

ON ANNIVERSARY

In 2017 the Faculty of Environmental Science and Engineering within the Babes-Bolyai University celebrates 15 years since its founding. The faculty emerged in 2002 by bringing together all the environmental education forms that existed within other faculties (Geography, Biology-Geology, Physics, Chemistry), as a result of the educational needs identified in the university. It is one of the most dynamic and modern faculties in Babes-Bolyai University and it offers study programs at bachelor, master and doctorate levels, with new, attractive and in demand specializations in the field of Environmental Science and Environmental Engineering. In time, the faculty has developed and managed to permanently adapt itself to all the priorities promoted within the educational policies and environmental strategies, trying to meet the most exigent requirements from the work market as well. The Faculty of Environmental Science and Engineering is the only faculty in the country offering study programs in this field, at bachelor, master and doctorate level.

Our faculty has a standing tradition in recognising important scientific contributions and in promoting academic values. In spirit of this tradition, we honour one of the most prominent figures of our faculty, Professor Dumitru Ristoiu.

The contributions of Professor Dumitru Ristoiu to the field of physics are remarkable, being a reputed scientist and one of the academic personalities that shaped our faculty due to his professional, scientific and managerial skills.

Between 1972 and 1991 he was employed as physician researcher in the Institute of Isotopic and Molecular Technology, Cluj-Napoca. His main activities focused on designing, developing, building, approving and space launching of the quadrupole KMS1 mass spectrometer and improving the equipment to the KMS 3 version and its launching on the cosmic objectives VERTICAL 9, 10 and 11. Also, he contributed to the building, designing and approval of the quadrupole QMS300 mass spectrometer for gas analysis.

From 1991 until 1997 he was a scientific researcher at the Babes-Bolyai University of Cluj-Napoca, studying the applications of mass spectrometry in determining Helium in gas deposits and monitoring radon through active carbon absorption.

He continued his career in the Babes-Bolyai University of Cluj-Napoca, occupying teaching positions of assistant and associate professor. His didactic fields were dosimetry, environmental radioactivity, environmental techniques and technologies,

while his research interests were mass spectrometry, used energy recovery, analytic techniques for monitoring environmental pollutants. In 2005 he becomes professor in the Faculty of Environmental Science. As professor, he introduced courses such as Atmospheric physics, Unconventional energies, Applications of stable isotopes in geophysics and environment etc. and coordinated PhD. Studies in Physics and Environmental Science.

His scientific work is impressive: he has published on his own and in collaboration with various authors more than 250 scientific papers: 65 ISI papers, 39 volumes, 126 arguments and 5 books (1 as a single author – 560 pages).

Professor Ristoiu's activity, diverse and prolific in the field of physics and environmental protection, has been acknowledged ever since the beginning of his career. He has been awarded with the Gold Medal at the Exhibition of Achievements in the National Economies, USSR, Moscow, for "quadruple-polar spectrometer for space applications", authors: Ristoiu Dumitru, Kovacs Ștefan, Almășean Mircea, Todorean Gavril, Romanțan Adriana and he received the Merit Diploma for the contribution to the development of BBU, 2004; Didactic Excellence Diploma awarded by UBB in 2006; Professor of the Year Award, 2009 and 2010; Comenius Award, 2011; Professor Emeritus Award, 2012. He is also member of numerous professional associations: Romanian Society of Physics, Romanian Society of Radioprotection, Association of Medical Physicians in Romania, Society of Scientists in Romania, European Physical Society, International Society of Indoor Air Quality and Climate, Canada, Balkan Physical Society, American Medical Physics Society, USA, "The Planetary Society", USA.

It is a very special moment for our faculty and a privilege to acknowledge here his remarkable activity and results and to dedicate professor Dumitru Ristoiu as a symbol of our highest consideration this special issue of the scientific journal *Ambientum*. On the occasion of his birthday, we have the joy to wish him Happy anniversary, much health and happiness!

On behalf of the faculty of Science and Environmental Engineering

Professor Eng. Alexandru Ozunu PhD,
Dean of Faculty of Environmental Science and Engineering

CURICULUM VITAE - PhD Professor DUMITRU RISTOIU



Professor **Dumitru RISTOIU** was born on 26th February 1946 in Dozesti commune, Valcea county, Romania. Between 1963 and 1967 he attended the courses “Tudor Arghezi” Theoretical High School from Craiova. He then obtained a diploma in physics (atomic and nuclear physics), from the Faculty of Physics, Babes-Bolyai University of Cluj-Napoca, followed by a doctorate degree at the same institution in the field of physics, with the thesis entitled: “Study of isotopic composition of the upper Earth atmosphere using mass spectrometry” (Studiul compoziției izotopice a atmosferei superioare a Pământului folosind tehnica Spectrometriei de Masă).

Professional activity

Between 1972 and 1991 he was employed as physician researcher in the Institute of Isotopic and Molecular Technology, Cluj-Napoca. His main activities focused on designing, developing, building, approving and space launching of the quadruple polar KMS1 mass spectrometer and improving the equipment to the KMS 3 version and its launching on the cosmic objectives VERTICAL 9, 10 and 11. Also, he contributed to the building, designing and approval of the quadruple polar QMS300 mass spectrometer for gas analysis.

From 1991 until 1997 he was a scientific researcher at the Babes-Bolyai University of Cluj-Napoca, studying the applications of mass spectrometry in determining Helium in gas deposits and monitoring radon through active carbon absorption.

He continued his career in the Babes-Bolyai University of Cluj-Napoca, occupying teaching positions of assistant and associate professor. His didactic fields were dosimetry, environmental radioactivity, environmental techniques and technologies, while his research interests were mass spectrometry, used energy recovery, analytic

techniques for monitoring environmental pollutants. In 2005 he becomes full professor in the Faculty of Environmental Science. As professor, he introduced courses such as Atmospheric physics, Unconventional energies, Applications of stable isotopes in geophysics and environment etc. and coordinated PhD. Studies in Physics and Environmental Science.

He has published on his own and in collaboration with various authors more than 250 scientific papers: 65 ISI papers, 39 volumes, 126 arguments and 5 books (1 as a single author – 560 pages).

There must be mentioned:

1. “Găurile” în stratul de ozon - o posibilă catastrofă climatică (“Holes” in the ozone layer – a possible climatic catastrophe), p.126-162, D. Ristoiu, in Terra - catastrofe naturale (Terra – natural catastrophes), Coordinator I. Petrescu, Editura Tehnică, Bucharest, 1993, ISBN 973-31-0515-5.
2. Ecologie – aplicații (Ecology - applications), T. Ristoiu, D. Ristoiu, UT Press, Cluj-Napoca, 2003, 161 p., ISBN 973-8335-96-5.
3. Elemente de ecologie (Aspects of ecology), T. Ristoiu, D. Ristoiu, UT Press, Cluj-Napoca, 2004, 300 p., ISBN 973-662-073-5.
4. Fizica mediului – Atmosfera (Environmental Physics – the Atmosphere), D. Ristoiu, Ed. Napoca Star, 2005, 560 pg. ISBN 973-647-268-X.
5. D. Ristoiu, C. Cosma (Coordinators and editors), Impactul factorilor fizici și bio-geo-chimici asupra dezvoltării durabile, (The impact of Physical and Bio-Geo-Chemical Factors on the Sustainable Development), Environmental and Progress, vol.6, 2006, 450 p., Editura EFES, ISSN 1584 – 6733.8

Scientific activity

Fields of interest:

- applied physics,
- dosimetry,
- environmental radioactivity,
- environmental monitoring,
- mass spectrometry,
- renewable energies.

He has published more than **250 scientific papers in these fields.**

Some examples:

- F. Copaciu, V. Coman, D. Simedru, S.M. Beldean-Galea, O. Opreș, D. Ristoiu: Determination of two textile dyes in wastewater by solid phase extraction and liquid chromatography/electrospray ionization tandem mass spectrometry analysis, Journal of Liquid Chromatography & Related Technologies, 2013, 36, 1646–1660

- M. H. Kovacs, D. Ristoiu, C. Voica: Chapter 9 Non-Invasive Matrices Use in Pollution Evaluation at Nanoscale Levels – A Way forward in Ecotoxicological Studies, pg. 167 – 184, in Novel Approaches and Their Applications in Risk Assessment, edited by Yuzhou Luo, ISBN 978-953-51-0519-0
- M. Culea, O. Cozar, D. Ristoiu: Methods validation for the determination of trihalomethanes in drinking water, Journal of Mass Spectrometry, 2006, Volume 41, Issue 12, 1594-1597
- M. Culea, O. Cozar, C. Melian, D. Ristoiu: GC/MS measurements of ambient level volatile organic compounds, Indoor and Build Environment, 2005, 14; 3-4; 241-247
- D. Ristoiu, C. Cosma, T. Ristoiu: Quadrupole Mass Spectrometer Coupled with a Membrane Inlet System, Vacuum 50(3-4), 359-362 (1998)
- C. Cosma, D. Ristoiu: Study of rare gases in geothermal waters from Herculane area, Nuovo Cimento, Geophys. Space Phys., 22, 317-323, (1999)

Documentation / Research:

Academic management:

- member in the University Scientific Research Council, BBU;
- member in the Scientific Council of Romanian Space Agency;
- 2005, he proposes a new master program: “Energy, energetic resources and the environment” (Energie, resurse energetice și mediu);
- 2006, he proposes a new master program: “Climate changes and Extreme Risk Phenomena” (Schimbări climatice și fenomene extreme de risc);
- 2003 – 2008, Director of College in Dej;
- 2009 – 2012, member in the BBU Senate.

Diplomas obtained:

- Gold Medal at the Exhibition of Achievements in the National Economies, USSR, Moscow, for “quadruple-polar spectrometer for space applications”, authors: Ristoiu Dumitru, Kovacs Ștefan, Almășean Mircea, Todorean Gavril, Romanșan Adriana;
- Merit Diploma for the contribution to the development of BBU, 2004;
- Didactic Excellence Diploma awarded by UBB in 2006;
- Professor of the Year Award, 2009 and 2010;
- Comenius Award, 2011;
- Professor Emeritus Award, 2012.

Member of professional associations:

- Romanian Society of Physics,
- Romanian Society of Radioprotection,
- Association of Medical Physicians in Romania,

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- Society of Scientists in Romania,
- European Physical Society,
- International Society of Indoor Air Quality and Climate, Canada,
- Balkan Physical Society,
- American Medical Physics Society, USA,
- “The Planetary Society”, USA.

Conf. dr. Nicoleta Bican-Brisan
CS III dr. Camelia Costan