

CURRICULUM VITÆ
CECILIA CAVATERRA

PLACE AND DATE OF BIRTH: Roma (Italy), 31.5.62.

CITIZENSHIP: Italian.

PRESENT POSITION: Researcher in Mathematical Analysis, Department of Mathematics, Università degli Studi di Milano (since 1990).

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1. EDUCATION

- 1.1. Laurea in Matematica (110/110 e lode), Università degli Studi di Milano, 1986, with the thesis: *Identificazione di coefficienti in equazioni iperboliche non lineari*.
- 1.2. Dottorato in Matematica (PhD in Mathematics), Università degli Studi di Bologna, 1993, with the thesis: *Alcuni problemi inversi nella teoria dei materiali con memoria*.

2. FELLOSHIPS

- 2.1. CNR-fellowship at *Istituto di Analisi Globale e Applicazioni* of Firenze (Italy), November 1987 - November 1988.

3. SCIENTIFIC INTERESTS: Inverse and control problems for evolution equations. Global and exponential attractors for dynamical systems.

4. TALKS

- 4.1. “Un problema inverso per una equazione iperbolica semilineare”, XIII Congresso UMI, 3–9.9.87, Torino (Italy).
- 4.2. “Diffusion of gas from sources in the underground”, Venice 1: Symposium on Applied and Industrial Mathematics, 2–10.10.89, Venezia (Italy).
- 4.3. “Un problema di identificazione per la piastra di Kirchhoff viscoelastica”, XIV Congresso UMI, 19–25.9.91, Catania (Italy).
- 4.4. “Propagazione di onde elettromagnetiche in mezzi dispersivi non omogenei”, Convegno Progetto Nazionale Equazioni Differenziali, 15–16.4.93, Firenze (Italy).
- 4.5. “An inverse problem for a thermoviscoelastic plate model”, Inverse Problems in Engineering Sciences (IPES-94), 27–30.7.94, Osaka (Japan).
- 4.6. “Identifying relaxation kernels in viscoelastic plates and beams”, Symposium on Inverse Problems, 13–14.3.95, Chemnitz (Germany).

- 4.7. “Un problema inverso per un modello lineare di piastra di Kirchhoff viscoelastica”, XV congresso UMI, 11–16.9.95, Padova (Italy).
- 4.8. “An inverse problem for a viscoelastic Timoshenko beam model”, Volterra Centennial Symposium, 23–25.5.96, Arlington (USA).
- 4.9. “Un problema inverso per un modello viscoelastico di trave di Timoshenko”, Giornate di studio sui problemi iperbolici, 10–12.10.96, Torino (Italy).
- 4.10. “An inverse problem for a viscoelastic Timoshenko beam model”, 2nd Symposium on Inverse Problems, Mathematical Methods and Applications, 24–26.9.97, Oybin (Germany).
- 4.11. “Automatic control problems for reaction-diffusion systems”, WCNA-2000, 22–26.7.00, Catania (Italy).
- 4.12. “An automatic control problem materials with memory”, Modelli matematici e problemi analitici per materiali speciali”, 25–29.6.01, Cortona (Italy).
- 4.13. “Global large time behavior of population dynamics with memory”, Inverse and Direct Problems, 20–24.6.05, Cortona (Italy).
- 4.14. “Exponential attractors for population dynamics models with non local delays”, Evolution Equations: Direct and Inverse Problems, 18–20.09.06, Bologna (Italy).
- 4.15. “Exponential attractors for population dynamics model with nonlocal delays”, International Conference on Nonlinear PDEs and their Applications, 1–4.6.07, Shanghai (China).
- 4.16. “On the singularly perturbed Hodgkin-Huxley equations”, International Conference on Interdisciplinary Mathematical and Statistical Techniques - IMST 2008 / FIM XVI, 16–18.5.08, Memphis (USA).
- 4.17. “Robust exponential attractors for singularly perturbed Hodgkin-Huxley equations”, 7th AIMS International Conference on Dynamical Systems and Differential Equations, 18–21.5.08, Arlington (USA).

5. AFFILIATIONS

- 5.1. Member of Unione Matematica Italiana, UMI.
- 5.2. Member of Gruppo Nazionale per l’Analisi Funzionale e le sue Applicazioni, GNAMPA.

6. REFEREE ACTIVITY

- 6.1. Reviewer for *Mathematical Reviews*.
- 6.2. Referee for *Mathematical Methods in the Applied Sciences*.
- 6.3. Referee for *Discrete and Continuous Dynamical Systems*.
- 6.4. Referee for *Computers and Mathematics with Applications*.

7. SCIENTIFIC ORGANIZATION OF MEETINGS AND CONFERENCES

- 7.1. Second Meeting on Inverse and Direct Problems and Applications (Gargnano, 2-6.4.01).
- 7.2. Two minicourses on inverse problems and applications (Milano, 9-13.12.02).

- 7.3. Third Meeting on Inverse and Direct Problems and Applications (Gargnano, 31.3-4.4.03).
- 7.4. Evolution Equations: Inverse and Direct Problems (Cortona , 20-25.6.04).
- 7.5. Direct and Inverse Problems in Evolution Equations (Rimini, 17-19.3.05).
- 7.6. Inverse and Control Problems for PDE's (ICOP) (Roma, 13-16.3.06).
- 7.7. Direct, Inverse and Control Problems for PDE's (DICOP) (Roma, 25-28.6.07).
- 7.8. Direct, Inverse and Control Problems for PDE's (DICOP) (Cortona, 22-26.9.08).

8. PUBLICATIONS

- [1] C. Cavaterra, *An inverse problem for a semilinear wave equation*, Boll. Un. Mat. Ital. B (7) 2 (1988), no. 3, 695–711.
- [2] C. Cavaterra, G. Talenti, F. Tonani, *First approach to diffusion and convection in a geologic setting*, pubblicazioni dell' Istituto di Analisi globale e applicazioni del CNR, n. 51 (1990), pp. 1-33.
- [3] C. Cavaterra, M. Grasselli, *An inverse problem for the linear viscoelastic Kirchhoff plate*, Quart. Appl. Math. 53 (1995), no. 1, 9–33
- [4] C. Cavaterra, M. Grasselli, *Identifying memory kernels in linear thermoviscoelasticity of Boltzmann type*, Math. Models Methods Appl. Sci. 4 (1994), no. 6, 807–842.
- [5] C. Cavaterra, A. Lorenzi, *An identification problem for the Maxwell equations in a non homogeneous dispersive medium*, Differential Integral Equations 8 (1995), no. 5, 1167–1190
- [6] C. Cavaterra, M. Grasselli, *On an inverse problem for a model of linear viscoelastic Kirchhoff plate*, J. Integral Equations Appl. 9 (1997), no. 3, 179–218.
- [7] C. Cavaterra, *An inverse problem for a viscoelastic Timoshenko beam model*, Z. Anal. Anwendungen 17 (1998), no. 1, 67–87.
- [8] C. Cavaterra, F. Colombo, *Automatic control problems for reaction-diffusion systems*, J. Evol. Equ. 2 (2002), no. 2, 241–273.
- [9] C. Cavaterra, *Automatic control problems for integrodifferential parabolic equations*, Mathematical models and methods for smart materials (Cortona, 2001), Ser. Adv. Math. Appl. Sci., 62, World Sci. Publ., River Edge, NJ, 2002, pp. 19-29.
- [10] C. Cavaterra, F. Colombo, *Identifying a heat source in automatic control problems*, Comm. Appl. Nonlinear Anal. 11 (2004), no. 2, 1–23.
- [11] C. Cavaterra, M. Grasselli, *Robust exponential attractors for population dynamics models with infinite time delay*, Discrete Contin. Dyn. Syst. Ser. B, 6 (2006), no. 5, 1051–1076.
- [12] C. Cavaterra, A. Lorenzi, M. Yamamoto, *A stability result via Carleman estimates for an inverse source problem related to a hyperbolic integro-differential equation*, Comput. Appl. Math. 25 (2006), no. 2-3, 229–250.
- [13] C. Cavaterra, M. Grasselli, *Asymptotic Behavior of Population Dynamics Models with Nonlocal Distributed Delays*, Discrete Contin. Dyn. Syst. Ser. A, 22 (2008), no. 4, 861–883.

- [14] C. Cavaterra, M. Grasselli, *Robust exponential attractors for singularly perturbed Hodgkin-Huxley equations*, J. Differential Equations 246 (2009), no. 12, 46704701.
- [15] C. Cavaterra, C. Gal, M. Grasselli, A. Miranville, *Phase-field systems with nonlinear coupling and dynamic boundary conditions*, Nonlinear Anal. 72 (2010), no. 5, 23752399.