HALIL METE SONER

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ACADEMIC EXPERIENCE

- 2019–present Princeton University Princeton, NJ, USA
  Norman John Sollenberger Professor
  Department of Operations Research and Financial Engineering.
  Chair, 2024-26, *Associate Chair,* July-Dec. 2023, *Acting Chair,* 2022- 23.
  Program in Applied and Computational Mathematics
- 2009–2019 ETH Zürich Zürich, Switzerland
  Professor of Mathematics
  Chair of Department of Mathematics, August 2017-Feb. 2019
  Vice Chair, August 2015-July 2017
  Senior Chair, Swiss Finance Institute
- Sabancı University Istanbul, Türkiye
  Işık İnselbağ Professor
- Koç University Istanbul, Türkiye
  Professor of Mathematics and Finance
  Dean College of Economics and Business Administration, 2002-2007
- Princeton University Princeton, NJ, USA
  Paul M. Whythes `55 Professor of Finance and Engineering
  Department of Operations Research and Financial Engineering
  Program in Applied and Computational Mathematics
- Carnegie Mellon University Pittsburgh, PA
  Professor of Mathematics
- Institute for Mathematics and App. Minneapolis, MN
  Research Associate

EDUCATION

- Brown University Providence, RI
  Ph.D., M.Sc, Applied Mathematics.
- Boğaziçi University Istanbul, Türkiye
  B.Sc., Electrical Engineering, Mathematics.
- Ankara Fen Lisesi Ankara, Türkiye

AWARDS AND HONORS

- Plenary Speaker, SIAM Meeting on Financial Eng., Miami, July 2025.
- John Norman Sollenberger Professor, 2024.
- Plenary Speaker, Bachelier Finance Society, Dublin 2018.
- Invited Speaker, European Mathematical Congress, 2016, Berlin.
- Plenary Speaker, SIAM Conf. on Control, July 2015, Paris.
- SIAM Fellow, Class of 2015.
- Plenary Speaker, INFORMS, June 2015, Istanbul.
- Alexander von Humbolt Foundation Research Award, 2014.
- European Research Council Advanced Grant: Dec. 2008 - Nov. 2013.
- Invited Speaker, European Mathematical Congress, 2008, Amsterdam.
- Plenary Speaker, Bachelier Finance Society, Tokyo 2006.
- Plenary Speaker, SIAM Meeting on Financial Engineering, and Topical Speaker, SIAM Annual Meeting, June 2006, Boston, MA
- Turkish Science and Technology Foundation Science Award, 2002.
- Paul M. Whythes '55 Professor of Finance and Eng, Princeton, 1998-2000.

SERVICE TO ACADEMIC COMMUNITY

- During 2011-2016, Soner has been the Executive Secretary of the *Bachelier Finance Society*.
- Currently Soner is an editor for
  - SIAM Journal of Mathematical Finance (Editor-in-Chief),
  - Mathematics and Financial Economics (co-Editor),
  - Mathematics of Operations Research.
  - In the past he has served in the editorial boards of: Journal of European Mathematical Society, Annals of Applied Probability, SIAM Journal on Control and Optimization, SIAM Journal on Mathematical Analysis, Applied Mathematics and Optimization, Mathematical Methods in Operations Research, and ESAIM: Control, Optimisation and Calculus of Variations, Finance and Stochastics.

RESEARCH TEAM

Graduate Students:

- Erica Lai, ORFE, (joint with Misha Shkolnikov) continuing.
- Nicolas Garcia, ORFE, (joint with Ronnie Sircar) continuing.
- Qinxin Yan, (PACM), University of Califrnia, Berkeley.
- Felix Höfer, ORFE, (ORFE), University of Chicago.
- Valentin Tissot-Daguette, (ORFE), Bloomberg research.
- Vincenzo Ignazio, (ETH).
- Dr. Matti Kiiski, (ETH), University of Manheim.
- Dr. Max Reppen, (ETH), Boston University.
- Dr. Sebastian Herrmann (joint with Martin Schweizer), (ETH), Susquehanna, Dublin.

- Dr. Mario Sikic, (ETH), University of Zurich.
- Dr. Albert Altarovici, (ETH), Facebook, CA, USA.
- Dr. Mirjana Vukelja, (ETH), UBS, Zurich.
- Dr. Erdinç Akyildirim, (Swiss Finance Institute), Nothingham University.
- Dr. Selim Gökay (ETH) UBS, Zurich.
- Dr. Feyzullah Egriboyun (Carnegie Mellon).
- Prof. Dmitry Golovaty (Carnegie Mellon) University of Akron, OH, USA.

Post-doctoral fellows:

- Prof. Chen Yang, (ETH), The Chinese University of Hong Kong.
- Dr. Matteo Burzoni, (ETH), USB.
- Prof. Ibrahim Ekren (ETH), University of Michigan.
- Prof. Ariel Neufeld (ETH), NTS, Singapore
- Dr. Ludovic Moreau (ETH), AVIVA, Paris, France.
- Prof. Anja Richter (ETH), Baruch College, New York, USA.
- Dr. Marcus Wunsch (ETH), UBS, Zurich.
- Prof. Yan Dolinsky (ETH), Dept of Statistics, Hebrew University, Israel.
- Prof. Marcel Nutz (ETH), Dept of Statistics, Columbia University,, USA.
- Dr. Gilles-Edouard Espinosa (ETH), ENPC (Cermics), Paris, France.
- Prof. Idris Kharroubi (ETH), University of Paris IX, Dauphine, France.
- Prof. Alexandre Roch (ETH), ESG UQAM, Montreal, Canada.
- Prof. Robert Jerrard (CMU), University of Toronto.

SELECTED PRESENTATIONS SINCE 2000

10/2025	Invited Talk, Eastern Conference in Mathematical Finance	Pittsburgh, PA
3/2025	Invited Talk, Symposium on Mean Field Games	Durham, UK
8/2024	Pleanary Speaker, Berlin Workshop on Math Finace	Berlin, Germany
06/2024	Invited Speaker, Riemann School of Mathematics	Varese, Italy
11/2023	Van Eenam Lectures, University of Michigan	Ann Arbor, MI
11/2021	The Chinese Univ. of Hong-Kong, Distunguished Lectures	(virtual)
1/2021	Invited Speaker, 10th Western Confernece on Math. Finance	virtual
4/2020	SIAM Activity Group Inagurual Talk	virtual
10/2019	Invited Speaker, 4th Eastern Conference on Math. Finance	Boston, MA
12/2018	Plenary Speaker, 6th Asian Quantitative Finance Conference	Guangzhou, China
7/2018	Plenary Speaker, 10th Bachelier Finance Society Meeting	Dublin, Ireland
9/2017	2nd Tosun Terzioglu Memorial Talk, Turkish Math Society	Istanbul, Turkey
9/2017	Inagurial Talk, SFB 1288	Bielefeld, Germany
7/2017	Plenary Speaker, INdAM Workshop in honor of P. Cannarsa,	Rome, Italy
7/2017	Plenary Speaker, Congress of Free Boundaries	Shanghai, China
6/2016	Invited Speaker, 7th European Congress of Mathematics,	Berlin, Germany
3/2016	Invited talk, Workshop on Stochastic Systems,	Rio De Janerio, Brasil
6/2015	Plenary Speaker, SIAM Con. on Control and Its App.,	Paris, France
6/2015	Plenary Speaker, INFORMS App. Prob. Conf.,	Istanbul, Turkey
4/2013	Nomura Seminar	Oxford, England
9/2012	Invited Speaker, Workshop on Mathematical Finance	Yerevan, Armenia

7/2012	Summer School on Mathematical Finance	Lisbon, Portugal
8/2011	Summer School on Mathematical Finance	Zurich, Switzerland
7/2010	Invited Talk, Workshop in honor of W. Schachermayer	Vienna, Austria
6/2010	Invited Talk, Workshop in honor of S. Ustunel	Paris, France
7/2008	Invited Talk, 5th European Congress of Mathematics	Amsterdam, Holland
7/2007	Invited Talk, Workshop in honor of L. Tartar	Paris, France
6/2007	Invited Talk, Giordana Indham	Pisa, Italy
8/2006	Plenary Speaker, Bachelier Meeting	Tokyo, Japan
7/2006	Plenary Speaker, SIAM Annual Meeting	Boston, MA, USA
4/2003	Cattedra Gelileiana, Schuola Normale	Pisa, Italy
9/2000	Plenary Talk, Ulusal Matematik Sempozyumu	Istanbul, Turkey
7/2000	CIR-CIME Summer Course on Evolving Interfaces	Madeira, Portugal

PUBLICATIONS

An up-to-date list can be found in the web page of Soner or in scholar google.

Books:
Controlled Markov Processes and Viscosity Solutions, 2nd edition, (with W.H. Fleming) Springer-Verlag, (2005).
Stochastic Optimal Control in Finance, Cattedra Galileiana 2003, in Scuola Normale, Pisa.

Preprints:

119. Mean Field Games of Control and Cryptocurrency Mining (with Ronnie Sircar, Nicolas Garcia), arXiv: 2504.15526 (2025),
118. Kuramoto Mean Field Game with Intrinsic Frequencies (with Rene Carmona, Questin Cormier), arXiv: 2509.18000 (2025),
117. Relative arbitrage problem under eigenvalue lower bounds (with Erica Lai, Misha Shkolnikov), arXiv: 2512.17702, (2025).
116. Iterative Schemes for Markov Perfect Equilibria (with Felix Höfer, Matheiu Laurière, Qinxin Yan), arXiv: 2507.20898, (2025).
115. Learning algorithms for mean field optimal control (with Josef Teichmann, Qinxin Yan), arXiv: 2503.17869, (2025).
114. Controlled occupied processes and viscosity solutions (with Valentin Tissot-Daguette and Jianfeng Zhang), arXiv:2411.12080v1, (2024),
113. Potential Mean-Field Games and Gradient Flows, (with Felix Höfer), arXiv:2408.00733, (2024), Stochastic Processes and Applications, fortheoming.
112. Markov perfect equilibria in discrete finite-player and mean-field games, (with Felix Höfer and Atilla Yilmaz), arXiv: 2507.04540, (2025), SIAM Journal on Control and Optimization, forthcoming

Published Articles:

2025:
111. Synchronization Games, (with Felix Höfer), Mathematics of Operations Research, (2025).

110. Stopping Times of Boundaries: Relaxation and Continuity, (with Valentin Tissot-Daguette), SIAM Journal on Control and Optimization, 63 (4), 2835-2855 (2025).
109. Neural Optimal Stopping, (with Max Reppen and Valentin Tissot-Daguette), *Mathematical Finance*, 35(2), pp.441-469, (2025).

2024:
108. Deep level-set method for Stefan problems. *Journal of Computational Physics*, (with Misha Shkolnikov and Valentin Tissot-Daguette), 503, 1-23, (2024).
107. Viscosity Solutions of the Eikonal Equation on the Wasserstein Space, *Applied Mathematics & Optimization*.90(1), (with Qinxin Yan), 90 (1), 1-16, (2024).
106. Viscosity Solutions of McKean-Vlasov control on a torus, (with Qinxin Yan), *SIAM Journal on Control and Optimization*, 30; 62(2):903-23,(2024).

2023:
105. Synchronization in a Kuramoto Mean Field Game, (with Rene Carmona and Quentin Cormier), *Communication in Partial Differential Equations,* 2;48(9):1214-44, (2023).
104. Deep Stochastic Optimization in Finance, (with Max Reppen and Valentin Tissot-Daguette), *Digital Finance*, 5/1, 91—111, (2023).
103. Deep Empirical Risk Minimization: looking into future, (with Max Reppen), *Mathematical Finance*, 33/1, 116—145, (2023).
102. Leveraged ETFs with Market Closure and Frictions, (with Min Dai, Steven Kou and Chen Yang), *Management Science,* 69/2, 895—911, (2023).

2021:
101. Discrete dividend payments in continuous time, (with Jussi Keppo and Max Reppen), arXiv:1805.05077v1, *Mathematics of Operations Research,* 46/3, 895-911, (2021).
100. Viability and arbitrage under Knightian uncertainty, (with Matteo Burzoni and Frank Riedel), arXiv:1707.03335v1, *Econometrica*, 89/3, 1207-1234, (2021).
99. Martingale Optimal Transport Duality, (with Patrick Cheridito, Matti Kiiski and David Proemel), *Mathematische Annalen*, 379 (3-4), 1685-1712, (2021).

2020:
98. Viscosity Solutions for controlled McKean-Vlasov jump-diffusions, (with Matteo Burzoni, Vincenzo Ignazio and Max Reppen), *SIAM Journal on Control and Optimization*, 58/3, 1676-1699, (2020).
97. Conditional Davis prices, (with Kasper Larsen and Gordan Zitkovic), *Finance & Stochastics,* 24/3, 565--599, (2020).
96. Optimal dividends policies with random profitability rate, (with Max Reppen and Jean-Charles Rochet), Mathematical Finance, 30/1, 228-259, (2020).

2019:
96. Second order stochastic target problems with generalized market impact, (with Bruno Bouchard, Gregoire Loeper and Chao Zhou), arXiv:1806.08533v1, *SIAM Journal on Control and Optimization*, 57 (6), 4125-4149, (2019).
95. Dividends with random profitability rate, (with Max Reppen and Jean-Charles Rochet), Mathematical Finance, 1-32, (2019).

2018:
94. Constrained optimal transport, (with Ibrahim Ekren), arXiv:1610.02940v1, Archive for Rational Mechanics, 227/3, 929-965, (2018).

2017:
93. A primer on portfolio choice with small transaction costs, (with Johannes Muhle-Karbe and Max Reppen), arXiv:1612.01302, Annual Rev. of Fin. Economics, 9, 301-331 (2017).
92. Optimal consumption and investment with fixed and proportional transaction costs, (with Albert Altarovici and Max Reppen), arXiv:1610.03958, SIAM J. Control and Optimization, 55,1673–1710, (2017).
91. Convex duality with transaction costs, (with Yan Dolinsky), arXiv:1502.01735, Mathematics of Operations Research, 42/2,448–471, (2017).
90. Trading with small impact, (with L. Moreau and J. Muhle-Karbe), arXiv:1402.5304, Mathematical Finance, 27/2,350–400, (2017).
89. Hedging with temporary price impact, (with Peter Bank and Moritz Voss), arXiv:1510.03223v1, Mathematics and Financial Economics, 11, 215–229,(2017).

2016:
88. Utility maximization in an illiquid market in continuous time, (with M. Vukelja), Mathematical Methods in Operations Research, 84/2, 285–321,(2016).
87. Hedging under an expected loss constraint with small transaction costs, (with B. Bouchard and L. Moreau), arXiv:1309.4916, SIAM Journal on Math. Fin., 7/1, 508–551,(2016).
86. Facelifting in utility maximization, (with K. Larsen and G. Zitkovic), arXiv:1404.2227, Finance and Stochastics, 20/1, 99–121, (2016).

2015:
85. Martingale optimal transport in the Skorokhod space, (with Y. Dolinsky), Stochastic Processes and Applications, 125/10, 3893–3931, (2015).
Erratum: Corrigendum to "Martingale optimal transport in the Skorokhod space"
84. Asymptotics with fixed transaction costs, (with A. Altarovici and J. Muhle-Karbe), Finance and Stochastics, 19 (2), 363–414, (2015).
83. Homogenization and asymptotics for small transaction costs - the multi-dimensional case, (with D. Possamaï and N. Touzi), Communications in PDEs, (2015).

2014:
82. Robust hedging with proportional transaction costs, (with Y. Dolinsky), Finance and Stochastics, 18 (2), 327–347, (2014).
81. Approximating stochastic volatility by recombinant trees, (with E. Akyildirim and Y. Dolinsky), Annals of Applied Probability, 24/5, 2176–2205, (2014).
80. Optimal dividend policy with random interest rates, (with E. Akyildirim, I.E. Guney and J.C. Rochet), Journal of Mathematical Economics, 51, 93–101, (2014).
79. Martingale optimal transport and robust hedging in continuous time, (with Y. Dolinsky), Probability Theory and Related Fields, 160 (1–2), 391–427, (2014).
78. Hedging in an Illiquid Binomial Market, (with S. Gökay), Nonlinear Analysis. Real World Applications, 16, 1–16, (2014).

2013:
77. Homogenization and asymptotics for small transaction costs, (with N. Touzi), SIAM Journal on Control and Optimization, 51/4, 2893–2921, (2013).

76. Resilient price impact of trading and the cost of illiquidity, (with A.F. Roch), International Journal on Theoretical and Applied Finance, 16/6, (2013).
75. Utility maximization in an illiquid market, (with M. Vukelja), Stochastics - special issue in memory of M. Taksar, 85/4, 692–706, (2013).
74. Dual Formulation of Second Order Target Problems, (with N. Touzi and J. Zhang), Annals of Applied Probability, 23/1, 308–347, (2013).
73. Vortex density models for superconductivity and superfluidity, (with S. Baldo, R.L. Jerrard, G. Orlandi), Communications in Mathematical Physics, 318/1, 131–171, (2013).
72. Duality and Convergence for Binomial Markets with Friction, (with Y. Dolinsky), Finance and Stochastics, 17 (3), 447–475, (2013).

2012:
71. Convergence of Ginzburg-Landau functionals in 3-d superconductivity, (with S. Baldo, R.L. Jerrard, G. Orlandi), Archive for Rational Mechanics and Analysis, 205/3, 699–752.
70. Liquidity in a Binomial market, (with S. Gökay), Mathematical Finance, 22/2, 250–276, (2012).
69. Large liquidity expansion for super-hedging costs, (with D. Possamaï and N. Touzi), Asymptotic Analysis, 79, Issue: 1-2, 45–64, (2012).
68. Superhedging and Dynamic Risk Measures under Volatility Uncertainty, (with M. Nutz), SIAM Journal on Control and Optimization, 50/4, 2065–2089, (2012).
67. Wellposedness of Second Order Backward SDEs, (with N. Touzi and J. Zhang), Probability Theory and Related Fields, 153, 149–190, (2012).
66. Weak Approximation of G-Expectations, (with Y. Dolinsky and M. Nutz), Stochastic Processes and their Applications, 122 (2), 664–675, (2012).

2011:
65. Martingale Representation Theorem for the G-expectation, (with N. Touzi and J. Zhang), Stochastic Processes and their Applications, 121 (2), 265–287, (2011).
64. Quasi-sure stochastic analysis through aggregation, (with N. Touzi and J. Zhang), Electronic Journal of Probability, (Article Number: 67), 16, 1844–1879, (2011).

2010:
63. Option hedging for small investors under liquidity costs, (with U. Çetin and N. Touzi), Finance and Stochastics, 14 (3), 317–341, (2010).
62. Optimal investment strategies with a reallocation constraint, (with F. Egriboyun), Mathematical Methods of Operations Research, 71(3), 551–585, (2010).
61. Merton problem with taxes: characterization, computation and approximation, (with I. Ben-Tahar and N. Touzi), SIAM Journal on Financial Mathematics, 1, 366–395, (2010).

2009:
60. The dynamic programming equation for second order stochastic target problems, (with N. Touzi), SIAM Journal on Control and Optimization, Vol. 48, No. 4, 2344–2365, (2009).

2007:
59. Stochastic representations for nonlinear parabolic PDEs, survey article, (2007).
58. The dynamic programming equation for the problem of optimal investment under capital gains taxes, (with I. Ben-Tahar and N. Touzi), SIAM Journal on Control and Optimization, 48(5), 1779–1801, (2007).
57. Second order backward stochastic differential equations and fully non-linear parabolic PDEs, (with P. Cheridito, N. Touzi, and N. Victoir), Comm. on Pure and Applied Math., 60

(7): 1081–1110 (2007).
56. Hedging under Gamma constraints by optimal stopping and face-lifting, (with N. Touzi), Mathematical Finance, 17 (1): 59–79 (2007).

2005:
55. Small time path behavior of double stochastic integrals and applications to stochastic control, (with P. Cheridito and N. Touzi), Annals of Appl.Prob, 15/4, 2472–2495, (2005).
54. The multi-dimensional super-replication problem under gamma constraints, (with P. Cheridito and N. Touzi), Annales de l'Institute Henri Poincare22 (5): 633–666 (2005).

2004:
53. Stochastic Control for a Class of Random Evolution Models, (with M.-O. Hongler and L. Streit), Applied Mathematics and Optimization, 49: 113–121 (2004).

2003:
52. A stochastic representation for mean curvature type flows, (with N. Touzi), Annals of Probability, 31/3, 1145–1165, (2003).

2002:
51. Limiting behavior of the Ginzburg-Landau energy, (with R.L. Jerrard), J. Functional Analysis, 192, 524–561, (2002).
50. A stochastic representation for level set equations, (with N. Touzi), Communications in PDEs, 27(9&10), 2031–2053, (2002).
49. Dynamic programming for stochastic target problems and geometric flows, (with N. Touzi), Journal of European Mathematical Society, 4/3, 201–236, (2002).
48. The Jacobian and the Ginzburg-Landau energy, (with R.L. Jerrard), Calculus of Variations, 14, 151–191, (2002).
47. Stochastic target problems and dynamic programming, (with N. Touzi), SIAM Journal on Control and Optimization, 41, 404–424, (2002).
46. Function of higher bounded variations, (with R.L. Jerrard), Indiana University Mathematics Journal, 51/3, 645–677, (2002).

Before 2000:
45. Super-replication under Gamma constraints, (with N. Touzi), SIAM Journal on Control and Optimization, 39(1), 73–96.
44. Rectifiability of the distributional Jacobian for a class of functions, (with R.L. Jerrard), C.R. Acad. Sci. Paris, t. 329, Serie I, 983–688.
43. Scaling limits and regularity for a class of Ginzburg-Landau systems, (with R.L. Jerrard), Annales L'Institute Henry Poincare, 16/4, 423–466.
42. Backward SDEs with constraints on the gains process, (with J. Cvitanic and I. Karatzas), Annals of Probability, 26, 1522–1551.
41. Dynamics of Ginzburg-Landau vortices, (with R.L. Jerrard), Arc. Rat. Mech. An., 142, 185–206.
40. Regularity and convergence of crystalline motion, (with K. Ishii), SIAM Math. Analysis, 30, 19–37.
39. Optimal replication of contingent claims under portfolio constraints, (with M. Broadie and J. Cvitanic), Review of Financial Studies, 11, 59–79.
38. Option pricing with transaction costs and a nonlinear Black-Scholes equation, (with G. Barles), Finance and Stochastics, 2, 369–397.
37. A measure theoretic approach to higher co-dimension mean curvature flow, (with L.

Ambrosio), dedicated to Ennion de Giorgi, Ann. Scuola Normale, 25, 27–49.
36. Ginzburg-Landau equation and motion by mean curvature, I: convergence, Journal of Geometric Analysis, 7, 437–475.
35. Ginzburg-Landau equation and motion by mean curvature, II: development of the interface, Journal of Geometric Analysis, 7, 476–491.
34. Hedging in incomplete markets with HARA utility (with D. Duffie, W. Fleming, and T. Zariphopoulou), J. Economic Dynamics and Control, 21, 753–782.
33. Level set approach to mean curvature flow in arbitrary codimension, (with L. Ambrosio), Journal of Differential Geometry, 43, 693–737.
32. Three-phase boundary motions under constant velocities. I: The vanishing surface tension limit, (with F. Reitich), Proc. Royal Soc. Edinburgh, 126A, 837–865.
31. Heavy traffic convergence of a controlled, multi-class, queuing system, (with L.F. Martins and S.E. Shreve), SIAM J. Cont. Opt., 34/6, 2133–2171.
30. Convergence of the phase field equations to the Mullins-Sekerka problem with a kinetic undercooling, Arc. Rat. Mech. An., 131, 139–197.
29. There is no nontrivial hedging portfolio for option pricing with transaction costs, (with S.E. Shreve and J. Cvitanic), Annals of Applied Prob., 5/2, 327–355.
28. Anisotropic planar motion of an interface relaxed by the formation of infinitesimal wrinkles, (with M. Gurtin and P.E. Souganidis), J. Diff. Equations, 119/1, 54–108.
27. Optimal investment and consumption with transaction costs, (with S.E. Shreve), Annals of Applied Probability, 14/3, 609–693.
26. Motion of a set by the curvature of its boundary, J. Diff.Eq, 101, 313–372.
25. On the propagation of singularities of semi-convex functions, (with L. Ambrosio and P. Cannarsa), An. Scuola Normali Pisa, Serie IV, Vol. XX, 597–616.
24. A dynamic programming approach to nonlinear boundary control problems of parabolic type, (with P. Cannarsa and F. Gozzi), J. Functional Analysis, 117/1, 25–61.
23. Front propagation and phase field theory, (with G. Barles and P.E. Souganidis), SIAM J. Cont. Opt., 2/31, special issue dedicated to W. Fleming, 439–469.
22. Singular perturbations in manufacturing, SIAM J. Cont. Opt., 31, 132–146.
21. Uniqueness and singularities of rotationally symmetric surfaces moving by mean curvature, (with P.E. Souganidis), Comm. in PDE, 18, 859–894.
20. Phase transitions and generalized motion by mean curvature, (with L.C. Evans and P.E. Souganidis), Comm. in Pure and Applied Math., 65, 1097–1123.
19. Turnpike Sets and Their Analysis in Stochastic Production Planning Problems, (with S.P. Sethi, Q. Zhang, and J. Jiang), Mathematics of Operations Research, 17, 4, 932–950.
18. Some remarks on the Stefan problem with surface structure, (with M.E. Gurtin), Quarterly of Applied Math., 50, 291–303.
17. Optimal investment and consumption with two bonds and transaction costs, (with S.E. Shreve and G.-L. Xin), Mathematical Finance, 1/3, 53–84.
16. A boundary value problem for Hamilton-Jacobi equations in Hilbert spaces, (with P. Cannarsa and F. Gozzi), Applied Mathematics and Optimization, 24, 197–220.
15. A free boundary problem related to singular stochastic control: parabolic case, (with S.E. Shreve), Comm. PDE, 16, 373–424.
14. An asymptotic analysis of hierarchical control of manufacturing systems, (with J. Lehoczky, S. Sethi, and M. Taksar), Math. O.R., 16/3, 596–608.
13. A viscosity solution approach to the asymptotic analysis of queueing systems, (with P. Dupuis and H. Ishii), Annals of Probability, 18/1, 226–255.
12. Asymptotic expansions for Markov processes with Levy generators, (with W. Fleming), Applied Mathematics Optimization, 19, 203–223.
11. Generalized one-sided estimates for solutions of Hamilton-Jacobi equations and

applications, (with P. Cannarsa), Nonlinear Analysis, Theory, Methods, 13/3, 305–323.
10. Regularity of the value function of a two-dimensional singular stochastic control problem, (with S.E. Shreve), SIAM J. Cont. Opt., 27/4, 876–907.
9. Mixing Markov chains and their images, (with M. Barnsley and M. Berger), Probability in Eng. and Inf. Sci., 387–414.
8. Random walks generated by affine mappings, (with M. Berger), J. Theoretical Probability, 1/3, 239–254.
7. On the Hamilton-Jacobi equations in Banach spaces, J.O.T.A., 57/3, 429–437.
6. A remark on the large deviations of an ergodic Markov process, (with W. Fleming and S.-J. Sheu), Stochastics, 22, 187–199.
5. An optimal stochastic production planning problem with randomly fluctuating demand, (with W. Fleming and S. Sethi), SIAM J. Cont. Opt., 25, 1494–1502.
4. On the singularities of the viscosity solutions to Hamilton-Jacobi equations, (with P. Cannarsa), Indiana University Mathematics Journal, 36/3, 501–524.
3. Optimal Control with state-space constraint II, SIAM J. Cont. Opt., 24/3, 1110–1122.
2. Optimal Control with state-space constraint I, SIAM J. Cont. Opt., 24/3, 552–562.
1. Optimal control of a one-dimensional storage process, Appl. Math. Opt., 13, 175–191.