

# DOREL FETCU

## CURRICULUM VITAE

### PERSONAL

**Born** 20 May 1976, Bucharest, Romania  
**Citizenship** Romanian  
**Marital status** Married, two children

**Position** Professor  
**Affiliation** Department of Mathematics and Informatics  
Gheorghe Asachi Technical University of Iași

**Address (work)** Carol I Blvd. 11, 700506 Iași, Romania  
**E-mail addresses** dfetcu@math.tuiasi.ro; dorelfetcu@yahoo.com

### EDUCATION

- **Habilitation (Abilitare)** – April 2017 (defended)  
Simion Stoilow Institute of Mathematics  
of the Romanian Academy
- **Ph.D. in Mathematics** – January 2005  
Alexandru Ioan Cuza University of Iași
- **M.Sc. in Mathematics** – July 2000  
Alexandru Ioan Cuza University of Iași
- **B.Sc. in Mathematics** – June 1998  
Alexandru Ioan Cuza University of Iași

### EMPLOYMENT

- **Gheorghe Asachi Technical University of Iași**  
Department of Mathematics and Informatics
  - **Professor** – 13 February 2017 – present
  - **Associate Professor** – 1 October 2012 – 12 February 2017
  - **Lecturer** – 1 March 2007 – 30 September 2012
  - **Assistant Professor** – 1 March 2003 – 28 February 2007
  - **Teaching Assistant** – 1 March 2001 – 28 February 2003

### POSTDOCTORAL & VISITING POSITIONS

- **Federal University of Bahia, Salvador, Brazil**
  - **Researcher (CNPq Fellow)** – 1 July 2013 – 30 April 2015
  - **Visiting Professor** – 1 November 2012 – 30 June 2013
- **Instituto Nacional de Matemática Pura e Aplicada**  
**Rio de Janeiro, Brazil**
  - **Postdoctoral Fellow** – 1 March 2010 – 29 February 2012

## RESEARCH GRANTS

- **Romanian National Authority for Scientific Research  
Grant for Young Research Teams**  
*Constant Mean Curvature and Biharmonic Submanifolds* (PI, €125,000.00)  
1 October 2015 – 30 September 2017
- **Bolsa Atração de Jovens Talentos (BJT–Nível A)**  
**Ciência sem fronteiras, CNPq, Brazil**  
1 July 2013 – 30 April 2015
- **Pós–Doutorado Sênior (PDS), FAPERJ, Brazil**  
1 March 2011 – 29 February 2012
- **Pós–Doutorado Júnior (PDJ), CNPq, Brazil**  
1 March 2010 – 28 February 2011

## TEACHING

- **Courses**
  - **Linear Algebra, Analytic Geometry, and Differential Geometry I & II**
  - **Mathematical Analysis I & II**
  - **Elementary Mathematics**  
*Faculty of Civil Engineering and Building Services* (since 2005)  
Gheorghe Asachi Technical University of Iași, Romania
  - **Biharmonic Submanifolds in Riemannian Manifolds** (minicourse, 6 hours)  
*Postgraduate Summer Program, Institute of Mathematics* (January 2013)  
Federal University of Bahia, Salvador, Brazil
- **Problem classes**
  - **Linear Algebra, Analytic Geometry, and Differential Geometry I & II**
  - **Mathematical Analysis I & II**  
*Faculty of Civil Engineering and Building Services* (since 2002)  
*Faculty of Automatic Control and Computer Science* (1998 – 2003)  
Gheorghe Asachi Technical University of Iași

## RESEARCH

- **Fields of interest**
  - **Differential Geometry and Geometric Analysis**
    - Submanifolds with constant mean curvature
    - Biharmonic submanifolds
    - Harmonic maps and morphisms

• **Research papers**

– **Published papers**

1. **Biharmonic tori in spheres** (with E. Loubeau and C. Oniciuc)  
– Differential Geom. Appl. 54(Part A), 2017, 208–225.
2. **Constant mean curvature surfaces in  $M^2(c) \times \mathbb{R}$  and finite total curvature** (with M. Batista and M. P. Cavalcante)  
– J. Geom. Anal. 27(4), 2017, 3071–3084.
3. **On biconservative surfaces in 3-dimensional space forms** (with S. Nistor and C. Oniciuc)  
– Comm. Anal. Geom. 24(5), 2016, 1027–1045.
4. **Biharmonic surfaces with parallel mean curvature in complex space forms** (with A. L. Pinheiro)  
– Kyoto J. Math. 55(4), 2015, 837–855.
5. **A classification result for helix surfaces with parallel mean curvature in product spaces**  
– Ark. Mat. 53(2), 2015, 249–258.
6. **Surfaces with parallel mean curvature in Sasakian space forms** (with H. Rosenberg)  
– Math. Ann. 362(1-2), 2015, 501–528.
7. **CMC biconservative surfaces in  $S^n \times \mathbb{R}$  and  $\mathbb{H}^n \times \mathbb{R}$**  (with C. Oniciuc and A. L. Pinheiro)  
– J. Math. Anal. Appl. 425(1), 2015, 588–609.
8. **Surfaces with parallel mean curvature in  $CP^n \times \mathbb{R}$  and  $CH^n \times \mathbb{R}$**  (with H. Rosenberg)  
– Trans. Amer. Math. Soc. 366(1), 2014, 75–94.
9. **On complete submanifolds with parallel mean curvature in product spaces** (with H. Rosenberg)  
– Rev. Mat. Iberoam. 29(4), 2013, 1283–1306.
10. **Biharmonic submanifolds with parallel mean curvature in  $S^n \times \mathbb{R}$**  (with C. Oniciuc and H. Rosenberg)  
– J. Geom. Anal. 23(4), 2013, 2158–2176.
11. **Surfaces with parallel mean curvature in  $S^3 \times \mathbb{R}$  and  $\mathbb{H}^3 \times \mathbb{R}$**  (with H. Rosenberg)  
– Michigan Math. J. 61(4), 2012, 715–729.
12. **Surfaces with parallel mean curvature vector in complex space forms**  
– J. Differential Geom. 91(2), 2012, 215–232.
13. **Biharmonic integral  $C$ -parallel submanifolds in 7-dimensional Sasakian space forms** (with C. Oniciuc)  
– Tohoku Math. J. 64(2), 2012, 195–222.
14. **A note on surfaces with parallel mean curvature** (with H. Rosenberg)  
– C. R. Math. Acad. Sci. Paris 349(21–22), 2011, 1195–1197.
15. **A note on integral  $C$ -parallel submanifolds in  $S^7(c)$**  (with C. Oniciuc)  
– Rev. Un. Mat. Argentina 52(1), 2011, 33–45.
16. **Biharmonic submanifolds of  $CP^n$**  (with S. Montaldo, E. Loubeau, and C. Oniciuc)  
– Math. Z. 266(3), 2010, 505–531.
17. **A note on biharmonic curves in Sasakian space forms**  
– Ann. Mat. Pura Appl. 189(4), 2010, 591–603.
18. **Biharmonic hypersurfaces in Sasakian space forms** (with C. Oniciuc)  
– Differential Geom. Appl. 27(6), 2009, 713–722.
19. **Generalized harmonic maps on normal almost contact manifolds**  
– Rocky Mountain J. Math. 39(5), 2009, 1497–1515.

20. **On the geometry of biharmonic submanifolds in Sasakian space forms** (with C. Oniciuc)  
– J. Geom. Symmetry Phys. 14, 2009, 21–34.
21. **Explicit formulas for biharmonic submanifolds in Sasakian space forms** (with C. Oniciuc)  
– Pacific J. Math. 240(1), 2009, 85–107.
22. **Biharmonic Legendre curves in Sasakian space forms**  
– J. Korean Math. Soc. 45(2), 2008, 393–404.
23. **Explicit formulas for biharmonic submanifolds in non-Euclidean 3-spheres** (with C. Oniciuc)  
– Abh. Math. Sem. Univ. Hamburg 77, 2007, 179–190.
24. **Biharmonic curves in Cartan-Vranceanu  $(2n + 1)$ -dimensional spaces**  
– Bul. Acad. Sti. Rep. Moldova. Mat. 53(1), 2007, 59–65.
25. **Harmonic maps between complex Sasakian manifolds**  
– Rend. Sem. Mat. Univ. Polit. Torino 64(3), 2006, 319–329.
26. **A characterization of normal framed  $\varphi$ -manifolds**  
– An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.) 52(1), 2006, 207–216.
27. **Quaternionic maps between a hyper-Kähler manifold and a 3-almost contact manifold**  
– Novi Sad J. Math. 36(1), 2006, 21–34.
28. **Biharmonic curves in the generalized Heisenberg group**  
– Beiträge Algebra Geom. 46(2), 2005, 513–521.
29. **Critical associated metrics on framed  $\varphi$ -manifolds**  
– Libertas Math. 25, 2005, 123–130.
30. **Harmonic and  $\varphi$ -pluriharmonic maps between  $\mathcal{C}$ -manifolds**  
– Italian J. Pure Appl. Math. 18, 2005, 235–250.
31. **Critical associated metrics on nearly  $\mathcal{S}$ -manifolds**  
– Bul. Inst. Politech. Iaşi. Mat. Mec. Teor. Fiz. 51(55)(1–2), 2005, 1–10.
32.  **$\varphi$ -Pseudo harmonic morphisms**  
– An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.) 50(2), 2004, 327–346.
33. **Harmonic maps on framed  $\varphi$ -manifolds**  
– An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.) 50(1), 2004, 199–217.
34. **Maps between almost Kähler manifolds and framed  $\varphi$ -manifolds**  
– Balkan J. Geom. Appl. 9(2), 2004, 13–24.

– **Conference proceedings**

1. **Stability properties for biharmonic maps** (with A. Balmuş and C. Oniciuc)  
– Geometry-Exploratory Workshop on Differential Geometry and its Applications, Cluj Univ. Press, Cluj-Napoca, 2011, 1–19.
2. **Biharmonic submanifolds in Sasakian space forms** (with C. Oniciuc)  
– Proceedings of the Symposium on the Differential Geometry of Submanifolds, 2–7 July 2007, Valenciennes, France, L. Vrancken Ed., 2007, 85–88.
3. **Integral submanifolds in three-Sasakian manifolds whose mean curvature vector fields are eigenvectors of the Laplace operator**  
– Geometry, Integrability and Quantization IX, Proceedings of The Ninth International Conference on Geometry, Integrability and Quantization, 8–13 June 2007, Varna, I. Mladenov Ed., 2008, 210–223.

4. **Some properties of nearly  $S$ -manifolds**  
– Sci. Ann. Univ. Agric. Sci. Vet. Med., Proceedings of the 5th Annual Symposium on Mathematics Applied in Biology and Biophysics, 16–17 June 2006, Iași, 49(2), 2006, 229–242.
  5. **An adapted connection on a strict complex contact manifold**  
– Proceedings of the 5th Conference of Balkan Society of Geometers, 29 August–2 September 2005, Mangalia, Romania, BSG Proceedings 13, 2006, Geometry Balkan Press, Bucharest, 54–61.
  6. **A class of harmonic maps between 3-cosymplectic manifolds**  
– Sci. Ann. Univ. Agric. Sci. Vet. Med., Proceedings of the 4th Annual Symposium on Mathematics Applied in Biology and Biophysics, 27–28 May 2005, Iași, 48(2), 2005, 303–316.
  7. **Critical associated metrics on framed  $\varphi$ -manifolds**  
– Proceedings of the 3rd International Colloquium "Mathematics in Engineering and Numerical Physics", 7–9 October 2004, Bucharest, BSG Proceedings 12, 2005, Geometry Balkan Press, Bucharest, 137–141.
  8. **Some results on the hyper-framed manifolds**  
– Sci. Ann. Univ. Agric. Sci. Vet. Med., Proceedings of the Annual Symposium on Mathematics Applied in Biology and Biophysics, 28–29 May 2004, Iași, 47(2), 2004, 151–163.
  9. **Harmonic maps between framed  $\varphi$ -manifolds**  
– Sci. Ann. Univ. Agric. Sci. Vet. Med., Proceedings of the Annual Symposium on Mathematics Applied in Biology and Biophysics, 30–31 May 2003, Iași, 46(2), 2003, 129–146.
- **Survey paper**
    - **Harmonic and biharmonic maps at Iași** (with A. Balmuş and C. Oniciuc)  
– An. Ştiinţ. Univ. Al. I. Cuza Iași. Mat. (N.S.) 56(1), 2010, 81–96.
  - **Ph.D. Thesis**
    - **Properties of Harmonic Mappings and Morphisms** (in Romanian)  
– Differential Geometry – Dynamical Systems Monographs 5, Geometry Balkan Press, Bucharest, Romania, 2005, 97 pp.  
– [www.mathem.pub.ro/dgds/mono/dgdsmono.htm](http://www.mathem.pub.ro/dgds/mono/dgdsmono.htm)
  - **Habilitation Thesis**
    - **Submanifolds with Parallel Mean Curvature and Biharmonic Submanifolds in Riemannian Manifolds**  
– [www.researchgate.net](http://www.researchgate.net), DOI: 10.13140/RG.2.2.29610.11204.
  - **Textbooks**
    - **Elements of Linear Algebra, Analytic Geometry, and Differential Geometry** (in Romanian)– Demiurg Publishing House, Iași, Romania, 2009, 340 pp. (ISBN 978-973-152-128-2)
    - **Biharmonic Submanifolds in Riemannian Manifolds** (with A. L. Pinheiro) (in Portuguese)– EDUFBA, Salvador, Brazil, to appear. (in Romanian)– Demiurg Publishing House, Iași, Romania, 2016, 90 pp. (ISBN 978-973-152-337-8)

## PARTICIPATION IN EVENTS

- Conference on Harmonic Maps, 15–18 May 2017, Brest (Landeda), France. (talk)
- Differential Geometry and Its Applications, 11–15 July 2016, Brno, Czechia. (talk)
- The Eighteenth International Conference on Geometry, Integrability and Quantization, 3–8 June 2016, Varna, Bulgaria. (talk)
- The 1st Postgraduate Meeting in Mathematics, Federal University of Bahia, 21–23 October 2013, Salvador, Brazil. (talk)
- The Fourteenth International Conference on Geometry, Integrability and Quantization, 8–13 June 2012, Varna, Bulgaria. (talk)
- The 1st Workshop on Differential Geometry, 7–11 February 2011, Macció, Brazil. (poster)
- The 16th School of Differential Geometry, 12–16 July 2010, São Paulo, Brazil. (poster)
- A Harmonic Map Fest in honour of Prof. John C. Wood on the occasion of his 60th birthday, 7–10 September 2009, Cagliari, Italy. (poster)
- The Tenth International Conference on Geometry, Integrability and Quantization, 6–11 June 2008, Varna, Bulgaria. (talk)
- National Conference "Pure and Applied Mathematics", 9–10 November 2007, Iași, Romania. (talk)
- Symposium on the Differential Geometry of Submanifolds, 2–7 July 2007, Valenciennes, France. (poster)
- The Ninth International Conference on Geometry, Integrability and Quantization, 8–13 June 2007, Varna, Bulgaria. (talk)
- International Workshop "Geometry of vector distributions, differential equations and variational problems", 13–15 December 2006, Trieste, Italy. (poster)
- The 14th Conference on Applied and Industrial Mathematics (Satellite Conference of ICM 2006), 17–19 August 2006, Chișinău, Republic of Moldova. (talk)
- The 5th Annual Symposium on Mathematics Applied in Biology and Biophysics, 16–17 June 2006, Iași, Romania. (talk)
- The 5th Conference of Balkan Society of Geometers, 29 August–2 September 2005, Mangalia, Romania. (poster)
- The 4th Annual Symposium on Mathematics Applied in Biology and Biophysics, 27–28 May 2005, Iași, Romania. (talk)
- The 3rd International Colloquium "Mathematics in Engineering and Numerical Physics", 7–9 October 2004, Bucharest, Romania. (poster)
- The Annual Symposium on Mathematics Applied in Biology and Biophysics, 28–29 May 2004, Iași, Romania. (talk)

## SEMINAR PRESENTATIONS

- *Mathematics Seminar*, Institute of Mathematics, Federal University of Bahia, Salvador, Brazil, November 2012, December 2012, April 2015.
- *Geometry Seminar (SING)*, Alexandru Ioan Cuza University of Iași, Romania, March 2012.
- *Sextas Matemáticas Seminar*, Federal University of Rio de Janeiro, Brazil, December 2011.
- *Geometry Seminar*, University of São Paulo, Brazil, June 2011.

- *Minimal and CMC Surfaces Seminar*, IMPA, Rio de Janeiro, Brazil, April 2010, October 2010.
- *Differential Geometry Seminar*, IMPA, Rio de Janeiro, Brazil, March 2010, December 2011.

## OTHER

- **Supervisor** of postdoctoral researcher **Dr. Ana-Irina Nistor**  
(Romanian National Authority for Scientific Research, CNCS-UEFISCDI)  
Gheorghe Asachi Technical University of Iași (May 2013 – October 2015)
- **Reviewer** for the *Mathematical Reviews*, American Mathematical Society
- **Reviewer** for *Archiv der Mathematik*, *Differential Geometry and its Applications*, *Illinois Journal of Mathematics*, *Journal of Geometry*, *Journal of Geometric Mechanics*, *Journal of Mathematical Analysis and Applications*, *Journal of the Korean Mathematical Society*, *Mathematical Reports*, *Mathematische Nachrichten*, *Mediterranean Journal of Mathematics*, *Pacific Journal of Mathematics*, *Transactions of the American Mathematical Society*, *Turkish Journal of Mathematics*, and other mathematical journals

## LANGUAGES

- **Romanian** Native
- **English** Fluent
- **Portuguese** Beginner