

## **CV - FRANCO TOMARELLI**

Born in Milano, Italy, 31/5/1955 . Italian citizen.

### **Affiliation:**

Full Professor in Mathematical Analysis  
(SSD ANALISI MATEMATICA, MAT/05, since 01/12/2000,  
01/A3 ANALISI MATEMATICA, PROBABILITÀ E  
STATISTICA MATEMATICA since 01/10/2011)  
University: Politecnico di Milano, Dipartimento di Matematica, Milano, Italy.

### **Previous academic positions in other Universities:**

Laurea in Matematica - Università di PISA,  
Diploma di Licenza in Matematica - Scuola Normale Superiore di PISA,  
since 01/08/1980 Ricercatore Universitario at Scuola Normale Superiore di PISA,  
since 15/10/1982 Ricercatore Universitario at Università degli Studi di PAVIA,  
since 17/02/1988 Professore II Fascia at Università degli Studi di PAVIA.  
since 01/11/1990 Professore I Fascia at Politecnico di MILANO

### **National Research Projects Scientific Grants, achieved on the basis of peer-reviewed competitions:**

PRIN 2000: Calculus of Variations (Politecnico Milano Unit, 24 months),  
PRIN 2002: Calculus of Variations (Politecnico Milano Unit, 24 months),  
PRIN 2004: Calculus of Variations (Politecnico Milano Unit, 24 months),  
PRIN 2006: Variational Problems with Multiple Scales (Politecnico Milano Unit,  
24 months),  
PRIN 2008: Variational Problems with Multiple Scales (Politecnico Milano Unit,  
36 months),  
Progetto C.N.R. : Struttura dei tassi di interesse (2000). (Politecnico Milano Unit,  
36 months).

### **Principal Investigator of Other Research Grants:**

- Research Group “Analisi di Problemi Variazionali e Differenziali, Teoria degli Operatori” (Politecnico di Milano, 1997-2019).
- Milano Local Unit Meccanica dei Continui con Vincoli Impliciti (1991-92) within the Research Contract of Consiglio Nazionale delle Ricerche: Problemi Variazionali Irregolari (91.01344.01, 92.00833.01).
- 1997-98 Research “Analisi teorica e numerica di problemi inversi e problemi con discontinuità libera”, within the Interdipartimental Project “Identificazione di modelli di comportamento per materiali e strutture e diagnosi di danni e difetti” (Ricerca di Ateneo - Area Materiali, Politecnico di Milano)

### **Technological Transfer and Participation to Patent Achievements:**

Photovoltaic Concentrators Modelization (variational methods for optimizing concentration devices): research and consulting agreement (2008-2009) between Society INTEGRARE (INTEGRAREnewables) and Politecnico di Milano (Director).  
HUSPI Project (1983-86) Study of muscle contraction dynamics: Joint research including the Istituto di Analisi Numerica (CNR, Pavia) and S.Matteo Hospital (Participant).

### Participation in Editorial Boards of Scientific Journals

Managing Editor of the “Milan Journal of Mathematics” (Springer) since 2015,  
<http://www.springer.com/birkhauser/mathematics/journal/32>

WoS Impact Factor 2017: 0.781, 5 year IF 0.954

Member of Managing Board: Milan Journal of Mathematics since 2002.

Editorial Board: Rendiconti del Seminario Matematico e Fisico di Milano, from 2000 to 2002.

### Academy Membership:

*Istituto Lombardo Accademia di Scienze e Lettere*: Socio Corrispondente since 2006.

### Scientific Awards:

Awarded of Prize “Bruno Finzi” (1997) assigned by the *Istituto Lombardo Accademia di Scienze e Lettere* for “relevant results related to Rational Mechanics and related Theoretical Topics”.

**Co-Editor** Volumes 25, 51 and 68 of Series Progress in Nonlinear Differential Equations and Their Applications, (Birkhauser).

### Institutional Charges:

Head of *Seminario Matematico e Fisico di Milano*, since 2009 until 2015.

Deputy Head of *Seminario Matematico e Fisico di Milano*, since 2000 until 2002.

Founding Member of the Board of *Riemann International School of Mathematics* (RISM), Villa Toeplitz, Varese) since its foundation on 2014.

Deputy Dean of Facoltà di Ingegneria dei Sistemi del Politecnico di Milano since 2001 until 2006.

Chair of Didactic Committee of Dipartimento di Matematica at Politecnico di Milano (1992-99).

Chair of Scientific Committee of Dipartimento di Matematica at Politecnico di Milano (2000-2005 and 2009-2012). Member of Scientific Committee of Dipartimento di Matematica at Politecnico di Milano (2017-2019).

### Visiting Professor at:

School of Mathematics, Minneapolis,

Purdue University, West-Lafayette,

Heriot-Watt University, Edinburgh,

Centro de Matematica e Aplicacoes Fundamentais, Lisboa,

Carnegie Mellon University, Pittsburgh,

Institute for Advanced Studies, Princeton,

University of Durban-Westville,

University of Cape Town,

Technische Universitat, Berlin,

Institut Henri Poincaré, Paris,

Mathematisches Forschungsinstitut Oberwolfach,

Academia Sinica, Taipei, Taiwan,

Centro di Ricerca Matematica Ennio De Giorgi, Pisa,

Université de Toulon et du Var, Francia.

Euler Institute, St Petersburg, Russia.

King Abdullah University of Science and Technology, Jeddah, Saudi Arabia.

Dept. Applied Mathematics and Theoretical Physics, University of Cambridge.

### Institutional Teaching

Practical classes: Calculus, Geometry (Università degli Studi di Pavia). Undergraduate Courses: Matematica I, II e III, Analisi Matematica C e D, Elementi di Analisi Matematica e Geometria, Equazioni Differenziali (Politecnico di Milano). Graduated and PhD Courses: Metodi Matematici per l'Ingegneria, Discrete Dynamical Models, Calculus of Variations, Mathematical Analysis Tools for Engineering, Advanced Mathematical Analysis (Politecnico di Milano).

### Teaching at foreign Universities:

School of Mathematics, Minneapolis 09/1985-03/1986,  
University of Cape Town 11/1993-11/1993,  
Technische Universität Berlin 05/1995-05/1995.

### Books:

- F.Tomarelli, *Metodi Matematici per l'Ingegneria*, Milano, 1<sup>a</sup> ed. CLUED 1985, ISBN 88-7059-106-9, 2<sup>a</sup> ed. CittàStudi 1993, ISBN 88-7259-028-0.
- E.Salinelli., F.Tomarelli, *Modelli Dinamici Discreti*, Springer Unitext, Milano, 1<sup>a</sup> ed. (2002), ISBN 88-470-0187-0, 2<sup>a</sup> ed. (2008), ISBN 978-88-470-1075-8, 3<sup>a</sup> ed. (2014) ISBN 978-88-470-5503-2, eBook ISBN 978-88-470-5504-9
- E.Salinelli., F.Tomarelli, *Discrete Dynamical Models*, (Engl.transl.), Springer Unitext, Milano, First ed.(2014) ISBN 978-3-319-02290-1, eBook ISBN 978-3-319-02291-8.
- F.Gazzola, F.Tomarelli, M.Zanotti, *Analisi Complessa, Trasformate, Equazioni Differenziali*, Esculapio, Milano 1a ed. (2011) ISBN 978-88-7488-471-1, 2a ed. (2013) ISBN 978-88-7488-641-8, 3a ed. (2015) ISBN 978-88-7488-888-7.
- F.Gazzola, F.Tomarelli, M.Zanotti, *Analytic Functions, Integral Transforms, Differential Equations*, Esculapio, Milano, First Engl.Ed. (2013) ISBN 978-88-7488-660-9, Second Engl.Ed. (2015) ISBN 978-88-7488-889-4 (eBook ISBN 978-88-7488-561-9).

### RESEARCH FIELDS:

- variational principles for image segmentation and image inpainting;
- Euler equations and regularity properties for extremals of free-discontinuity problems;
- existence and properties of optimal segmentation in the variational formulation of Blake & Zisserman model;
- variational models of damage and crack;
- equilibria and safe load conditions for elastic-plastic beams and plates;
- problems in calculus of variations with free gradient discontinuity;
- adhesion and reinforcement of thin elastic structures;
- dimension reduction in continuum mechanics;
- special bounded hessian functions;

- fractional Sobolev spaces
- quasi-variational problems (contact problems with implicit constraints, deformable obstacles);
- noncoercive variational inequalities for pseudomonotone operators;
- topological recession functionals and compatibility conditions for nonlinear Neumann problems;
- noncoercive minimum problems in calculus of variations associated to unilateral problems in elasticity;
- nonlinear and nonlocal functional equations of hyperbolic type related to physiological models;
- existence, regularity and numerical approximation for solutions of abstract parabolic differential equations;
- variational inequalities and hodograph method for problems in fluid dynamics.

#### INVITED LECTURES (i) and COMMUNICATIONS (c)

- Congress “Free Boundary Problems” , Pavia , '79 , (i)
- Scuola Normale Superiore , Pisa , '83 , (i)
- Congress “Mathematics in Biology and Medicine” , Bari , '83 , (c)
- XII Convegno UMI , Perugia , '83 , (c)
- Congress “Optimization and Related Fields” , Erice , '84 , (c)
- Dipartimento di Matematica , Pavia , '84 , (c)
- Scuola Normale Superiore , Pisa , '85 , (i)
- Dipartimento di Matematica , Pavia , '85 , (c)
- School of Mathematics , Minneapolis , USA , '85 , (i)
- Northwestern University , Evanston , Illinois , USA , '86 , (i)
- University of Chicago , USA , '86 , (i)
- Purdue University , West Lafayette , Indiana , USA , '86 , (i)
- Congress “Modelli differenziali e analisi numerica” , IAN , CNR , Pavia , '86,(c)
- “Symposium year on continuum mechanics” , Heriot Watt University, Edinburgh , UK , '86 , (i)
- Dipartimento di Matematica , Pavia , '87 , (c)
- Congress “Unilateral Problems in Mechanics” , Roma , '87 , (i)
- Congress “Free Boundary Problems” , Irsee , RFT , '87 , (i)
- VII Joint France-Italy-U.R.S.S. Symposium on Computational Math. ,Accademia delle Scienze Sovietica, Moscow , '87 ,(i)
- Dipartimento di Matematica , Pisa , '87 , (i)
- XIII Convegno UMI , Torino , '87 , (c)
- “Variational Problems in Analysis” , International Centre for Theoretical Physics , Trieste , '88 , (i)
- Institut Für Angewandte Mathematik , Heidelberg , RFT , '88 , (i)
- “Mathematical Methods and Models in Nonlinear Elasticity” , IAC CNR, Roma , '88 , (i)
- Dipartimento di Matematica , Pisa , '88 , (i)
- Dipartimento di Meccanica , Udine , '88 , (i)

- “Ottimizzazione Strutturale e Teoria dei Controlli” , Centre International des Sciences Mecaniques , Udine , '88 , (i).
- Dipartimento di Matematica e Applicazioni “Renato Caccioppoli”, Napoli, '89 , (i).
- Dipartimento di Matematica dell’Università della Calabria, Arcavacata di Rende, Cosenza, '89 , (i).
- Dipartimento di Matematica , Università, Ferrara , '89 , (i).
- “Nichtkonvexe Probleme der Kontinuumsmechanik”, Institut für Angewandte Mathematik der Universität , Bonn , RFT , '89 , (i).
- Dipartimento di Matematica del Politecnico, Torino , '89 , (i).
- “Workshop on Computational Mathematics and Applications”, Istituto di Analisi Numerica del C.N.R., Pavia, '89, (i).
- “Calculus of Variations, Elasticity and Crystals”, C.I.R.M., Trento, '89, (c).
- Centro de Matematica e Aplicações Fundamentais, Lisbona, '90 (i).
- Dipartimento di Matematica del Politecnico di Milano, '90, (i).
- Dipartimento di Matematica dell’Università di Lecce, '91, (i).
- “New Developments in PDE and Application to Mathematical Physics”, Ferrara, '91, (c).
- Center for Nonlinear Analysis, Carnegie Mellon University, Pittsburgh PA, USA, '91 (i).
- Institute for Advanced Study, Princeton NJ, USA, '91 (i).
- Seminario Fisico Matematico, Università di Milano, '92 (i).
- Dipartimento di Matematica, Politecnico di Milano, '92 (c).
- “Relaxation methods in irregular variational problems: applications to phase transitions, homogeization and image segmentation” , S.I.S.S.A., Trieste, '92 (i).
- “Calculus of Variations and Nonlinear Elasticity”, Cortona, '93 (i).
- “Methodes d’approximations en calcul des variations”, Luminy, Francia, '93, (i).
- 36<sup>th</sup> S.A.M.S. Congress, Pietermaritzburg (Natal), South Africa, '93 (i).
- University of Durban Westville, Durban, South Africa, '93, (i).
- University of Cape Town, South Africa, '93 (i).
- Dipartimento di Ingegneria Strutturale, Politecnico, Milano, '94,(i).
- Mathematical Problems in the Science of Materials, Dip. Matematica, Università di Pisa, '94, (i).
- Congress “Problemi non standard in calcolo delle variazioni”, Dipartimento di Matematica Ulisse Dini, Università di Firenze, '94, (i).
- “International Workshop on Advanced Mathematical Methods in Electric and Electronic Measurements”, Centro A. Volta, Villa Olmo, Como, '94, (i).
- Dipartimento di Matematica dell’Università di Lecce, '94, (i).
- Dipartimento di Matematica dell’Università di Bari, '94, (i).
- Dipartimento di Matematica dell’Università di Genova, '95, (i).
- Technische Universitat, Berlin, 95, (i).
- 1995 S.I.A.M Annual Meeting, Charlotte, North Carolina, U.S.A., '95, (i).
- Dipartimento di Matematica dell’Università di Lecce, '96, (i).
- Dipartimento di Matematica, Università di Roma Tor Vergata, '96,(i).

- Convegno annuale ex 40% MURST Analisi non lineare e Calcolo delle Variazioni., Bologna, '97, (i).
- Conferenza Mathesis, Università degli Studi di Milano, 97, (i).
- “Mumford-Shah conjecture and related topics”, Cortona, '97, (i)
- “Variational Problems and Applications”, Napoli, '97, (i)
- “Second Italo-Taiwanese seminar on partial differential equations and calculus of variations”, Parma, '98, (i)
- “Mathematical Questions in Signal and Image Processing”, Institut Henri Poincaré, Paris, '98, (i)
- Dip. di Matematica “E.De Giorgi” Università di Lecce, '99, (i)
- Seminario di Calcolo delle Variazioni, Dip.Matematica “F.Brioschi” Politecnico di Milano, 2001, (c)
- Giornate di lavoro su CdV e GMT, Levico, 2001, (i)
- Dipartimento di Matematica, Università di Genova, 2001, (i)
- The Mathematical, Computational and Biological Study of Vision, Mathematisches Forschungsinstitut Oberwolfach, 4-10 nov. 2001, (i)
- Nonlinear Analysis and Calculus of variations (Satellite Conf. of IMU 2002 Beijng Congress), Taipei, Taiwan, 2002, (i)
- Dip.Matematica “U.Dini” Università di Firenze, 2002, (i)
- Dip.Matematica “F.Casorati” Università di Pavia, 2002, (i)
- ”Metodi Matematici per l’Elaborazione di Immagini”, Lecce 24 gennaio 2003, (i)
- ”Workshop on Shape Optimization”, C.I.R.M. Luminy 2003, (i)
- Université de Toulon et du Var, 18/07/2003, (i)
- Prima Giornata di Studio MI-PV ”Equazioni Differenziali e Calcolo delle Variazioni”, Pavia 29/05/2003, (i)
- Université de Toulon et du Var, 27/11/2003, (i)
- “Calculus of Variations”, Mathematisches Forschungsinstitut Oberwolfach, 13-19/07/2004, (i)
- “Calcolo delle Variazioni e Teoria Geometrica della Misura”, Centro di Ricerca Matematica “Ennio De Giorgi”, Lizzanello (Lecce), 30/9-2/10 2004, (i)
- Université de Toulon et du Var, 18/11/2004, (i)
- “Mathematical Modelling in Continuum Mechanics and Structures”, Alghero, 10-14 maggio 2005, (i)
- ”Variational Methods in Material Science”, Centro di Ricerca Matematica Ennio De Giorgi, Pisa, 13 ottobre 2006, (i)
- Università di Lecce, 17/11/2006, (i)
- Università di Parma, 24/01/2007, (i)
- Università di Firenze, 31/01/2007, (i)
- “Variational Analysis and Aerospace Engineering (On the occasion of 85th birthday of Angelo Miele)”, Erice, 8-16 settembre 2007, (i)
- Sesta Giornata di Studio MI-PV ”Equazioni Differenziali e Calcolo delle Variazioni”, Milano 18/10/2007, (i)
- Meeting on Tomography and Applications to Image Reconstruction, Politecnico di Milano, 26-27/03/2009 (i)
- 51st Workshop “Variational Analysis and Applications” Centro di Cultura Scientifica Ettore Majorana , 11/05/2009 (i)

- Dipartimento di Matematica, Politecnico di Bari, 12/06/2009 (i)
- Intl Workshop “Optimization and Stochastic Methods for Spatially Distributed Information”, Project O.T.A.R.I.E., Euler Institut, St Petersburg, 11-15 maggio 2010 (i)
- Dipartimento di Matematica, Università Roma La Sapienza, 10/05/2011 (i)
- IX Giornata di Studio Politecnico di Milano - Università di Pavia “Equazioni Differenziali e Calcolo delle Variazioni”, Pavia 23/05/2013 (i)
- King Abdullah University of Science and Technology, Jeddah, Saudi Arabia, 26/11/2013 (i)
- Calculus of Variations and Optimization (on the occasion of 60th birthday of Giuseppe Buttazzo), Pisa, 21-2 maggio 2014 (i)
- Department of Applied Mathematics and Theoretical Physics, University of Cambridge, UK 16-22/06/2014 (i)
- “2015 SIAM Conference On Analysis Of Partial Differential Equations: Minisymposium Partial Differential Equations in Image Analysis and Processing”, Phoenix (Arizona) 6-10/11/2015 (i).
- 8th International Conference “Inverse Problems: Modeling and Simulation”: Minisymposium Interactions of Inverse Problems and Signal Processing, May 23-28, Fethiye, Turkey 2016 (i).
- “The First Joint Meeting Brazil - Italy in Mathematics”: Minisymposium Variational Methods and PDE in Imaging, Rio de Janeiro, August 29 - September 2 2016 (i).
- “Fourth Workshop on Thin Structures”, Napoli, 8-10/09/2016 (i).
- “Colloquium del Dipartimento di Matematica dell’Università di Parma”, Parma, 27/09/2016 (i).
- “Seminario di Analisi” del Dipartimento di Matematica e Applicazioni Renato Caccioppoli dell’Università Federico II, Napoli, 26/01/2017 (i).
- Workshop “VARIATIONAL ANALYSIS AND APPLICATIONS”, Ettore Majorana Center, Erice, August 28 - September 5, 2018 (i).
- Workshop “Calcolo delle Variazioni ed Equazioni alle Derivate Parziali”, per il 70° compleanno di Michele Carriero ed Eduardo Pascali, Dipartimento di Matematica e Fisica “Ennio De Giorgi” dell’Università del Salento, Lecce, October 12, 2018 (i).
- “Analysis@PoliMi Seminar”, Dipartimento di Matematica, Politecnico di Milano, Milano, June 19, 2019 (c).
- Workshop “Singular Nonlinear Problems in Calculus of Variations and PDEs”, Dipartimento di Matematica e Applicazioni “Renato Caccioppoli”, Università degli Studi di Napoli Federico II, Napoli, June 24-26, 2019 (i).

## SCIENTIFIC PUBLICATIONS

### Selected Publications

- (1) Maddalena F., Percivale D., Tomarelli F., (2019). *The Gap Between Linear Elasticity and the Variational Limit of Finite Elasticity in Pure Traction Problems*. Arch. Rational Mech. Anal. (2019). DOI 10.1007/s00205-019-01408-2
- (2) Maddalena F., Percivale D., Tomarelli F., (2019). *A new variational approach to linearization of traction problems in elasticity* (dedicated to Alexander Ioffe, on the occ. of 80th Birthday). J. Optim. Theory Appl., **182**, 1, Pages: 383–403, DOI 10.1007/s10957-019-01533-8
- (3) Maddalena F., Percivale D., Tomarelli F., (2018). *Variational Problems for Föppl-von Kármán plates*. SIAM Journal on Mathematical Analysis, **50**, 1, Pages: 251–282, DOI 10.1137/17M1115502.
- (4) Carriero M., Leaci, A., Tomarelli F., (2018). *Segmentation and inpainting of color images*. J. CONVEX ANALYSIS 25, 2, Pages: 435–458, ISSN: 0944-6532.
- (5) Percivale D. , Tomarelli F. (2017). *Smooth and broken minimizers of some free discontinuity problems*. In: P.COLLI; A.FAVINI, E.ROCCA, G.SCHIMPERNA, J.SPREKELS. Solvability, Regularity, Optimal Control of Boundary Value Problems for PDEs. Springer INdAM Series, BASEL - BOSTON - BERLIN:Birkhauser, (Contributo in volume)
- (6) Bergounioux M., Nardi G., Leaci, A., Tomarelli F., (2017). *Fractional Sobolev spaces and functions of bounded variation of one variable*. FCAA FRACTIONAL CALCULUS APPL. ANALYSIS, Volume: 20, Issue: 4 (Aug 2017), Pages: 936–962. ISSN: 1311-0454, DOI: 10.1515/fca-2017-0049.
- (7) F. Maddalena, D. Percivale, F. Tomarelli (2016). *Local and non-local energies in adhesive interaction*. IMA J. APPL. MATH. 81, 6 1051–1075 (2016).
- (8) Carriero M., Leaci, A., Tomarelli F., (2015). *A Survey on the Blake-Zisserman Functional*. MILAN JOURNAL OF MATHEMATICS, Volume: 83 Issue: 2 Pages: 397–420, ISSN: 1424-9286, DOI: 10.1007/s00032-015-0246-x
- (9) Carriero M., Leaci, A., Tomarelli F., (2014). *Image inpainting via variational approximation of a Dirichlet problem with free discontinuity*. ADVANCES IN CALCULUS OF VARIATIONS, Volume: 7 Issue: 3 Pages: 267–295, ISSN: 1864-8258, DOI: 10.1515/acv-2012-0020.
- (10) Boccellari T., Tomarelli F., (2013). *Generic uniqueness of minimizer for Blake & Zisserman functional*. REVISTA MATEMATICA COMPLUTENSE,



- vol. 26, N.2, p. 361–408, ISSN: 1139-1138, DOI: 10.1007/s13163-012-0103-1.
- (11) M. Carriero, A. Leaci, F. Tomarelli (2012). *Free Gradient Discontinuity and Image inpainting*. JOURNAL OF MATHEMATICAL SCIENCES, vol. 181, p. 805-819, ISSN: 1072-3374, DOI: 10.1007/s10958-012-0716-4.
- (12) F. Maddalena, D. Percivale, F. Tomarelli (2012). *Elastic structures in adhesion interaction*. In: Giuseppe Buttazzo ; Aldo Frediani. Variational Analysis and Aerospace Engineering. p. 289–304, SPRINGER, ISBN: 9781461424345.
- (13) F. Maddalena, D. Percivale, F. Tomarelli (2012). *Adhesive flexible material structures*. DISCRETE AND CONTINUOUS DYNAMICAL SYSTEMS. SERIES B., vol. 7, p. 553-574, ISSN: 1531-3492, DOI: 10.3934/dcdsb.2012.17.553.
- (14) M. Carriero, A. Leaci, F. Tomarelli (2011). *A candidate local minimizer of Blake and Zisserman functional*. JOURNAL DE MATHEMATIQUES PURES ET APPLIQUEES, vol. 96, p. 58–87, ISSN: 0021-7824.
- (15) M. Carriero, A. Leaci, F. Tomarelli (2011). *Uniform density estimates for Blake & Zisserman functional*. DISCRETE AND CONTINUOUS DYNAMICAL SYSTEMS, vol. 31, p. 1129-1150, ISSN: 1078-0947, DOI: 10.3934/dcds.2011.31.1129.
- (16) M. Carriero, A. Leaci, F. Tomarelli (2011). *About Poincaré inequalities for functions lacking summability*. NOTE DI MATEMATICA, vol. 31, p. 67-85, ISSN: 1590-0932, DOI: 10.1285/i15900932v31n1p1.
- (17) M. Carriero, A. Leaci, F. Tomarelli (2010). *A Dirichlet problem with free gradient discontinuity*. ADVANCES IN MATHEMATICAL SCIENCES AND APPLICATIONS. vol. 20, p. 107–141, ISSN: 1343-4373.
- (18) D. Percivale D, F. Tomarelli (2009). *A variational principle for plastic hinges*. MATHEMATICAL MODELS AND METHODS IN APPLIED SCIENCES, vol. 19, p. 2263-2297, ISSN: 0218-2025, DOI: 10.1142/S021820250900411X.
- (19) Percivale D, Tomarelli F (2009). *Plastic hinges in a beam*. In: Giuseppe Buttazzo, Aldo Frediani. Variational Analysis and Aerospace Engineering. p. 343–348, ISBN: 9780387958569.
- (20) Carriero M, Leaci A, F. Tomarelli (2008). *Euler equations for Blake & Zisserman functional*. CALCULUS OF VARIATIONS AND PARTIAL DIFFERENTIAL EQUATIONS, vol. 32, p. 81–110, ISSN: 0944-2669, DOI: 10.1007/s00526-007-0129-2.

- (21) D. Percivale, Tomarelli F (2006). *Smooth and Creased Equilibria for Elastic-Plastic Plates and Beams*. In: G.Dal Maso et al.. *Variational Problems in Material Science*. vol. 68, p. 127–136, ISBN: 3-7643-7564-7.
- (22) G. Dal Maso, A. De Simone, F. Tomarelli (2006). *Variational Problems in Material Science*. vol. 68, p. 1–160, ISBN: 3-7643-7564-7.
- (23) D. Percivale, F. Tomarelli (2005). From Special Bounded Deformation to Special Bounded Hessian: the elastic-plastic beam. *MATHEMATICAL MODELS AND METHODS IN APPLIED SCIENCES*, vol. 15, p. 1009-1058, ISSN: 0218–2025, DOI: 10.1142/S0218202505000650.
- (24) M. Carriero, A. Leaci, F. Tomarelli (2004). *Second Order Variational Problems with Free Discontinuity and Free Gradient Discontinuity*. In: Pallara D.. *Topics from the Mathematical Heritage of Ennio De Giorgi*. vol. 14, p. 135–186, Roma:Quaderni di Matematica, 14, Series edited by Dip.M, ISBN: 88-7999-414-X.
- (25) M. Carriero, A. Leaci, F. Tomarelli (2003). *Calculus of Variations and Image Segmentation*. *THE JOURNAL OF PHYSIOLOGY*, vol. 97, p. 343–353, ISSN: 0022-3751.
- (26) Carriero M., Leaci A., F. Tomarelli (2002). Necessary conditions for extremals of Blake & Zisserman functional. *COMPTES RENDUS MATHÉMATIQUES DE L'ACADÉMIE DES SCIENCES*, vol. Ser. I, 334, p. 343-348, ISSN: 0706–1994.
- (27) D. Percivale, F. Tomarelli (2002). *From SBD to SBH : the elastic-plastic plate*. *INTERFACES AND FREE BOUNDARIES*, vol. 4, p. 137–165, ISSN: 1463-9971.
- (28) Carriero M., Leaci A., F. Tomarelli (2002). *Local Minimizers for a Free Gradient Discontinuity Problem in Image Segmentation*. In: DAL MASO; TOMARELLI F.. *Variational Methods in discontinuous Structures*. vol. PNLDE n.51, p. 67–80, BASEL - BOSTON - BERLIN:Birkhauser, ISBN: 3764369132.
- (29) G. Dal Maso, F. Tomarelli (2002). *Variational Methods for Discontinuous Structures*. vol. Vol. 51, p. 1–198, BASEL - BOSTON - BERLIN:Birkhuser Verlag, ISBN: 3-7643-6913-2.
- (30) M. Carriero, A. Leaci, F. Tomarelli (2001). *Density estimates and further properties of Blake & Zisserman functional*. In: Eds. P.Gilbert, P.D.Panagiotopoulos, P.M.Pardalos. *From Convexity to Nonconvexity*. vol. 55, p. 381–392.
- (31) D. Percivale, F. Tomarelli (2000). *Scaled Korn-Poincare' inequality in BD and a model of elastic plastic cantilever*. *ASYMPTOTIC ANALYSIS*, vol.

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01/07/2019

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