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DEDICATION TO PROFESSOR CONSTANTIN FETECAU ON HIS 80th ANNIVERSARY

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My warm congratulations to Professor Constantin Fetecau, a remarkable researcher in the field of Fluid Mechanics

1 Biographical Sketch



Constantin Fetecau was born on January 4, 1946, in Scorțoasa, Buzău County, Romania.

Skipping over his childhood and adolescence, let us notice that in 1968 he graduated in Mathematics from the *Alexandru Ioan Cuza* University of Iaşi, Romania, being immediately appointed as a researcher at the Mathematics Institute of the Romanian Academy – Iaşi branch (1968–1975).

He continued for a long time at the *Gheorghe Asachi* Technical University of Iași, first as an assistant professor (1975-1979), then as a lecturer (1979-1990), associate professor (1990-1994), and full professor (1994-2011). During the time interval 2011-2016 he worked with an employment contract (as a retired professor) at the same *Gheorghe Asachi* Technical University.

Professor Constantin Fetecau was a talented educator and many generations of students from some departments of the *Gheorghe Asachi* Technical University of Iași benefited from his lessons, textbooks and monographs.

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On November 6, 2014, he was awarded the title of professor emeritus of the *Gheorghe Asachi* Technical University of Iași.

Let us mention that Professor Fetecau was also affiliated with the Government College (GC) University in Lahore, Pakistan (2007-2017), where he was a very active PhD supervisor.

Last but not least, let us mention that he is a full member of the Academy of Romanian Scientists:

https://www.aosr.ro/membrii-sectiei-stiinte-matematice/

2 Scientific Activity

In 1979 he obtained a PhD in Mathematics from the *Alexandru Ioan Cuza* University of Iași, with a dissertation entitled "The study of constitutive equations and motions of particular continuous media", under the supervision of Acad. Prof. Mendel Haimovici and Prof. Gheorghe Gheorghiev.

Professor Constantin Fetecau has always been and continues to be a passionate researcher and a very active PhD supervisor at the GC University in Lahore, Pakistan.

His **main research areas** are:

- Constitutive equations of Newtonian and non-Newtonian fluids;
- Exact and numerical solutions for motions of ordinary or fractional Newtonian and non-Newtonian fluids;
- Heat and mass transfer in chemical engineering;
- Energetic balance for different motions of Newtonian and non-Newtonian fluids;
- General solutions for MHD free convection flows of viscous fluids through porous media;
- Newtonian and non-Newtonian fluids with pressure-dependent viscosity;
- MHD free convection flows of ordinary or fractional Newtonian and Non-Newtonian fluids through porous media;
- Exact solutions for motions of Newtonian and Maxwell fluids with pressure dependent viscosity.

He has obtained (alone or jointly with other researchers) many significant results in the above-mentioned fields (check, for example, at *MathSciNet* or *Google Scholar*).

3 PhD Supervision

Below is the list of students from Pakistan who obtained their PhD under the supervision of Professor Constantin Fetecau, plus the titles of their dissertations:

1. **Amir Mahmood** (2009), Some new results in the theory of non-Newtonian fluids. Exact solutions and energetic balance

2. **Mudassar Nazar** (2009), Analytical solutions for some unsteady flows of second grade and rate type fluids

3. **Waseem Akhtar** (2009), Exact solutions for some unsteady flows of non-Newtonian fluids of rate type

4. **Muhammad Athar** (2010), Advancements in the theory of generalized non-Newtonian fluids

5. **Muhammad Kamran** (2010), New results in the theory of ordinary and generalized non-Newtonian fluids

6. **Muhammad Jamil** (2011), Non-Newtonian fuid flows: Exact analytical solutions and numerical results

7. **Muhammad Imran Chaudhry** (2012), Some new results in the theory of fractional second grade and ordinary Oldroyd-B fluids

8. **Aziz Ullah Awan** (2012), Exact analytical solutions for some motions of bf non-Newtonian fluids in cylindrical domains

9. **Nazish Shahid** (2013), Some new results on transport phenomena of fluids and quantum Fermi liquids

10. **Muhammad Imran Asjad** (2013), Unsteady flows of some rate type fluids

11. **Sohail Ahmad** (2013), Analytic solutions and numerical results for different motions of Netonian and Non-Newtonian fluids

12. **Azhar Ali Zafar** (2014), Exact solutions for different motions of non-Newtonian fluids with/without fractional derivatives

13. **Abdul Rauf** (2014), Some flows of non-Newtonian fluids

14. **Mehwish Rana** (2014), New results regarding the motion of Newtonian and non-Newtonian fluids due to a shear stress on the boundary

15. **Niat Nigar Javed** (2017), Free convection flows of a viscous fluid and various motions of rate type fluids

16. **Shahraz Akhtar** (2017), Natural convection flows of viscous fluids and different motions of couple stress fluids

17. **Nehad Ali Shah** (2019), Heat and mass transfer in hydromagnetic flows of viscous fluids over a flat plate.

I have intentionally presented the above list of dissertations to highlight some of the most important research interests of Professor Constantin Fetecau.

4 Awards and Recognition for Professor Constantin Fetecau

• *Spiru Haret* Prize of the Romanian Academy (2002)

• Best Ph.D. Supervisor of the GC University, Lahore, Pakistan (2010)

• Research Excellence Award and *Gheorghe Asachi* Medal of the *Gheorghe Asachi* Technical University of Iași, Romania (2012)

• Fulbright grant, October 2003 - May 2004 at A&M University of Texas (partner of collaboration: Prof. K.R. Rajagopal)

• DAAD Scholarship (Hamburg and Bayreuth Universities, Germany, December 1, 2004 - February 1, 2005 (partners of collaboration: Prof. G. Böhme and Prof N. Aksel)

- **Ad Astra Registry of Romanian Scientists (2002-2011)**

• 1st place by Impact Factor in the Multidisciplinary Engineering category

• 2nd place by Impact Factor in the Mechanics category

• 2nd place by number of articles in the Applied Mathematics category.

- **World's Top 2% Scientists**, 2021-25 (Stanford University, USA)

- **2nd place** Best Mechanical and Aerospace Engineering Scientists in Romania (2025), https://research.com/scientists-rankings/mechanical-and/aerospace-engineering/ro

- **3rd place** Best Mathematics Scientists in Romania (2025),

https://research.com/scientistsrankings/mathematics/ro

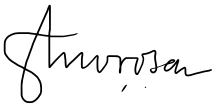
- Guest Editor and Member of Editorial Committees

1) Guest Editor along with Prof. Rahmat Ellahi and Prof. Mohsen Sheikholeslami for the Special Issue "Recent Advances in the Application of Differential Equations in Mechanical Engineering Problems" of the journal *Mathematical Problems in Engineering*

2) Guest Editor along with Dr. Zhan Ma for the Special Issue "Recent Advances of Symmetry in Computational Fluid Dynamics", in the Mathematics section of the journal *Symmetry*

3) Academic Editor or Member of the Editorial Boards of different ISI or non ISI journals, for instance: a) *Mathematical Problems in Engineering*, b) *Communications in Nonlinear Science and Numerical Simulations*, c) *Symmetry*, d) *Open Journal of Mathematical Sciences*, e) *International Journal of Advances and Applied Sciences*, f) *Journal of Computational Analysis*.

May 7, 2026 Prof. Gheorghe Moroșanu



Acknowledgements. Let me express my heartfelt gratitude to all the colleagues who accepted my invitation (issued via a *call for papers*) and contributed—through the articles included in the following pages—to honoring Professor Constantin Fetecau on the occasion of his 80th birthday.

November 2, 2026 Prof. Gheorghe Moroșanu

