

CURRICULUM VITAE

Personal Information

- **Full name:** Violeta Leoreanu-Fotea (also published as Violeta-Elena Fotea)
 - **Date of birth:** February 28, 1970
 - **Place of birth:** Roman, Neamț County, Romania
 - **Nationality:** Romanian
 - **Email:** violeta.fotea@uaic.ro
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Academic Position

- **Full Professor (Professor Universitar)**
Faculty of Mathematics
“Alexandru Ioan Cuza” University of Iași (UAIC), Romania
 - Member of the academic staff since **1994**
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Education

- **PhD in Mathematics (Algebra)**
Babeș-Bolyai University, Cluj-Napoca, Romania (1999)
 - **Doctoral thesis:** *Contributions to the Study of the Heart of a Hypergroup*
 - **Supervisor:** Prof. Dr. Ioan Purdea
- **BSc in Mathematics**
“Alexandru Ioan Cuza” University of Iași (1993)
 - Graduated with **Merit Diploma**

Honors and Distinctions

- **“Grigore Moisil” Prize**, Romanian Academy (2011)
- for outstanding scientific contributions in mathematics
- **Diploma of Excellence**, “Alexandru Ioan Cuza” University of Iași (2024)

Teaching Experience

Courses taught at undergraduate and graduate levels include:

- Linear Algebra
- Abstract Algebra
- Logic and Set Theory
- Galois Theory
- Algebraic Structures
- Category Theory

Research Interests

- Algebraic hyperstructures and hypergroups
- Combinatorics and algebraic structures
- Modules and ring theory
- Fuzzy algebra, soft sets, and rough sets
- Applications of algebra in information sciences and decision theory

Languages

- **English** - fluent
- **French** - fluent
- **Italian** - fluent

Member of the Editorial Board of the following journals:

1. *"Italian Journal of Pure and Applied Mathematics"*- Forum Editrice, Udine, ITALY
2. *"Advances in Fuzzy Mathematics (AFM)"* Research India Publications, Delhi-110085 INDIA
3. *"Set-valued Mathematics and Applications"*, Global Research Publications, Darya Ganj, New Delhi 110002, INDIA
4. *"Fuzzy Sets, Rough Sets and Multivalued Operations"*, International Sciences Press, INDIA
5. *"Journal of Basic Science of University of Mazandaran"*, Mazandaran, IRAN
6. *"European Journal of Pure and Applied Mathematics"*, TURKEY

Referent of the following ISI journals:

- Journal of Intelligent & Fuzzy Systems, ISSN 1064-1246;
- International Journal of General Systems, ISSN: 0308-1079;
- Acta Mathematica Sinica, -English Series, ISSN 1439-8516;
- Soft Computing, ISSN: 1432-7643
- Information Sciences, ISSN: 0020-0255
- Computers and Mathematics with Applications, ISSN: 0898-1221
- Journal of Multiple-valued Logic and Soft Computing, ISSN: 1542-3980;
- Iranian Journal of Fuzzy Systems, ISSN: 1735-0654;
- European Journal of Combinatorics, ISSN: 0195-6698;
- Fuzzy Optimization and Decision Making, ISSN:1568-4539;
- Balkan Journal of Geometry and its Applications, ISSN: 1224-2780;
- Iranian Journal of Science and Technology -Transaction B, ISSN 1028-6284;
- International Journal of Computers Mathematics, ISSN: 0020-7160;
- Mathematical Logic Quaterly, ISSN 0942-5616;

Visiting Professorships and Invited Lectures

I have been invited as visiting or guest professor at numerous universities and international conferences across Europe, North America, and Asia, including institutions in:

- Italy (Udine, Palermo, Pescara, Siena, Messina),
- Spain, Greece, Hungary, Czech Republic, Turkey,
- Canada (Universite de Montreal),
- China (Hong Kong, Kunming, Chongqing),
- Thailand (Bangkok, Chiang Mai),
- Iran.

I have been an invited speaker at multiple editions of the Congress of Algebraic Hyperstructures and Applications (AHA) and related international conferences.

Research Grants and Projects

- CNR (Italy), Research Grants for Foreign Mathematicians
- NATO-CNR Guest Fellowship Programme
- INdAM Visiting Professor Grants (Italy)
- PRIN National Research Project (Italy)
- NSERC Canada Research Grants (Clones and Relations Project)
- Coordinator, Romanian Academy Grant (GAR): Hypergroups and Abelian Groups - Applications

Conference Organization

- Mathematical Methods in Social Sciences -Iasi, 2010
- Workshop in Honor of Prof. Ion Creanga -Iasi, 2011
- 14th AHA Conference: Algebraic Hyperstructures and Their Applications - 2020 (Organizer)
- International Conference on Mathematics Applied in Life Sciences - 2022, 2025 (Co-organizer)

Author of over 120 scientific papers and 12 books.

Selected publications:

Algebra / Combinatorics:

1. V. Leoreanu-Fotea, M. Jafarpour, S. Sh. Mousavi, *The relation δ^n and multisemi-direct hyperproducts of hypergroups*, Communications in Algebra, 40 (10), (2012), 3597-3608;
2. V. Leoreanu-Fotea, I.G. Rosenberg, *Hypergroupoids determined by lattices*, European Journal of Combinatorics, 31 (2010), 925-931 ;
3. M. Jafarpour, S. Sh. Mousavi, V. Leoreanu, F. Jantani, *On 2-strongly transitive geometric spaces*, Journal of Algebra and its Applications, 17(08), (2018), 1850140;

4. B. Davvaz, V. Leoreanu Fotea, *Binary relations on ternary semihypergroups*, Communications in Algebra, 38, (2010), 3621-3636.
5. A. Sonea, V. Leoreanu-Fotea, *A Combinatorial Study for the Distribution of Phenotypes*, Journal of Multiple-Valued Logic & Soft Computing 40, (2023)
6. B. Davvaz, V. Leoreanu-Fotea, T. Vougiouklis, *A Survey on the Theory of n -Hypergroups*, Mathematics 11 (3), (2023), 551;
7. V. Leoreanu-Fotea, P. Corsini, A. Sonea, D. Heidari, *Complete parts and subhypergroups in reversible regular hypergroups*, Analele științifice ale Universității Ovidius Constanța -Matematică, 30 (1), (2022), 219-230;
8. V. Leoreanu-Fotea, I. G. Rosenberg, *Join spaces determined by lattices*, Journal of Multiple Valued Logic Soft Computing, Volume: 16, Issue: 1-2 (2010), 7-16;
9. P. Corsini, V. Leoreanu, *Hypergroups and binary relations*, Algebra Universalis, 43, (2000), 321-330;
10. S. Sh. Mousavi, V. Leoreanu-Fotea, M. Jafarpour, *R -parts in (semi)hypergroups*, Annali di Matematica Pura e Applicata, Volume 190, Number 4, (2011), 667-680.

Fuzzy Algebra / Computational Mathematics:

1. Y. Feng, V. Leoreanu-Fotea, *Algorithm for Determining the Strong Fuzzy Grade of a Hypergroup*, Algorithms 18 (9), 540, (2025);
2. F. Feng, M. Akram, B. Davvaz, V. Leoreanu-Fotea, *Attribute analysis of information systems based on elementary soft implications*, Knowledge-Based Systems 70 (2014), 281-292;
3. FM Khan, V. Leoreanu-Fotea, Ibrahim, Amanullah, *A New Generalization of Fuzzy Soft Bi-ideals in Ordered Semigroups*, Journal of Multiple Valued Logic and Soft Computing, 36 (6), (2021), 505-525;
4. F. Feng, X. Liu, V. Leoreanu-Fotea, Y. Bae Jun, *Soft sets and soft rough sets*, Information Sciences, 181 (6) (2011), 1125-1137 ;
5. Y. Feng, Y. Jiang and V. Leoreanu-Fotea, *On the grade of a sequence of fuzzy sets and join spaces determined by a hypergraph II*, Afrika Matematika, (2013), 24, 83-91;
6. M. Norouzi, A. Mohammadi, V. Leoreanu-Fotea, *Modeling of complete combustion reaction of room temperature gaseous Alkanes via join spaces*, Bulletin of Computational Applied Mathematics 8 (1), (2021), 81-94;
7. F. Feng, Y. Li, V. Leoreanu-Fotea, *Application of level soft sets in decision making based on interval-valued fuzzy soft sets*, Computers and Mathematics with Applications, 60(6), (2010), 1756-1767
8. V. Leoreanu-Fotea, *Fuzzy hypermodules*, Computers and Mathematics with Applications, 57(3), (2009), 466-475;
9. V. Leoreanu-Fotea, B. Davvaz, *Fuzzy hyperrings*, Fuzzy sets and Systems, 160 (16), (2009), 2366-2378 ;

- 10.V. Leoreanu- Fotea, P. Corsini, *Isomorphisms of hypergroups and of n-hypergroups with applications*, Soft Computing, vol. 13, n. 10 (2009), 985-994.

Selected books:

Hyperstructure Theory / Categories

- 11.B Davvaz, V Leoreanu-Fotea, *Krasner Hyperring Theory*, World Scientific, ISBN 978-981-12-8540-0, 2024, 295 pages;
- 12.B. Davvaz, V. Leoreanu-Fotea, *Hypergroup Theory*, World Scientific Book, ISBN 978-9811249389, 2022, 289 pages;
- 13.P. Corsini, V. Leoreanu, *Applications of Hyperstructure Theory*, Springer Science & Business Media, 2013, ISBN 978-1402012228, 336 pages ;
- 14.B. Davvaz, V. Leoreanu- Fotea, *Hyperring Theory and Applications*, Hadronic Press, 2008, ISBN 1-57485-064-4, 336 pages;
- 15.V. Leoreanu, Gh. Radu, *Prolegomena of Categories and Homological Algebra*, Matrix Rom, 2007, ISBN 978-973-755-235-8, 429 pages.

Mathematics Textbooks (Romanian, educational)

- 16.V. Leoreanu-Fotea, *Teoria lui Galois, teorie si exercitii*, Ed. a doua, PIM, 2024, ISBN 978-606-13-8191-3, 182 pages;
- 17.V. Leoreanu-Fotea, *Introducere in Teoria Categoriilor si Algebre universale*, teorie si exercitii, PIM, 2021, ISBN 978-606-13-6422-0, 141 pages;
- 18.V. Leoreanu-Fotea, *Introducere in Teoria Modulelor*, Ed. A doua, PIM, 2025, ISBN 978-606-13-8952-0, 114 pages;
- 19.V. Leoreanu-Fotea, *Elemente de Algebra Liniara*, PIM, 2024, ISBN 978-606-13-8605-5, 108 page

<https://scholar.google.ro/citations?user=WbM43sEAAAAJ&hl=en>