CURRICULUM VITAE

MAURIZIO FALCONE

Born in Roma, November 21, 1954.
Degree: Laurea in Matematica at Dipartimento di Matematica,
            University of Roma "La Sapienza",
            obtained on March 3, 1978
Evaluation: 110/110 cum laude
Languages: Good knowledge (oral and written) of English and French,
            basic knowledge of Russian
Programming Languages: C, FORTRAN, PASCAL..
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Grants and Academic Career

since 11/01	Full Professor of Numerical Analysis at Dipartimento di Matematica, University of Roma "La Sapienza"
2/88-11/01	Associate Professor of Mathematical Analysis at Dipartimento di Matematica, University of Roma "La Sapienza"
10/87-2/88	Professeur associé at University of Paris IX-Dauphine
4/85-6/85	Professeur associé at University of Paris XI-Orsay
2/83-7/83	Chargé de cours at University of Paris IX-Dauphine
7/81-2/88	Researcher at Dipartimento di Matematica, University of Roma "La Sapienza"
2/81-3/81	S.I.S.S.A. Grant, Trieste
10/79-7/81	C.N.R. Grant at Istituto Matematico "G. Castelnuovo"
2/77-2/78	Undergraduate C.N.R. Grant

Managing Activities

since 10/02	Head of the Master in "Scientific Computing", University of Roma "La Sapienza"
1/02-9/03	Head of the Undergraduate Studies in Mathematics, University of Roma "La Sapienza"
11/98-11/99 and 1/02- 9/03	Member of the Managing Board, Dipartimento di Matematica
since 2/93	Rappresentative of University of Roma "La Sapienza" in the Scientific Board of the CASPUR Consortium (Consorzio per le Applicazioni del Supercalcolo per Università e Ricerca)
2/88-2/91	President of the Board for Computing Facilities, Dipartimento di Matematica
84-87	Member of C.U.N. Board for the Area "Mathematics"
85-86	Member of the Managing Board of Dipartimento di Matematica

Member of the Scientific Associations: UMI, AMS, SIAM, SIMAI

TEACHING ACTIVITIES

Corso di Laurea in Mathematics
87-88   Istituzioni di Analisi Superiore
90-92, 95-97, 00-01
01-02, 02-03   Matematica Applicata
93-94   Analisi Matematica I
94-95, 99-00   Analisi Matematica II
98-99   Matematica Computazionale
94-95, 95-96, 96-97   Analisi Numerica (Roma Tre)
05-06, 07-08   Analisi Numerica (Roma "La Sapienza")
97-98, 98-99, 99-00   Laboratorio di Programmazione e Calcolo (Roma Tre)
00-01, 01-02, 02-03
06-07   Laboratorio di Programmazione e Calcolo (Roma "La Sapienza")

Corsi di Laurea in Physics and Computer Science
88-89, 90-91, 97-98   Analisi Matematica I
89-90, 91-92, 98-99   Analisi Matematica II

Master in "Mathematical Methods for the Analysis and Control of Systems"
85-86, 86-87, 87-88   Lectures on "Integrazione Numerica e Simulazione"
88-89, 89-90, 90-91, 91-92 Metodi numerici per il controllo deterministico

Ph.D. Program in Mathematics, University of Roma "La Sapienza"
95-96   Analisi ed approssimazione di problemi di controllo ottimo per processi di diffusione
02-03, 04-05,
06-07, 07-08   Metodi Numerici per le Equazioni alle Derivate Parziali

Ph.D. Program in "Mathematical Methods and Modelling for Science, Technology and Society"
University of . Roma "La Sapienza"
95-96   Analisi ed approssimazione di problemi di controllo ottimo per processi di diffusione
00-01   Metodi Numerici per le Equazioni alle Derivate Parziali
01-02   Metodi Numerici per le equazioni di Hamilton-Jacobi

Master "Scientific Computing", University of Roma "La Sapienza"
02-03   Metodi Numerici per le Equazioni alle Derivate Parziali
02-03   Metodi Numerici per il Controllo Ottimo

Teaching (outside Italy)
85-86 Analisi Matematica II at University of Paris Sud-Orsay

87-88 Lectures in "Contrôle Deterministe" for the Troisième Cycle "Mathèmatiques et
      automatique" at University of Paris IX -Dauphine.

September 2000, Ph.D. course TIFR-Bangalore (India)
"An introduction to the analysis and approximation of Hamilton-Jacobi equations with applications"

March 2004, Ph.D. Course, IRIT-Tolosa (Francia)
 "Quelques methodes pour le traitement d'images par les EDP nonlineaires"

June 2004, Summer School "Differential Games and Applications", GERAD, Montreal
"Numerical methods for differential games based on PDEs"

February 2007, MATHEON Course, Berlin
"An introduction to viscosity solutions"

November 2007, ENSTA, Paris
Minicourse "Fast Marching Methods for Front Propagation"
Winter School "Introduction to Numerical Methods for Moving Boundaries"

June 2008, Ph.D. Course, Santiago de Compostela
"An introduction to viscosity solutions: theory, numerics and applications"

September 2008, INRIA, Rocquencourt
Course CEA-EDF-INRIA "Numerical methods for Hamilton-Jacobi equations and
hyperbolic conservation laws"

Advisor of Master and Ph.D. Thesis
F. Camilli (Indam, Dottorato di Ricerca Roma "La Sapienza"), L. Corrias (Indam), R. Ferretti (Dottorato di Ricerca Roma "La Sapienza"), T. Giorgi (IAC-CNR, Purdue University of), P. Lanucara (Borsista IBM-CASPUR), A. Briani (Dottorato in Matematica, Pisa), A. Marta (Indam), C. Signani (CNR, CASPUR), M. Sagona (Dottorato in Matematica Applicata e Informatica, Univ. di Napoli), M. Rorro (CASPUR), E. Carlini (Dottorato.in Modelli e Metodi Matematici per la Scienza, La Tecnologia e la Società) e E. Cristiani (Dottorato.in Modelli e Metodi Matematici per la Scienza, La Tecnologia e la Società), M. Rorro (Dottorato.in Modelli e Metodi Matematici per la Scienza, La Tecnologia e la Società), R. Mecca (Dottorato.in Matematica, on going)..

SCIENTIFIC ACTIVITIES

My research activities is focussed on the following topics:

1. Numerical methods for PDEs. Approximation schemes for conservation laws, Hamilton-Jacobi equations and hyperbolic equations. Applications to front propagation, control theory and image processing.

2. Control Theory and applications.Optimal control and Hamilton-Jacobi equations: characterization of the value function, optimal controls in feedback form. differential games (pursuit-evasion).

3. Differential Inclusions. Existence for weak solutions to systems of ODEs with discontinuous right-hand side. Applications.

My research activity has been hosted by the following institutions:

- CEREMADE, Université Paris IX-Dauphine
- IMA, Institute for Mathematics and its Applications, University of Minnesota
- Department of Mathematics, Wayne State University
- Division of Applied Mathematics, Brown University
- Department of Mathematics, University of of California - Los Angeles (UCLA)
- NADA, Koenig Techniske Hogshule, Stockolm
- PIMS, Pacific Institute for Mathematical Sciences, Vancouver
- TIFR, Tata Institute of Fundamental Research, Bangalore
- ENSTA, Ecole Nationale Superieure de Techniques Avancèes, Paris
- Paris 7, Paris
- IRIT, Université "Paul Sabatier", Tolosa
- INRIA, Rocquencourt e Sophia-Antipolis
- WIAS, Berlin

CONGRESS AND SEMINARS

I have been invited to give seminars at the following institutions:

S.I.S.S.A., Trieste, February 1981
Istituto Matematico, University of Genova, March 1982
Institut de Mathématiques et Informatiques, Université de Bordeaux, February 1983
Institut Henry Poincaré, Parigi, March 1983
CEREMADE, Université Paris IX Dauphine, April 1983, June 1984, January 1988
I.N.R.I.A., Sophia-Antipolis, Nizza, April 1983
Laboratorio di Didattica delle Scienze, University of Roma "La Sapienza", July 1984
School of Mathematics, University of Leeds, May 1985
I.A.C., Roma, February 1987, March, May 1988
Dipartimento di Matematica, University of Padova, September 1988, March 1995,
      March 2004
SFB256, Nichtlineare Partielle Differentialgleichungen, University of Bonn, March 1990
Dipartimento di Matematica, University of L'Aquila, March 1991
Department of Mathematics, Wayne State University, Detroit, July 1991, February 1993
Division of Applied Mathematics, Brown University, Providence, August 1991
Dipartimento di Metodi e Modelli Matematici per le Scienze Applicate, University of Roma
      "La Sapienza", May 1992
Institut for Mathematics and its Applications, University of Minnesota, November 1992
Mathematisches Institut, Technische Universität München, February 1993
Program System Institute, Accademia Russa delle Scienze, Pereslavl-Zalessky, June 1993
Institute of Numerical Mathematics, Accademia Russa delle Scienze, Mosca, June 1993
Irkutsk Computing Center, Accademia Russa delle Scienze, Irkutsk, June 1993

Dipartimento di Matematica, University of Roma "Tor Vergata", June 1993
Dipartimento di Matematica, MIEM, Mosca, June 1995
Dipartimento di Matematica, Moscow Aviation Institute, Mosca, June 1995
Dipartimento di Matematica, University of Augsburg, January 1996
Department of Mathematics, University of California - Los Angeles (UCLA), October 1997
NADA, Koenig Techniske Hogshule, Stoccolma, October 1998
Departement de Mathèmatiques, Université "Paul Sabatier", Tolosa, May 1999,
        January 2000,
    IRIT, Tolosa, March 2004
TIFR, Tata Institute of Fundamental Research, Bangalore, September 2000
RIMS, Kyoto, September 2002
MIP, Tolosa, March 2004

Invited talks at conferences and mini-symposiums

Contrôle stochastique et equations aux derivées partielles nonlineares, Parigi, November 1987
ICME-6, Sixth International Congress on Mathematical Education, Budapest, July 1988
III Elba Conference on Nonlinear Variational Problems and Partial Differential Equations,
        October 1990
Surface Tension and Movement by Mean Curvature, Trento, July 1992
Optimal Control of Partial Differential Equations, Oberwolfach, January 1993
Partial Differential Equations in Geometry and Physics: Theory and Numerical Methods,
        Freiburg, February 1993
Nonsmooth Analysis and Geometric Methods in Deterministic Optimal Control,
        Minneapolis, February 1993
Metodi Numerici per Problemi a Convezione Dominante, IAC-CNR, Roma, September 1993
Motion by Mean Curvature and related Topics, Levico, June 1994
CIME "Viscosity solutions and applications", Montecatini, June 1995
ICIAM 95 Minisymposium, Advances in Dynamic Programming, Amburgo, July 1995
ICIAM 95 Minisymposium, Functional differential equations and their applications,
        Amburgo, July 1995
IFIP Conference "Modelling and optimization of distributed parameter systems with
        application to engineering", Varsavia, July 1995
Generalized Stefan problems: models, analysis and numerical methods, Pavia, August 1995
Numerical methods for free boundary problems, Freiburg, September 1995
Optimal Control, Oberwolfach, January 1996
International Conference on Control and Estimation of Distributed Parameter Systems,
        Vorau (Austria), July 1996
Conference on Recent Advances in Numerical Methods for Partial Differential Equations,
        Trieste, September 1996
Workshop on Stochastic Control and Nonlinear Filtering, North Carolina State University of,
        Raleigh, October 1996
Fourth SIAM Conference on Control and its Applications, Jacksonville, Florida,
        May 1998
Workshop on "New Trends in Mathematical Control Theory and PDEs",
        Levico Terme, June 1998

MTNS98 - Mathematical Theory of Network and Systems, Minisimposio "Numerical methods for the stabilization of nonlinear systems", (Org. W. Kliemann e F. Colonius), Padova, July 1998

MTNS98 - Mathematical Theory of Network and Systems, Minisimposio "Viscosity solutions methods", (Org. M. Bardi), Padova, July 1998

Workshop "Phase field models and surface effects", Cortona, September, 1998

"Evolutions Equations and applications", Cortona, May 1999

"CANUM 99- 31eme Congres d'Analyse Numerique 1999", Ax-Bonascre, Francia, May 1999

5th Workshop on "Computational Methods for Oceanic, Atmospheric and Groundwater Flows", Trento, September 1999

"Numerical Methods for Kinetic and Hyperbolic Equations", Ferrara, December, 1999

Workshop "Phase Transitions and Interfaces in Evolution Equations: analysis, control and approximations", S. Margherita Ligure, February 2000

Minisimposio Italia-Cina, all'interno di SIMAI 2000, Ischia, June 2000

ORASIS, Cahors, June 2000

"Phase Transition", Vancouver (Canada), July 2001

"Viscosity solutions and Applications", Vancouver (Canada), July 2001

ENUMATH 2001, Ischia Porto, July 2001

"Numerical Algorithms", Marrakesch, September 2001

SIMAI 2002, Cagliari, Italy, July 2002

"Viscosity solutions and Applications", Cortona, July 2002

"Algoritmy 2002", Tatra Mountains (Rep. Slovacca), September 2002

RIMS Conference on "Viscosity solutions and Applications", Kyoto, September 2002

Workshop "Front propagation and viscosity solutions", IHP, Parigi, December 2002

INTERPHASE 2003, Newton Institute, Cambridge, May 2003

Convegno UMI 2003, Milano, Session "Scientific Computing", September 2003

Workshop "Equations de Hamilton-Jacobi-Bellaman et controle", ENSTA, Paris, September 2003

SIMAI 2004, Venezia, September 2004.

Pontryagin Centennial Conference, Moscow, June 2008

IFAC 2008, Misymposium "Control problems for dynamical systems under conflicts and uncertainty", Seul, July 2008

Nonlinear PDEs, Rome, September 2008

50 Years of Optimal Control, Bendlewo, September 2008

Organization of Conferences and Schools

I took part in the Scientific Committee of the following conferences:

IFAC Conference "Singular solutions and perturbations of control systems"
(Peresslavl-Zalessky, July 95 e July 97)

8th International Symposium on Dynamic Games and Applications (Mastricht, July 1998).

Numerical Methods for Viscosity Solutions and Applications, Crete, July 1999

Numerical Methods for Viscosity Solutions and Applications, Rome, September 2004

INTERPHASE 2004, Rome, September 2004

I took part in the Organizing Committee of the following conferences:

Recent Mathematical Methods in Dynamic Programming (Roma, 1984)
Educational Computing in Mathematics (Roma, 1987)
Giornate sulle equazioni di Hamilton-Jacobi (Castiglion della Pescaia, May 1991)
Recent Advances in Numerical Methods for Partial Differential Equations (Roma,
    January 1993)
Viscosity Solution and Application, (Bressanone, July 2000)
Analysis and Control of Deterministic and Stochastic Evolution Equation,
    (Bressanone, July 2000)
Viscosity, metric and control theoretic methods in nonlinear PDEs: analysis,
approximations, applications, (Rome, September 2008)
http://www.mat.uniroma1.it/ricerca/convegni/2008/RomaSet08/

I have organized the following schools:

COMET Course "Constructive Methods in Optimal Control and Applications" (with P. Saint-Pierre), Rome, September 1993.
"Numerical Methods for Optimal Control Problems and Industrial Applications" (with A. Quarteroni), Pisa, Scuola Normale Superiore, January 1996
"Numerical Methods for Nonlinear Problems in Optimization and Control" (with A. Pasquali), Cortona, June 2001.

ACTIVITY AS A REFEREE

I have written referee reports for the following journals:

Applied Mathematics and Optimization
Automatica
Bollettino UMI
Control & Cybernetics
Mathematical Reviews
Mathematics of Computation
IEEE Transactions on Automatic Control
JMAA Journal of Mathematical Analysis and Applications
IMA Journal on Numerical Analysis
Journal of Computational Physics
Numerische Mathematik
Set-Valued Analysis
SIAM Journal on Numerical Analysis
SIAM Journal on Control and Optimization
SIAM Journal on Scientific Computing
Zentralblatt für Mathematik

and the following research agencies:

CNR, Italy
NSF, USA
ISF, Israel
NSF, Netherland
MIUR, Italy

PUBLICATIONS

Articles on international journals and volumes (with referees)

1. M. Falcone, A. Siconolfi
   Maximum descent monotone solutions of an ODE with discontinuous right-hand side,
   Journal of Optimization Theory and Applications, 39 (3), 1983, 391-402

2. M. Falcone, M. Matzeu
   Optimal stopping for a Cauchy problem without uniqueness,
   Control and Cybernetics, 12 (3-4), 1983, 85-97

3. M. Falcone, G. Israel
   Qualitative and numerical analysis of a class of prey-predators models,
   Acta Applicandae Mathematicae, 4, 1985, 225-258

4. M. Falcone
   Approximate viscosity solutions of the Hamilton-Jacobi equation,
   Methods of Operations Research, 49, 1985, 507-521

5a. M. Falcone
   A numerical approach to the infinite horizon problem of deterministic
   control theory,
   Applied Mathematics and Optimization, 15, 1987, 1-13

5b. M. Falcone
   Corrigenda: A numerical approach to the infinite horizon problem of deterministic
   control theory,
   Applied Mathematics and Optimization, 23, 1991, 213-214

6. M. Falcone, P. Saint-Pierre
   Slow and quasi-slow solutions of differential inclusions,
   Non-linear Analysis TMA, 11, 3, 1987, 367-377

7. I. Capuzzo Dolcetta, M. Falcone
   Discrete dynamic programming and viscosity solutions,
   Annales de l'Institut Henry Poincaré- Analyse non-lineaire, 6 (supplement),
   1989, 161-184

8. M. Bardi, M. Falcone
   An approximation scheme for the minimum time function,
   SIAM Journal of Control and Optimization, 28 , 4, 1990, 950-965

9. M. Falcone, T. Giorgi e P. Loreti
   Level sets of viscosity solutions and applications
   SIAM J. Appl. Math., 54 (1994), 1335-1354

10.	M. Bardi, M. Falcone
Discrete approximation of the minimal time function for systems with regular optimal trajectories,
in A. Bensoussan, J.L. Lions (eds.), Analysis and Optimization of Systems, Lecture Notes in Control and Information Sciences, n. 144, Springer-Verlag, 1990, 103-112

11.	L. Corrias, M. Falcone e R. Natalini
Numerical schemes for Conservation Laws via Hamilton-Jacobi equations
Mathematics of Computation, 64 (1995), 555-580

12.	M. Bardi, M. Falcone e P. Soravia
Fully discrete schemes for the value function of pursuit-evasion games,
Advances in Dynamic Games and Applications, T. Basar and A. Haurie eds. , Birkhäuser, (1994), 89-105.

13.	F. Camilli e M. Falcone
An approximation scheme for the optimal control of diffusion processes,
Mathematical Modelling and Numerical Analysis , 29, 1, 1995, 97-122

14.	M. Falcone
The minimum time problem and its applications to front propagation
in A. Visintin e G. Buttazzo (eds) , "Motion by mean curvature and related topics", De Gruyter Verlag, Berlino, 1994

15.	M. Falcone, R. Ferretti
Discrete time high-order schemes for viscosity solutions of Hamilton-Jacobi-Bellman equations
Numerische Mathematik, 67 (1994), 315-344

16.	M. Falcone, P. Lanucara e A. Seghini
A splitting algorithm for Hamilton-Jacobi-Bellman equations
Applied Numerical Mathematics, 15 (1994), 207-218

17.	F. Camilli, M. Falcone
Approximation of optimal control problems with state constraints: estimates and applications,
B.S. Mordukhovic, H.J. Sussman eds., "Nonsmooth analysis and geometric methods in deterministic optimal control", IMA Volumes in Applied Mathematics 78, Springer Verlag, 1996, 23-57

18.	F. Camilli, M. Falcone, P. Lanucara e A. Seghini, A domain decomposition method for Bellman equations, in D.E. Keyes and J.Xu (eds), Domain Decomposition methods in Scientific and Engineering Computing, Contemporary Mathematics n.180, AMS, 1994, 477-483

19. M. Falcone, R. Ferretti
Convergence analysis for a class of high-order semi-lagrangian advection schemes
SIAM J. Numerical Analysis 35 (1998), no. 3, 909--940

20. M. Bardi, S. Bottacin, M. Falcone
Convergence of discrete schemes for discontinuous value functions of pursuit-evasion
games, in G.J. Olsder (ed.), ''New Trends in Dynamic Games and Applications'',
Birkhäuser, (1995), 273-304.

21. M. Falcone and T. Giorgi
An approximation scheme for evolutive Hamilton-Jacobi equations,
in W.M. McEneaney, G. Yin and Q. Zhang (eds.),
"Stochastic Analysis, Control, Optimization and Applications: A Volume in Honor of
W.H. Fleming", Birkhäuser, 1999, 289-303.

22. M. Falcone, R. Rosace
Discrete- time approximation of optimal control problems for delayed equations,
Control & Cybernetics, 25 (1996), 665-675

23. F. Camilli, M. Falcone
Approximation of control problems involving ordinary and impulsive controls
Control, Optimisation and Calculus of Variation, 4 (1999), 159-176.

24. F. Camilli, M. Falcone
Analysis and approximation of the infinite horizon problem with impulsive controls
Automatika i Telemekanika, 7, 1997, 169-184.

25. A. Briani, M. Falcone
A priori estimates for the approximation of a parabolic boundary control problem, in
W. Desch, F. Kappel, K. Kunisch, eds., "Control and Estimation of
Distributed Parameter Systems", International Series of Numerical Mathematics,
vol.126, Birkhäuser Verlag, Berlin, 1998, 49-65.

26. M. Falcone
Numerical solution of dynamic programming equations,
Appendice del libro M. Bardi, I. Capuzzo Dolcetta, "Optimal control and viscosity
solutions of Hamilton-Jacobi-Bellman equations", Birkhäuser, Boston, 1997, 471-504.

27. M. Bardi, M. Falcone, P. Soravia
Numerical methods for pursuit-evasion games via viscosity solutions, Dipartimento di
Matematica, in M. Bardi, T. Parthasarathy e T.E.S. Raghavan (eds.) "Stochastic and
differential games: theory and numerical methods", Annals of the I.S.D.G., 4,
Bikhäuser, 1999, 289-303.

28.   M. Falcone
        Some remarks on the synthesis of feedback controls via numerical methods, in
        J.L. Menaldi, E. Rofman, A. Sulem (eds), "Optimal Control and Partial Differential
        Equations", IOS Press, 2001, 456-465.

29.   M. Falcone, R. Ferretti, T. Manfroni
        Optimal discretization steps in semi-Lagrangian approximation of first order PDEs,
        M. Falcone, Ch. Makridakis (eds), "Numerical Methods for Viscosity Solutions and
        Applications", World Scientific, Singapore, 2001.

30.   M. Falcone, P. Lanucara, M. Marinucci
        Parallel Algorithms for the Isaacs equation, in E. Altman and O. Pourtallier (eds),
        "Advances in Dynamic Games and Applications", Annals   of the ISDG, vol. 6, 2001,
        Birkhauser, 203-223

31.   M. Falcone, O. Lopez-Pouso,
        Analysis and comparison of two approximation schemes for the radiative transfer system,
        Math. Mod. Meth. Appl. Sc. 13 (2003), n. 2, 159-186.

32.   M. Falcone, R. Ferretti
        Semi-Lagrangian schemes for Hamilton-Jacobi equations, discrete representation
        formulae and Godunov methods, Journal of Computational Physics, 175,
        (2002), 559-575.

33.   M. Falcone, P. Stefani
        Advances on Parallel Algorithms for the Isaacs equation, preprint,
        Advances in dynamic games, 515–544, Ann. Internat. Soc. Dynam. Games, 7,
        Birkhauser Boston, 2005.

34.   M. Falcone, M. Sagona and A. Seghini,
        A global alghorithm for the Shape--from--Shading problem with black shadows,
        in F. Brezzi, A. Buffa, S. Corsaro, A. Murli (eds), "Numerical Mathematics and Advanced
        Applications- ENUMATH 2001", Springer-Verlag, 2003, 503-512.

35.   M. Falcone, R. Ferretti
        Consistency of a large time--step scheme for mean curvature motion,
         in F. Brezzi, A. Buffa, S. Corsaro, A. Murli (eds), "Numerical Mathematics and Advanced
        Applications- ENUMATH 2001", Springer-Verlag, 2003, 495-502.

36.   E. Carlini, M. Falcone e R. Ferretti,
        An efficient algorithm for Hamilton-Jacobi equations in high dimensions,
        Computing and Visualization in Science, 7 (2004), 15-29.

37.   J.D. Durou, M. Falcone e M. Sagona
        Numerical Methods for Shape from Shading: a new survey with benchmarks
        Computer Vision and Image Understanding, Elsevier, vol. 109, n. 1 (2008), p. 22-43.

38. M. Falcone
   Numerical Methods for Differential Games via PDEs
   International Game Theory Review, vol. 8, 2 (2006), 231-272.

39. M. Falcone, S. Finzi Vita
   A finite difference approximation of a two-layers system for growing sandpile
   SIAM J. Scientific Computing, Vol. 28, No. 3 (2006), 1120–1132.

40. E. Carlini, M. Falcone e R. Ferretti
   A semi-Lagrangian scheme for the curve shortening flow in codimension 2
   Journal of Computational Physic, vol. 225, n. 3 (2007), 1388-1408

41. E. Cristiani, M. Falcone
   Fast semi-Lagrangian schemes for the eikonal equation and applications
   SIAM J. Num. Anal., vol. 45, n. 5 (2007), 1979-2011.

42. E. Cristiani, M. Falcone
   A fully-discrete scheme for the value function of differential games with state constraints,
   preprint, Ottobre 2006, to appear on Annals of Dynamic Games

43. E. Carlini, M. Falcone, N. Forcadel, R. Monneau
   Convergence of a generalized fast marching method for a non-convex eikonal equation,
   preprint, 2006 to appear on SIAM J. Num. Anal.

44. E. Cristiani, M. Falcone,
   A characteristics driven Fast Marching method for the eikonal equation,
   in K. Kunisch, G. Of, O. Steinbach (eds.),
   Numerical Mathematics and Advanced Applications (Proceedings of ENUMATH
   2007, Graz, Austria, September 10-14, 2007), 695-702, Springer Berlin Heidelberg, 2008.

45. M. Falcone, S. Finzi Vita,
   A semi-Lagrangian scheme for the open table problem in granular matter theory,
   in K. Kunisch, G. Of, O. Steinbach (eds.),
   Numerical Mathematics and Advanced Applications (Proceedings of ENUMATH
   2007, Graz, Austria, September 10-14, 2007), Springer Berlin Heidelberg, 2008.

46. M. Falcone, M. Rorro,
   On a variational approximation of the effective Hamiltonian,
   in K. Kunisch, G. Of, O. Steinbach (eds.),
   Numerical Mathematics and Advanced Applications (Proceedings of ENUMATH
   2007, Graz, Austria, September 10-14, 2007), Springer Berlin Heidelberg, 2008.

Articles in Proceedings

1. M. Falcone, I. Capuzzo Dolcetta
   Optimal stopping of a multivalued dynamical system and applications

to a portfolio model,
in P. Caravani e K. Cichocki (eds.), Systhem theory and mathematical economics,
Pitagora ed., 1985

2.   M. Falcone
      Numerical solution of deterministic continuous control problems,
      Proceedings of the International Symposium on Numerical Analysis,
      Madrid, 1985

3.   M. Falcone
      An N-step algorithm for a class of linear systems of equations,
      Atti del Convegno Nazionale di Analisi Numerica, Roma,
      September 1988, 201-208

4.   L. Corrias, M. Falcone e R. Natalini
      On a class of large time-step schemes for conservation laws
      in A. Donato e F. Olivieri (eds.), "Nonlinear Hyperbolic Problems: Theoretical, Applied
      and Computational Aspects", Notes on Numerical fluid dynamics, 43 (1993), Vieweg,
      159-170

5.   M. Falcone, R. Ferretti
      High-order approximations for viscosity solutions of Hamilton-Jacobi-Bellman
      equations
      in A. Marino e M.K.V. Murthy (eds.), "Nonlinear Variational Problems and
      Partial Differential Equations, vol. III", Pitman Research Series in Mathematics,
      Longman, 1995

6.   M. Falcone, R. Rosace
      Approximation of optimal control problems for delayed equations,
      ICIAM/GAMM 95 Special Issue of Zeitschrift für Angewandte Mathematik
      und Mechanik (ZAMM), vol. 2, O. Mahrenholtz and R. Mennicken (eds.),
      Applied Analysis, 197-201.

7.   M. Falcone, P. Lanucara
      Parallel algorithms for Hamilton-Jacobi equations
      ICIAM/GAMM 95 Special Issue of Zeitschrift für Angewandte Mathematik
      und Mechanik (ZAMM), vol. 3, O. Mahrenholtz, K. Marti and R. Mennicken (eds.),
      Applied Stochastics and Optimization, 355-359.

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