: LaTeX Committee for WSC '01 and WSC '02 Proceedings.
 - Track Organizer: IFORS Hawaii 05 (Simulation track); INFORMS Fall 05, Fall 06 (Simulation track); WSC 05 (Introductory Tutorial track); WSC 10 (Health Care Applications track);
 - Session Organizer or Chair: INFORMS Montreal (4/98), Winter Simulation Conference (98, 99, 01, 04, 05), EuroINFORMS Istanbul (7/2003), EUROMA 2004.
 - Tenure/Promotion/Appointment Letters: Quite a few external cases.
 - Jurist, 2007 Pierskalla Award (INFORMS Health Applications Society).
 - School Service:
Michigan: Engineering Global Leadership Admissions Committee (F95-01). Undergraduate Committee (95-01). First-Year Student Advisor (F97, W99, F99-01). IOE Advisor for dual Master's in Hospital System Administration/Industrial Engineering program (98-01). First-Year Computing Committee (W97). Department Committee (96-97; 98-99).
INSEAD: Abu Dhabi Task Force (10-), Middle East Steering Committee (06-08), Chair of R&D Committee (06-08), Faculty Evaluation Committee member (06-08), POM PhD Coordinator (03-06), Technology Management Research Seminar Coordinator (01-03).