



## Brief biographical note

**Professor Gabriel Dimitriu** was born in Iasi, Romania, in 1955. He obtained the Bachelors degree (1979), and Ph.D. (2000) from "Al. I. Cuza" University of Iasi. In 1994, he joined the Faculty of Pharmacy of "Gr. T. Popa" University of Medicine and Pharmacy of Iasi, as a lecturer at the Discipline of Mathematics and Informatics. Since 2005 he has been a professor at this university. In 2008 he became head of Department of Medical Informatics and Biostatistics.

**His professional and scientific activity comprises:** handbooks/textbooks (4) as author or coauthor; papers published in peer-refereed journals and in the proceedings national and international conferences (65); participation in different international or national research projects (10); reviewer for different journals (Computer & Mathematics with Applications, Applied Mathematical Modelling, Journal of Computational and Applied Mathematics).

**Name , salutation:** Professor Gabriel Dimitriu

**Current appointment:**

Department of Medical Informatics and Biostatistics,  
Faculty of Pharmacy,  
"Gr. T. Popa" University of Medicine and Pharmacy, Iasi, Romania



**Educational Background:**

- PhD in Mathematics, Faculty of Mathematics, "Al. I. Cuza" University of Iasi (2000).
- Graduated Faculty of Mathematics, Specialization: Informatics, "Al. I. Cuza" University of Iasi (1979).

**Experience:**

- PhD thesis ("Al. I. Cuza" University of Iasi): Parameter estimations for some classes of nonlinear systems.
- Diploma thesis ("Al. I. Cuza" University of Iasi): Stochastic integral with respect to a Wiener process.
- Training courses: Summer course Structural Optimization under Stability and Vibration Constraints, organized by CISM, Udine, Italy (June 1988); Summer course Linear Prediction: Theory and Applications, organized by CISM, Udine, Italy (July 1990); Predoctoral fellowship, Technical University of Graz, Institute of Mathematics, Graz, Austria (November 1992 - January 1993); Summer course Time-Dependent Behaviour of Geomaterials, organized by CISM, Udine, Italy (October 1993); Visiting scholar at the Department of Mathematical Sciences at State University of New York at Binghamton, USA (December, 1995 - March, 1996); European Science Foundation theme school in the framework of the Funcdyn program "Simulation Tools applied to Calcium Dynamics", Heidelberg, Germany (March 2010).

**Research/clinical interest**

Research activity in the field of:

- Numerical analysis (approximation schemes based on finite difference and finite element methods, stability analysis, convergence rate)
- Parameter estimations (biological constants, spatial distributed parameters in models defined by ordinary/partial differential equations), together with sensitivity and identifiability analyses



## 4th International Conference "Biomaterials, Tissue Engineering & Medical Devices"



- Optimal control/ impulsive control
- Mathematical modeling in biology (size/age-structured dynamical population models, cell proliferation, modelling cancer growth, characterization of the immune system, modeling the chemotherapy by optimal treatment protocols)
- Compartmental analysis in pharmacokinetics/pharmacodynamics
- Air pollution modeling (using Kalman filtering, data assimilation, proper orthogonal decomposition – POD technique)
- Statistical analysis of experimental data

### Present Areas of Research

The ongoing research work is characterized by the following keywords: mathematical modelling in biology, ordinary differential equations, partial differential equations, numerical analysis, parameter identification, sensitivity and identifiability analyses, optimal control, impulsive control, compartmental analysis, Kalman filters, data assimilation.

**Title of your BIOMMEDD 2010 lecture:**

***Mathematical modelling and computational issues of cell proliferation and migration in vascularising scaffolds.***