CURRICULUM VITAE OUTLINE

Dumitru Andrei Iacobas, PhD

I. GENERAL BIOGRAPHICAL INFORMATION

A. Personal

1. DOB: 4/1/1952
2. US citizen, Romanian (European Union) citizen
3. Address: 22103 Cassini Ct, Richmond, TX 77407

B. Education (include institution/location, degree, and dates of attendance)

1. **Undergraduate Education:**

- Baccalaureate (1967-1971) – National College Vasile Alecsandri, Galati, Romania. Major in Mathematics and Physics. **Valedictorian**.
- BS Physics, University of Bucharest (Romania) – College of Physics (1971 – 1974), 9.64/10

2. **Graduate Education (include thesis/dissertation title, advisor):**

- MS-equivalent Biophysics, University of Bucharest (Romania) – College of Physics (1974 – 1976), Thesis: "Theoretical and experimental contributions to the study of membrane ionic channels". Advisor: Prof. Dr. V. Gheorghe
- MS-equivalent Physics Teaching, University of Bucharest (Romania) – College of Physics (1976 – 1978), Thesis: "An Atomic Faust". Advisor: Prof. Dr. II Popescu
- MS-equivalent Medical Physics, University of Bucharest (Romania) – College of Physics (1989 – 1990), Thesis: "New calibration method for gamma-scintillation chambers". Advisor: Prof. Dr. V Grecu
- PhD (Bio)Physics, University of Bucharest (Romania) – College of Physics (1990 – 1994), Thesis: "Effects on gamma-lactonic compounds on the dynamics of ionic channels". Advisor: Prof. Dr. G Turcu (*PhD program delayed for 14 years because of my opposition to the ruling Communist Party in Romania).*

3. **Postgraduate Training** 2017 - 2018 Computation Systems Biology, CCSB PVAMU

4. **Other Advanced Training/Experience**

- Summer Schools of Biophysics (Zakopane 1984, Patras 1996, Ladej Zroj 1997)
- International Schools of Mathematical Ecology (Trieste 1990, 1992, 1994, Lujan 1994, Buffalo 2000)
- International Schools of Biomathematics (Panama 1997, Valparaiso 1998, Mendoza 1998, Manizales 1999)
- Short courses and trainings in genomics (Bar Harbor 2001, Orlando 2002, Austin 2003, Denver 2004, Portland 2005)

C. Academic Appointments

2018 – present: **Research Professor** of Systems Biology and Director of the Personalized Genomics Laboratory.

2013 - 2017 **Associate Professor** of Pathology and Director of Systems Biology Core laboratory, New York Medical College, Valhalla, NY

2006 - 2013 **Assistant Professor** of Neuroscience, Albert Einstein College of Medicine, Bronx, NY

2001 - 2006 **Visiting Associate Professor** of Neuroscience Albert Einstein College of Medicine, Bronx, NY

1990- 2001 **Associate Professor** (1994)/Assistant Professor of Biophysics and Biostatistics, Ovidius University School of Medicine, Constanta, Romania

1981 - 1990 **Instructor** Biophysics and Physiology, Carol Davila University of Medicine and Pharmacy – School of Medicine, Bucharest, Romania (1981-1990)

1978 1981 **Lecturer** Physics and Biophysics, National College of Natural Sciences Mihai Eminescu, Constanta, Romania
1976 - 1978 **Lecturer** Physics, National College of Mathematics and Physics, Mircea cel Batran, Constanta, Romania

D. Senior Administrative Appointments in Academic Institutions:

2002 - 2006 **Associate-Director** Molecular Biology & Neurogenomics Core Laboratory, Kennedy Center for Research in Mental Retardation and Human Development, Bronx, NY
2002 - 2005 **Co-Director** Biometry Core, Kennedy Center for Research in Mental Retardation and Human Development, Bronx, NY
1990-2001 **Head Division** Biophysics, Informatics, Biomathematics & Biostatistics, Medical School, Ovidius University, Constanta, Romania
1990-1992 **Director** Nuclear Medicine Laboratory, Constanta District University Hospital, Constanta, Romania
1978-1981 **Associate Principal** for Student Affairs, National College "M. Eminescu" of Natural Sciences, Constanta, Romania
1977 – 1978 **Director** of (Transmission) Electron Microscopy Laboratory, Central Institute for Sheep Research, Constanta, Romania

E. Other Information

1. **Honors or Awards (titles, dates):**

2015-2017 Member in New York Medical College Dean Research Committee
2002 Scholarship award for the Short course on gene microarray development and analysis, JacksonLab, Bar harbor, ME, 04/24-28
2001 **Scientific Research Award**, Literary Fund, Romania
1999 **Honorary Citizen** of Louisville, KY, commissioned by David L Armstrong, Mayor
1999 **Honorary Citizen** of Jefferson County, KY, commissioned by Hon Rebecca Jackson, County Judge/Executive
1995 1st European PHARE Prize "Young scientists in politics"
1994 Soros Foundation award to attend the 3ro Encuentro Latinoamericano de Ecologia Matematica, Lujan, Argentina
1994 International Center for Theoretical Physics (Trieste, Italy) award to attend "College on Medical Physics"
1992 Tempus European Exchange Program Award for 2 month training in the Dept Biophysics & Nuclear Medicine, Universite Bretagne Occidentale, Brest, France
1990, 1992, 1994 Awards of the International Centre for Theoretical Physics to attend 2nd, 3rd and 4th Autumn Courses of Mathematical Ecology at Trieste, Italy
1984 (Polish) National Academy award to attend the 7th Summer School of Biophysics, Zakopane
1983 (Romanian) Academy award to attend the International Summer School of Theoretical Physics
1971-1976 National Merit Scholarship, University of Bucharest, College of Physics
1971 **Valedictorian** of the National College of Mathematics and Physics "Vasile Alecsandri", Galati

2. **Board Eligibility/Certification (dates):**

1978 University of Bucharest, Physics teacher
1990 University of Bucharest, Medical Physicist

II. RESEARCH INFORMATION

A. Research Support (*only since 03/01/2001 when immigrated in the U.S. Numerous grants (not listed) also in Romania between 1981-2001***)**

NIH R01 NS34931 PI DC Spray 04/01/98-3/31/03
Gap junction and Schwann Cells

Role: **Co-Investigator** (2001-2003)
To determine the effects of gap junction expression on Schwann cell function and the interactions between gap junction proteins and cell adhesion molecules in glia cells from wild type and connexin knockout mice
$430,000

NIH R21 NS42807 PI DC Spray 09/29/01-9/28/03
Optimized microarray analysis of neural differentiation (Co-PI)
Role: Co-Principal Investigator
The primary objective of this grant is the development of algorithms to optimally detect genes that are up- or down-regulated using gene microarrays prepared in-house.
The project was ranked in the 2.0 percentile.
$415,000

NIH 3P30 HD001799-40S1 PI DS Faber 07/01/02-06/30/06
Support for RF Kennedy Mental Retardation Research Center
Role: **Co-Director** Biometry Core
Role: **Associate Director** Molecular Biology & Neurogenomics Core
To provide technical assistance in cDNA microarray experiments, and to implement, maintain and update acquisition software, correction/normalization algorithms and data mining procedures for genomic studies.
$2,075,000

NIH PO1 (DK060037) PD A Melman 04/01/03-1/31/08
Role: **Investigator** Project #4 "Smooth Muscle Differential Function and Diabetes", (PI D Spray)
Role: **Investigator** Core C Mathematical modeling (PI S Schwartz)
The primary objective of Core C is to develop a mathematical model of the intercellular calcium signaling in diabetic smooth muscle
$11,666,000

NIH PO1 HD32573 PD: GG Haddad 02/10/05-7/31/10
Hypoxia in development: injury and adaptation mechanisms
Role: **Principal Investigator and Director Core D** "Computational and Functional Genomics"
The objective of this Core Facility is to assist investigators in designing, processing and managing cDNA, oligonucleotide, antibody and protein array experiments to analyze alterations of transcripome and proteome and of protein-protein interactions in cultured cells, selected tissue regions or whole organs of mice exposed to hypoxia or in mutant mice, and to provide consultation and training in the use of advanced statistical methods and mathematical modeling.
The PO was ranked in the 0.5 percentile with Core D getting the best score.
$12,125,000

NIH RO1 HL073732 PI: AC Campos de Carvalho 7/15/**2003**-6/30/2012
Stem Cell Based Therapies in Chagasic Cardiomyopathy
Role: **Investigator**
This grant dealt with use of hematopoetic stem cells in treatment of an animal model of dilated cardiomyopathy. Dr. Iacobas was responsible for designing and processing microarray analysis as an unbiased approach for evaluating therapeutic efficacy of stem cell treatment.
$4,150,000

NIH 5R01HL092001 PI: **DA Iacobas** 7/01/2009-6/30/2012
Connexin-Dependent Transcriptomic Networks in Controlling the Heart Rhythm
Role: **Principal Investigator**
This grant has identified and studied the networks of genes that generate, maintain and modulate the rhythmic

waves of contraction that spread through the heart and make it beat. Disruption of these regulatory gene networks
may underlie heart failure, the leading cause of death in the U.S. This research will lead to novel insights into heart disease and to new approaches to restore normal cardiac function by manipulating gene webs.
$830,000

App ID#: 256455 **MPI:** L Velisek, CE Stafstrom, **DA Iacobas** 01/01/13-12/31/14
Agency: Citizens United for Research in Epilepsy (CURE)
Developing and testing novel treatments for infantile spasms
Role: (Multiple) **Principal Investigator**
We propose that melanocortin analogs and other hypothalamus-linked peptides have equal or better efficacy, fewer adverse effects, and are easier to use than ACTH for treatment of IS. We will test this hypothesis and elucidate the molecular basis of action of these compounds with the goal of improving the treatment armamentarium for children with IS. Remodeling of genomic fabrics will be used as biomarkers of drug efficacy.
$333,000

NIH 5R01AI045801-12 ADM SUPPL. PI I Schwartz 7/01/13-6/30/14
B Burgdorferi tick phase genes and Lyme disease
Role: **Investigator**
In the parent grant, we proposed to perform transcriptional profiling of B. burgdorferi at various stages during the tick phase of the enzootic cycle. In this supplemental request we propose to extend and strengthen the transcriptome data by employing a systems biology approach that will integrate data from the various stages of the enzootic cycle so as to build a comprehensive model B. burgdorferi gene expression, and its regulation, as it transits from an infected host through the tick and back to a naïve mammal.
$166,000

UNIVERSIDADE FEDERAL DO RIO DE JANEIRO PI: **DA Iacobas** 3/21/14-4/30/14
Retina cytoprotection by overexpressing Max gene
Role: **Principal Investigator**
This subcontract completes a series of experiments that analyze the remodeling of several genomic fabrics in injured rat retina subjected to various treatments.
$5,000

NYMC INTRAMURAL PI: R Mathew 7/1/2014-6/30/15
Endothelial Disruption Precedes Neointima Formation in Pulmonary Hypertension
Role: **Investigator**
Dr. Iacobas investigated the genomic alterations in pulmonary hypertension (PH) that distinguishes reversibility vs. irreversibility of PH
$20,000

BOEHRINGER-INGELHEIM PI: G Williams 9/1/2014-8/31/2016
Phase 3: Chicken Egg (CE) Genotoxicity and Carcinogenicity Assessing Assay for Use as an Alternative Preclinical Model to Investigate Drug-Induced Toxicity with Special Interest in Carcinogenicity Testing
Role: **Investigator**
Dr. Iacobas investigates the genomic fabric remodeling in the liver of chicken exposed in ovo to selected carcinogenic toxins
$1,245,000

NYMC Department of Pathology **PI: DA Iacobas** 11/1/2014-10/31/2015
Genomic fabric remodeling and daptomycin resistance in *E. faecium* infection
This Pilot study evaluates the genomic mechanisms of the antimicrobial resistance in blood isolates.

Role: **Principal Investigator**
$10,000

WESTCHESTER MEDICAL CENTER **PI: DA Iacobas** 7/1/2015-6/30/2017
Computerized system for cardiology services
Develop a multiscale mathematical model and the associated software and implement them at the Cardiology Services of Westchester Medical Center.
Role: **Principal Investigator**
$10,000

NYMC Department of Pathology **PI: DA Iacobas** 7/1/2015-6/30/2017
"Quantifying cancer-associated remodeling of key genomic fabrics by next gen sequencing"
Develop and validate the "genomic fabric remodeling" approach as a holistic alternative to the biomarker paradigm in cancer diagnosis and treatment.
Role: **Principal Investigator**
$10,000

UNIVERSIDADE FEDERAL DO RIO DE JANEIRO **PI: DA Iacobas** 3/01/2017-6/30/2017
Agency: Universidade Federal do Rio de JaneiroRetina cytoprotection by overexpressing Max gene
Role: **Principal Investigator**
This subcontract adds a new series of experiments that analyze the remodeling of major genomic fabrics in injured rat retina subjected to various treatments.
$5,000

NSF 1736196 (2018-2020) PI L Qian 09/01/17-08/31/20
"HBCU-RISE: Bridging Quantitative Science with Biological Research: Jumpstarting Computational Systems Biology Research at PVAMU"
Role: **Investigator**
The aim of this project is to study and analyze the dynamic evolution of drug/cell interactions using biomedical big data, including both public domain data and dynamic time series data from systematic drug perturbations experiments. Innovative image processing, machine learning, dynamic modeling and control techniques are proposed to help understand the genetic regulation of cancer cells and the mechanism of action of molecularly targeted agents on gene regulation.
$1,000,000

Texas A\&M University System Chancellor's Research Initiative PI S Kim 09/01/17-08/31/20
The Computational Biology and Bioengineering Research Center
Role: **Investigator**
The Computational Biology and Bioengineering Research Center is a multidisciplinary center to study complex biological processes such as cancer, head injury in football, Parkinson's disease, pulmonary hypertension, and herbicide-resistant weeds, by employing state-of-the-art computational and engineering skills.
$6,000,000

PVAMU – Undergraduate scholarly research award Nneka Ede
"Development of Cancer GMR Software Package for Personalized Cancer Gene Therapy"
Role: **Advisor**

SUBMITTED

Cancer Prevention & Research Institute of Texas (CPRIT) - Early Translational Research Awards
"Gene master regulators approach for personalized cancer gene therapy:
Role: **Principal Investigator**

FY 2019 Faculty Research Development Grant Program
"Complement C5ar1 Antagonists for the Treatment of Autism Spectrum Disorders"
Role: **Principal Investigator**

B. National Scientific Participation (include dates and titles)

1. Journal Editorial Boards:

Editor: Tilia Press International Ltd., Constanta, Romania (1997-2001).
Published college textbooks in Romanian, English and Spanish.

Associate Editor: Series on Advances in Ecological Sciences/Ecosystems and Sustainable Development, WIT Press, Ltd., Southampton, UK; 2001-2005.

Board Member:
- AIMS Biophysics, 2014-present
- Ars Medica Tomitana (Romania), 1995 - 2000
- Estudio de Sistemas Biologicos (Colombia); 2000-2002
- ISRN Genomics, 2012 – present
- Journal of Bioinformatics and Proteomics, 2014-present
- Journal of Cardiovascular Disorders, 2014-present
- Journal of Genetics Study, 2013 - present
- Medical Science Monitor, 2007-present
- Neurology and Clinical Sciences Journal, 2018-present
- Open Journal of Genomics, 2009-present
- Research Journal Developmental Biology, 2013-present
- Romanian Journal of Rare Diseases, 2010-present
- Romanian Revue of Applied Ecology, 1997-2001
- The Open Gene Therapy Journal, 2007-present

2. Review Panels:

Grant Reviewer: 2010 NIH SBIR Topic 110
2010-present General Directorate for Health and Technologies Research, Ministry of Labor, Health and Social Policies, **Italy**
2011-present National Council for Scientific Research, **Romania**
2014-present National Science Centre, **Poland**

Book Reviewer: - Advances in Medical Physics, Biophysics and Biomaterials, Male Centrum, Bratislava, Slovak Republic; 1997

Review Editor: - Frontiers in Integrative Neuroscience, 2007-present
- Frontiers in Bioinformatics and Computational Biology, 2018-present

Peer Reviewer: - Neural Regenerative Research, 2007-present

Ad-hoc Reviewer: - Brain Sciences, Frontiers in Cellular Neuroscience, Frontiers in Genetics, Frontiers in Neurosciences, Frontiers in Microbiology, Genomics, Molecular Neurobiology, Nature Scientific Reports

3. Professional Societies:

American Epilepsy Society (2016-2017)
Academy for Medical Development and Collaboration (AMDEC): 2002-2013
American Heart Association: 2011-2012
American Society for Cell Biology (ASCB): 2002-2003
American Society of Neurochemistry (ASN): 2011-2012
Association of Biomolecular Resource Facilities (ABRF): 2001-2005
Asociation Latino-Americano de Biomatematica (ALAB): 1994:1999
Biophysical Society (BF): 1990-2000, 2005-2009
Eastern and Central European Society of Mathematical ecology (ECESME): 1994-2000

Encuentro Latino-Americano de Ecologia Matematica (ELAEM): 1994-1999
European Biomatematicians: 1990-1994
European Society of Medical Informatics (MISE): 1996:2003
International Society for Computational Biology (ISCB), 2011-2012
Romanian Physicists (1990-present)
Society for Neuroscience (SFN): 2006-2012

4. Elected Positions:

2012 **Chair** Colloquium "Intercellular Signaling and Myelination", 43rd Ann Meeting of the American Society for Neurochemistry, Baltimore, MD, March 03-07/2012.

2002-2011 **Board of Microarray Core Directors, Member** Genomic Analysis and Technology Excellence (GATE) group of the Academy for Medical Development and Collaboration (AMDeC)

2003 Member **International Scientific Advisory Board and Session Chair** 1st Intl Conference on Medical Informatics and Bioengineering, Craiova (Romania)

2002 **Chair** Tutorial Session 13 International Symposium "Biomolecular Technologies: Tools for discovery in proteomics and genomics", Austin, TX

2001, 2003, 2005 Member **International Scientific Advisory Board and Session Chair** 3rd 4th and 5th International Conference on Ecosystems and Sustainable Development, Alicante (**Spain**), Siena, (**Italy**), Cadiz, (**Spain**)

2001 Member **Intl Scientific Advisory Board and Session Chair** 1st Intl Conference on Sustainable Planning and Development, Skiathos Island, (**Greece**)

2001 Member **Intl Scientific Advisory Board and Session Chair** 13th International Conference of the International Society for Environmental Epidemiology, Garmisch-Partenkirchen, (**Germany**)

1995, 1996 **Chair 1st and 2nd International Conference** "Sustainable Development: System Analysis in Ecology", Dnepopetrovsk (1995), Sevastopol (1996), (Ukraine)

1994-2000 **President Eastern and Central European Society of Mathematical Ecology** with regular members from: Belarus, Bosnia-Hertzegovine, Bulgaria, Croatia, Czech Republic, Greece, Hungary, Lithuania, Moldova, Poland, Romania, Russia, Slovak Republic, Slovenia and Ukraine, and associate members from: Argentina, Brazil, Chile, Colombia, India, Italy, Germany, Mexico, Panama, Peru, USA, Venezuela

1990-2001 Member Committee on Appointments and Promotions, Inventors Committee, Ovidius University,
Constanta, Romania

5. Invited Lectures, Presentations, Seminars

a. International

"The Gene Master Regulators Approach Provides the Best Targets for the Personalized Cancer Gene Therapy", International Conference on Disease Biomarkers and Precision Medicine (DBPM-2018), 10/22-24/2018 in Houston, TX

"Gene Master Regulators not Biomarkers should be tested for personalized cancer medicine", 4th World Congress on Cancer Research & Therapy, Rome (**Italy**), 08/13-15/2018.

"Gene Master Regulators and the Personalized Timely Cancer Gene Therapy", 3rd International Conference on "Cancer Research and Targeted Therapy", London, **UK**, 08/06-08/2018.

"Gene Master Regulators in Cancer Gene Therapy", 2nd Symposium of Translational Oncology STOP Cancer, Bucharest, **Romania**, 04/13-15/2018.

"Prenatal exposure to corticosteroids: hypothalamic changes relevant for postnatal impairments, 7th International Meeting Steroids and Nervous System, 02/16-20/2013, Torino, **Italy**.

"Connexins as nodes in heart rhythm networks", 7/13/2011. Gap Junction Conference, Ghent, **Belgium**.

"New analytical tools to characterize remodeling of the transcriptomic networks in rodent models for human immunological diseases", 10/9/2009, MUGEN, Athenes, **Greece**.

"Pan-glial transcriptomic continuity of the myelination substrate in the mouse brain" 8/23/2009. Euroglia, Paris, **France**.

"Myelination substrate in immortalized oligodendrocytes is controlled by connexin-dependent transcriptomic networks of Ca2+-signaling and enhanced by astrocyte proximity". 8/23/2009. Euroglia, Paris, **France**.

"Compensatory" transcriptional mechanisms: Comparison of Cx43 null and knockdown astrocyte transcriptomes", 7/26/2007, Gap Junction Conference, Elsinore, **Denmark**.

"Coordinated transcriptomics – a new tool to identify functional pathways in the cell", 1st International Conference on Medical informatics and Engineering, Craiova, **Romania**, 10/10/2003.

"Improved procedures for cDNA array mining", Tutorial International Symposium "Biomolecular technologies: Tools for discovery in proteomics and genomics", Austin, TX, 03/9-12/2002.

"Dracula's postulates and biocoenosis stability". 4º Encuentro Latino Americano de Ecologia Matematica. Valparaiso, (**Chile**).

"Thermodynamics of biomass storage, exchange and conversion in agrosystems". 2nd International Conference on Sustainable Development: System Analysis in Ecology. Sevastopol, **Ukraine,** 1996.

"The stability of ecosystems in the Theory of many-population correlation functions. Spruce III International Conference, Statistics in Public Resources, Utilities and care of the Environment. Merida, **Mexico,** 1996**.**

"Thermodynamics of biomass storage, exchange and conversion in agrosystems. International Workshop on Biomass Production and Utilization. Trieste, **Italy,** 1996

"The Theory of many-population correlation functions. 1st Practical International Conference on Sustainable development: environmental pollution and ecological safety. Dnepropetrovsk **Ukraine,** 1995.

"New ideas in thermodynamical ecology. 1st Practical International Conference on Sustainable development: environmental pollution and ecological safety. Dnepropetrovsk **Ukraine,** 1996.

"Problems in the dimensional analysis of ecosystems. 3ro Encuentro Latinoamericano de Ecologia Matematica, Lujan - Buenos Aires, **Argentina,** 1994.

"Standard versus normal mathematical approach of ecosystems". 3ro Encuentro Latinoamericano de Ecologia Matematica, Lujan - Buenos Aires, **Argentina,** 1994.

"Computer simulation of membrane single-channel currents". International Workshop "What is computer simulation of biological systems good for?", Liblice, **Czechoslovakia**, 1991

"A pre-Hilbert space for physiological states and some functions which could be used to simulate the human body behaviour during the medical treatment", International Workshop "What is computer simulation of biological systems good for?", Liblice, **Czechoslovakia**, 1991.

b. National

"Transcellular transcriptomic networks in remodeling the myelination genomic fabric", C10 Colloquium "Intercellular signaling and myelination", 3/7/2012 43rd Annual Meeting of the American Society for Neurochemistry (ASN), Baltimore, MD.

"Ankyrins and the genomic sex dichotomy of the heart rhythm", 5/25/2011. American Heart Association Ann Meeting, Orlando, FL.

"Astrocyte and oligodendrocyte - love at first sight with myelination consequences", 09/22/2010 Institute of Biochemistry of the Romanian Academy, Bucharest, **Romania**, Host: Dr Stefania Petrescu, Director.

"Connexin-dependent networks and the heart rhythm determinants", 10/05/2008, Canada Research Chair in Gap Junctions and Disease, University of Western Ontario, London (ON) **Canada**. Host D. Laird, Chair.

"Coordinated transcriptomics-principles and applications", AMDEC meeting of Microarray Core Directors, Cold Spring Harbour Laboratory, Woodbury, NY. 02/24/2006. Host: Dr S. Welle, Director AMDeC Steering Committee.

"The Theory of Pathologic to evaluate and optimize the medical activity. Segunda Jornada Nacional en Biomatematica. Universidad del Quindio. Armenia (**Colombia**).

"Stability and evolution in the Theory of Many-Population Correlation Functions". Segunda Jornada Nacional en Biomatematica. Universidad del Quindio. Armenia (**Colombia**).

c. Local (Abroad)

"ACTH and PMX53 recover synaptic transcriptome alterations in a male rat model of infantile spasms", Champalimaud Centre for the Unknown, Lisbon, **Portugal**, 10/13/2017, Host: Dr. Z Mainen, Director Neuroscience Program

"Sex, brain and synapses", Federal Universidade do Rio de Janeiro, **Brazil**. 10/01/2015. Host: Dr. R. Linden.

"Genomic fabric remodeling in Chagas disease and treatment", Chagas Filho Instituto de Biofisica, Rio de Janeiro, **Brazil**. 9/28/2015. Host: Dr. AC de Carvalho.

"The Theory of Genomic Patholog", Dept. Mathematics, Universitat Jaume I, Castellon, **Spain**. 06/08/2001. (Host: Prof. J.L. Uso, Chairman)

"Theory of Potential Life: a new hypothesis on life origin and evolution". Universidad Central de Venezuela. Caracas, **Venezuela**. 20/05/1999. (Host: Prof. J.A. Leon, Chairman)

"Applicaciones clinicas de la Teoria del patologico". Facultad de Medicina, Universidad Tecnologica de Pereira. Pereira, **Colombia**. 13/05/1999. (Hosted: Prof. H. Moreno-Rojas, Dean).

"Bioelectrogenesis of the lumbricus terrestris ganglia chain", Dipartimento di Physiologia e Biophysica, Universita di Trieste, **Italy**. 10/10/1998. Host: Dr F Ruzzier, Chair.

"Drug efficiency Estimate with the Theory of Pathologic". Instituto de Farmacologia y Bioquimica, Universidad de Buenos Aires, **Argentina**. 08/14/1998 (Host: Prof. M.Rubio, viceDean)

"Problemas teoreticos y experimentales en los estudios electrofisiologicos". Facultad de Medicina. Universidad Nacional de Cuyo, Mendoza, **Argentina**. 08/25/1998. (Hosted: Prof. F. Saravi, Chairman)

"The Theory of potential life", University of Panama, Panama City, **Panama**. 08/25/1997. Host: Prof.

"The Theory of Patholog", University of Patras, **Greece**. 08/15/1996. Host: G Lefterakis, Dean

"Modulation of the ionic channel activity by gamma lactones", Department of Experimental Biophysics, Humboldt University, **Germany**, 06/21/1996. Host: Dr. R Glaser, Chairman.

"The stochasticity of the membrane ionic channel", Department of Biophysics, Eötvös Loránd University, Budapest, **Hungary**, 07/22/1994, Host Dr. S Gyiorgy, Chair.

"A quantum model of the Cl^- ionic channel in axolemma", Universite Bretagne Occidentale, Brest, **France**. 06/25/1992. Host: Dr. JP Pennec, Chair of the Department Animal Physiologie et Biophysique.

d. Local (U.S.)

"Gene Master Regulators approach may provide the most legitimate targets for cancer gene therapy", Baylor College of Medicine, Houston 10/25/2018, host: Dr. Terzah, Division of Pediatric Hematology-Oncology.

"A Physicist eye-view on biology", Graduate Seminars in Electrical Engineering, Host: Dr. M Sadiku, 10/10/2018

"A 3D pseudostochastic model of intercellular calcium signaling alteration in the diabetic smooth muscle", Dept of Mathematics, College of Arts and Sciences, Prairie View A&M University, Prairie View 09/07/2018. Host Dr. N Hritonenko

"The personalized GMR approach of thyroid cancer gene therapy", MD Anderson Cancer Center, Houston, TX, 1/26/2018. Host: Dr. G. Calin, Co-Director, The RNA Interference and non-coding RNA Center.

"Hierarchal gene master regulators of papillary and anaplastic thyroid cancer phenotypes", New York Medical College Dept of Otolaringology, Valhalla, 9/9/2017, host Dr. A Moscatello, Chair

"The Gene Master Regulators Approach of the Personalized Cancer Gene Therapy", PVAMU College of Engineering, Host Dr. L Qian, 08/24/2017.

"Towards a personalized cancer medicine", Philips Health Care Research, BioInc Valhalla, NY 2/3/2017, Host: Dr. N. Dimitrova

"Remodeling of host and pathogen genomic fabrics' topology and interplay in infections". Dept. of Microbiology and Immunology, New York Medical College, Valhalla, NY. 3/12/2015, Host. Dr. Cabbelo F.

"Genomic fabric remodeling in microflora-induced colon cancer", Gastroenterology Grand rounds, New York Medical College, Valhalla, NY. 12/11/2014, Host. Dr. E. Lebovics, Chief Division of Gastroenterology and Hepatobiliary Diseases, Department of Medicine.

"Mathematics of the cardiovascular disorders – correlation between pathophysiological and genomic data", Cardiology fellow's research conference, New York Medical College, Valhalla, NY. 12/3/2014, Host. Dr. G. Lanier, Director, Heart Failure & Pulmonary Hypertension, Department of Medicine.

"Alteration of the 3D calcium waves in the diabetic smooth muscle", Dept. Pathology, New York Medical College, Valhalla, NY. 03/05/2014, Host. Dr. TJ Fallon, Chair.

"Remodeling of Cardiac Genomic Fabrics in Disease and Treatment", Pharmacology Dept., New York Medical College, Valhalla, NY. 12/11/2013. Host. Dr. ML Schwartzman, Chair.

"Tumorigenesis: a genomic fabric interplay going bad?", SUNY Stony Brook, NY Dept. Pathology. 08/09/2012. Host: Dr. Y Hannun, Director of Stony Brook Cancer center, Vice Dean for Cancer Medicine.

"Sex, stress and the brain: genomic fabric paradigm above functional pathway", Rockefeller University, Harold and Margaret Milliken Hatch Laboratory of Neuroendocrinology, host Bruce McEwen, Head Laboratory, 06/12/2012.

"Sex dichotomy and remodeling of neurogenomic fabrics", SUNY Stony Brook, NY Dept. Biophysics. 02/15/2012. Host: Dr. P. Brink, Chairman Dept Biophysics.

"Differential topological analysis of functional genomic fabrics", New York University, Dept Biomedical Engineering, CCNY, CUNY, 09/07/2011. Host: Dr. J Tarbell, Chair

"Remodeling of Ca^{2+}-signaling genomic fabric in stimulated DRG neurons"; 07/06/2011, NIH-NICHD, Bethesda, Host: DR Douglas Fields, Chief Nervous System Development & Plasticity Section

"Intercellular signaling and myelination", New York University Langone Medical Center) 5/11/2011. Host: Dr James L Salzer, Co-Director Center of Excellence for Multiple Sclerosis.

"Topology and dynamics of the myelination genomic fabric", 01/08/2010, NIH-NICHD, Bethesda, Host: DR Douglas Fields, Chief Nervous System Development & Plasticity Section

"Physics of the transcriptome", 2005, Dept Physics, NMSU, Las Cruces, NM. Host Dr. G Kyle, Chair Dept. Physics.

"A 2D stochastic model of calcium signaling in hypoxic brain", 11/17/2005, Yale University School of Medicine, host: Dr. N. Siegel, Chair Division of Pediatric Nephrology, Department of Pediatrics.

"Mining the cDNA array through the Theory of genomic patholog", Rockefeller University Microarray Facility, Manhattan, NY, 10/12/2001. (Host Dr. G Khitrov, Director).

"Cancer patterns in the pre-Hilbert space of standard gene expressions", Montefiore Hospital, Bronx, NY. 28/07/2000. (Hosted: Dr. L. Augenlicht).

"Mathematical mining of the microarray data through the Theory of Pathologic". Rosswell Park Cancer Institute, Buffalo, NY. 21/08/2000. (Host: Dr. SP Hui, Chairman)

C. Publications (complete citation, listed in reverse chronological order)

1. Full Papers in Peer Review Journals

a. Published

86 **Iacobas DA,** Velisek L. (2018) Regeneration of neurotransmission transcriptome in a model of epileptic encephalopathy after antiinflammatory treatment. *Neural Regen Res*, 13(10):1715-1718, PMCID: PMC6128045, doi: 10.4103/1673-5374.238607, **IF = 2.234. Open access.**

85 Kobets T, Iatropoulos MJ, Duan JD, Brunnemann KD, **Iacobas DA**, Iacobas S , Vock E, Deschl U, Williams GM: Effects of Nitrosamines on the Expression of Genes Involved in Xenobiotic Metabolism in the Chicken Egg Alternative Genotoxicity Model. *Toxicol Sci*, 166(1), 82–96, doi: 10.1093/toxsci/kfy197. PMID: 30102407. **IF = 4.181.**

84 **Iacobas DA**, Iacobas S, Nebieridze N, Velisek L, Veliskova J (2018): Estrogen protects neurotransmission transcriptome during status epilepticus, *Front Neurosci*. 12:332. DOI: 10.3389/fnins.2018.00332. PMCID: PMC6019481. **IF =4.294. Open access.**

83 **Iacobas DA**, Chachua T, Iacobas S, Benson MJ, Borges K, Veliskova J, Velisek L. (2018). ACTH and PMX53 recover the normal synaptic transcriptome in a rat model of infantile spasms. *Sci Rep*. 8:5722, DOI: 10.1038/s41598-018-24013-x. PMCID: PMC5893534. **IF = 5.312. Open access.**

82 **Iacobas DA**, Tuli N, Iacobas S, Rasamny JK, Moscatello A, Geliebter J, Tiwari RM. (2018). Gene master regulators of papillary and anaplastic thyroid cancer phenotypes. *Oncotarget* 9(2), 2410-2424. doi: 10.18632/oncotarget.23417. PMCID: PMC5788649. **IF = 6.36. Open access.**

81 **Iacobas DA**, Iacobas S, Tanowitz HB, deCarvalho AC, Spray DC (2018). Functional genomic fabrics are remodeled in a mouse model of Chagasic cardiomyopathy and restored following cell therapy. *Microbes Infect.* 20(3), 185-195. doi: 10.1016/j.micinf.2017.11.003. PMID: 29158000. **IF = 2.924**

80 **Iacobas DA**, Iacobas S (2017). Towards a Personalized Cancer Gene Therapy: A Case of Clear Cell Renal Cell Carcinoma. *Cancer & Oncol Res* 5(3): 45-52. DOI:10.13189/cor.2017.050301

79 Lee PR, Cohen JE, **Iacobas DA**, Iacobas S, Fields RD (2017). Gene networks activated by pattern-specific generation of action potentials in dorsal root ganglia neurons. *Sci Rep.* 7:43765, doi: 10.1038/srep43765. PMCID: PMC5335607. **IF = 5.312. Open access.**

78 **Iacobas DA**. (2016) The Genomic Fabric Perspective on the Transcriptome between Universal Quantifiers and Personalized Genomic Medicine. *Biological Theory.* 11(3): 123-137. DOI 10.1007/s13752-016-0245-3

77 Kravchick DO, Hrdinka M, Iacobas S, **Iacobas DA**, Kreutz MR, Jordan BA. (2016) Synaptonuclear messenger PRR7 inhibits c-Jun ubiquitination and regulates NMDA mediated excitotoxicity. *EMBOJ* 35(17):1923-34. doi: 10.15252/embj.201593070. PMID:27458189. **IF = 10.557. Open access.**

76 Velíšková J, **Iacobas DA**, Iacobas S, Sidyelyeva G, Chachua T, Velíšek L. (2015) Estradiol regulates neuropeptide Y release and the gene coupling with GABAergic and glutamatergic synapse in adult female rat dentate gyrus. *J Neuroendocrinol*. 27(12):911-20. PMID:26541912. **IF = 3.14**

75 Iyer R, Caimano MJ, Luthra A, Axline D, Corona A, **Iacobas DA**, Radolf JD, Schwartz I.(2015). Stage-Specific Global Alterations in the Transcriptomes of Lyme Disease Spirochetes During Tick Feeding and Following Mammalian Host-Adaptation. *Mol Microbiol*. 95(3):509-38. doi: 10.1111/mmi.12882. PMCID:PMC4429771. **IF = 4.42. Open access.**

74 Zia MTK, Vinukonda G, Vose L, Bhimavarapu BBR, Iacobas S, Pandey NK, Beall AM, LaGamma EF, **Iacobas DA**, Ballabh P. (2014) Postnatal glucocorticoid-induced hypomyelination, gliosis, neurologic deficits are dose-dependent, preparation-specific, and reversible. *Exp Neurol*. 263, 200-213. doi: 10.1016/j.expneurol.2014.09.013. PMCID:PMC4262645. **IF = 4.70. Open access.**

73 **Iacobas DA**, Iacobas S, Chachua T, Goletiani C, Sidyelyeva G, Velíšková J, Velíšek L. (2013). Prenatal corticosteroids modify glutamatergic and GABAergic synapse genomic fabric: Insights from a novel animal model of infantile spasms. *J Neuroendocrinol*. 25, 964-979. doi: 10.1111/jne.12061. PMCID: PMC3855178. **IF = 3.14. Open access.**

72 Friedman LK, Mancuso J, Patel A, Kudur V, Leheste J, Iacobas S, Botta J, **Iacobas DA**, Spray D. (2013) Transcriptome Profiling of Hippocampal CA1 after Early Life Seizure-Induced Preconditioning May Elucidate New Genetic Therapies for Epilepsy, *Eur J Neurosci* 38(1):2139-52. doi: 10.1111/ejn.12168. PMCID:PMC4354696. **IF =3.18. Open access.**

71 Iacobas S, **Iacobas DA**, Spray DC and Scemes E. (2012). The connexin43 transcriptome during brain development: importance of genetic background. *Brain Research*. 1487: 131-139. doi: 10.1016/j.brainres.2012.05.062. PMCID:PMC3501561. **IF = 2.84. Open access.**

70 Iacobas S, Thomas NM, **Iacobas DA** (2012). Plasticity of the myelination genomic fabric. *Mol Gen Genom.* 287:237-246. doi: 10.1007/s00438-012-0673-0. PMID:22246408. **IF = 2.979**

69 Adesse D, Goldenberg RC, Fortes FS, **Iacobas DA**, Iacobas S, Campos de Carvalho AC, de Narareth M, Huang H, Tanowitz HB, Garzoni LR, Spray DC. (2011). Gap junctions and Chagas' disease. *Adv Parasitol*, 76: 63-81. doi: 10.1016/B978-0-12-385895-5.00003-7. PMCID:PMC3552244. **IF = 6.23. Open access.**

68 Lachtermacher S, Esporcatte BLB, Fortes FSA, Rocha NN, Montalvo F, Costa P, Belem L, Rabischoffsky A, Neto HF, Vasconcellos R, **Iacobas DA**, Iacobas S, Spray DC, Thomas N, Goldenberg R, Campos de Carvalho A. (2011). Functional and Transcriptomic Recovery of Infarcted Mouse Myocardium Treated with Bone Marrow Mononuclear Cells. *Stem Cell Rev.* 8(1):251-61. doi: 10.1007/s12015-011-9282-2. PMCID:PMC3212608. **IF = 2.77. Open access.**

67 Soares MB, Lima RS, Souza BSF, Vasconcelos JF, Rocha LL, dos Santos RR, Iacobas S, Goldenberg RC, **Iacobas DA**, Tanowitz HB, Spray DC, Campos de Carvalho AC (2011). Reversion of gene expression alterations in hearts of mice with chronic chagasic cardiomyopathy after transplantation of bone marrow cells.

Cell cycle, 10(9): 1448-1455. doi: 10.4161/cc.10.9.15487. PMCID:PMC3117044. **IF = 3.952. Open access.**

66 Thomas NM, Jasmin JF, Lisanti MP, **Iacobas DA** (2011). Sex Differences in Expression and subcellular Localization of Heart Rhythm Determinant Proteins. *Biochem Biophys Res Commun*. 406(1):117-22. doi: 10.1016/j.bbrc.2011.02.006. PMID:21296051. **IF = 2.30**

65 Iacobas S, **Iacobas DA** (2010). Astrocyte proximity modulates the myelination gene fabric of oligodendrocytes. *Neuron Glia Biology*. 6(3): 157-169. doi: 10.1017/S1740925X10000220. PMID: 21208491. **IF = 1.339**

64 Soares MBP, Lima RS, Rocha LL, Vasconcelos JF, Rogatto SR, dos Santos RR, Iacobas S, Goldenberg RC, **Iacobas DA**, Tanowitz HB, Campos de Carvalho AC, Spray DC. (2010). Gene expression changes associated with myocarditis and fibrosis in hearts of mice with chronic chagasic cardiomyopathy. *J Infect Dis.* 202(3):416-426. doi: 10.1086/653481. PMCID:PMC2897928. **IF = 6.00. Open access.**

63 Adesse D, **Iacobas DA**, Iacobas S, Garzoni LR, Nazareth Meirelles M, Tanowitz HB, Spray DC. (2010). Transcriptomic signatures of alterations in a myoblast cell line infected with four strains of Trypanosoma cruzi. *Am J Trop Med Hyg*. 82(5): 846-54. doi: 10.4269/ajtmh.2010.09-0399. PMCID:PMC2861399. **IF = 2.70. Open access.**

62 Lachtermacher S, Esporcatte BLB, Montalvo F, Costa P, Rodrigues D, Belem, Rabischoffsky A, Neto HF, Vasconcellos R, **Iacobas DA**, Iacobas S, Dohmann H, Spray DC, Goldenberg R, Campos de Carvalho A. (2010). Cardiac gene expression and systemic cytokine profile are complementary in a murine model of post ischemic heart failure. *Braz J Med Biol Res*. 43(4):377-89. PMCID:PMC3032498. **IF = 1.03. Open access.**

61 **Iacobas DA**, Iacobas S, Haddad GG. (2010). Heart rhythm genomic fabric in hypoxia. *Biochem. Biophys. Res. Commun*. 391(4):1769-1774. doi: 10.1016/j.bbrc.2009.12.151. PMCID:PMC2849310. **IF = 2.30. Open access.**

60 **Iacobas DA,** Iacobas S, Thomas N, Spray DC. (2010). Sex-dependent gene regulatory networks of the heart rhythm. *Funct Integr Genomics.* 10(1):73-86. doi: 10.1007/s10142-009-0137-8. PMCID:PMC2835827. **IF = 2.48. Open access.**

59 Desruisseaux M, **Iacobas DA**, Iacobas S, Mukherjee S, Weiss LM, Tanowitz HB, Spray DC (2010). Alterations in the Brain Transcriptome in Plasmodium Berghei ANKA Infected. *J Neuroparasitology*. 1: 74-81. PMCID: PMC3587055. **IF = 1.27. Open access.**

58 Goldenberg RCS, **Iacobas DA**, Iacobas S, Rocha LL, Fortesa FSA, Vairoa L, Nagajyothi F, Carvalho ACC, Tanowitz HB, Spray DC (2009). Transcriptomic alterations in Trypanosoma cruzi-infected cardiac myocytes. *Microbes Infect* 11(14-15):1140-9. doi:10.1016/j.micinf.2009.08.009. PMCID:PMC2825022. **IF = 2.86. Open access.**

57 **Iacobas DA**, Fan C, Iacobas S, Haddad GG. (2008). Integrated transcriptomic response to cardiac chronic hypoxia: translation regulators and response to stress in cell survival. *Funct Integr Genomics*. 8(3):265-75. doi: 10.1007/s10142-008-0082-y. PMCID:PMC2856931. **IF = 2.48. Open access.**

56 **Iacobas DA**, Iacobas S, Urban-Maldonado M, Scemes E, Spray DC (2008). Similar transcriptomic alterations in Cx43 knock-down and knock-out astrocytes. *Cell Commun. Adhes.* 15:1, 195-206. doi: 10.1080/15419060802014222. PMCID:PMC2583241. **IF = 1.244. Open access.**

55 Frigeri A, **Iacobas DA**, Iacobas S, Nicchia GP, Desaphy JF, Camerino DC, Svelto M, Spray DC (2008). Effect of microagravity on brain gene expression in mice. *Exp Brain Res*. 191(3): 289-300. doi: 10.1007/s00221-008-1523-5. PMCID:PMC2651838. **IF = 2.04. Open access.**

54 Kardami E, Dang X, **Iacobas DA**, Nickel BE, Jeyaraman M, Srisakuldee W, Makazan J, Tanguy S, Spray DC. (2007). The role of connexins on growth and gene expression. *Prog Biophys Mol Biol.* 94(1-2):245-264. Review. DOI:10.1016/j.pbiomolbio.2007.03.009. PMID:17462721 **IF = 2.27**

53 **Iacobas DA**, Iacobas S, Spray DC (2007). Connexin-dependent transcellular transcriptomic networks in mouse brain. *Prog Biophys Mol Biol.* 94(1-2):168-184. Review. DOI:10.1016/j.pbiomolbio.2007.03.015. PMID:17507080. **IF = 2.27**

52 **Iacobas DA**, Iacobas S, Werner P, Scemes E, Spray DC (2007). Alteration of transcriptomic networks in adoptive-transfer experimental autoimmune encephalomyelitis. *Front Integr Neurosci.* **1**:10. doi:10.3389/neuro.07/010.2007. PMCID: PMC2526015. **Open access.**

51 Thi MM, **Iacobas DA**, Iacobas S, Spray DC. (2007). Fluid shear stress regulates vascular endothelial growth factor gene in osteoblasts. *Ann N Y Acad Sci.* 1117: 73-81. DOI: 10.1196/annals.1402.020.

PMID:17646268. **IF = 4.31**
50 Spray DC, **Iacobas DA**. (2007) Organizational principles of the connexin-related brain transcriptome. *J Membr Biol*. 218(1-3):39-47. DOI:10.1007/s00232-007-9049-5. PMID:17657523. **IF = 2.46**
49 **Iacobas DA**, Suadicani SO, Iacobas S, Chrisman C, Cohen M, Spray DC, Scemes E. (2007). Gap junction and purinergic P2 receptor proteins as a functional unit: insights from transcriptomics. *J Membr Biol*. 217(1-3):83-91. DOI:10.1007/s00232-007-9039-7. PMID: 17665085. **IF = 2.46**
48 **Iacobas DA**, Iacobas S, Spray DC (2007). Connexin43 and the brain transcriptome of the newborn mice. *Genomics.* 89(1), 113-123. DOI:10.1016/j.ygeno.2006.09.007. PMCID:PMC2651831. **IF = 2.28. Open access.**
47 **Iacobas DA**, Fan C, Iacobas S, Spray DC, Haddad GG. (2006). Transcriptomic changes in developing kidney exposed to chronic hypoxia. *Biochem Biophys Res Comm.* 349(1), 329-338. DOI:10.1016/j.bbrc.2006.08.056PMID:16934745. **IF = 2.30**
46 **Iacobas DA**, Suadicani SO, Spray DC, Scemes E (2006). A stochastic 2D model of intercellular Ca^{2+} wave spread in glia. *Biophys J.* 90(1): 24-41. PMCID:PMC1367023. DOI: 10.1529/biophysj.105.064378. **IF = 3.97. Open access.**
45 **Iacobas DA**, Iacobas S, Urban-Maldonado M, Spray DC (2005). Sensitivity of the brain transcriptome to connexin ablation, *Biochimica et Biofisica Acta*. 1711: 183-196. Review. DOI: 10.1016/j.bbamem.2004.12.002. PMID:15955303. **IF = 4.18**
44 Fan C, **Iacobas DA**, Zhou D, Chen Q, Gavrialov O, Haddad GG (2005). Gene expression and phenotypic characterization of mouse heart after chronic constant and intermittent hypoxia. *Physiol Genomics.* 22: 292-307. DOI: 10.1152/physiolgenomics.00217.2004. PMCID:PMC2856928. **IF = 2.37. Open access.**
43 **Iacobas DA**, Iacobas S, Li WE, Zoidl G, Dermietzel R, Spray DC. (2005). Genes controlling multiple functional pathways are transcriptionally regulated in connexin43 null mouse heart. *Physiol Genomics* 20: 211-223. DOI:10.1152/physiolgenomics.00229.2003. PMID:5585606. **IF = 2.37**
42 Brand-Schieber E, Werner P, **Iacobas DA**, Iacobas S, Beelitz M, Lowery SL, Spray DC, Scemes E. (2005). Connexin43, the major gap junction protein of astrocytes, is down regulated in an animal model of multiple sclerosis. *J Neurosci Res*. 80:798-808. DOI:10.1002/jnr.20474. PMCID:PMC1226319. **IF = 2.59. Open access.**
41 **Iacobas DA**, Scemes E, Spray DC. (2004). Gene expression alterations in connexin null mice extend beyond the gap junction. *Neurochem. Intl.*, 45(2-3), 243-250. DOI: 10.1016/j.neuint.2003.12.008. PMID:15145539. **IF = 3.09**
40 **Iacobas DA**, Scemes E, Iacobas S, Urban M, Fan C, Haddad GG, Werner P, Iacobas I, Spray DC (2003). Coordinated Transcriptomics - A new tool to identify functional pathways in the cell. *Craiova Medicala Journal*, **5**(3), 72-82.
39 **Iacobas DA**, Urban M, Iacobas S, Scemes E, Spray DC. (2003). Array analysis of gene expression in connexin43 null astrocytes. *Physiol Genomics*, 15(3):177-190. DOI: 10.1152/physiolgenomics.00062.2003. PMCID:PMC2651830. **IF = 2.37. Open access.**
38 Mukherjee S, Belbin TJ, Spray DC, **Iacobas DA**, Weiss LM, Kitsis RN, Wittner M, Jelicks L, Scherer P, Ding A, Tanowitz HB. (2003). Microarray study of global changes in gene expression in a murine model of chronic Chagasic cardiomyopathy. *Parasitol Res.* 91(3):187-196. DOI:10.1007/s00436-003-0937-zPMID: 12910413. **IF = 2.33**
37 **Iacobaş DA**, Urban M, Iacobaş S, Spray DC. (2003) [Transcription regulation and coordination of some cell signaling genes in brain and heart of connexin 43 null mouse]. Rev Med Chir Soc Med Nat Iasi.;107(3):534-9. PMID: 14756057
36 **Iacobas DA**. (2002) Co-ordinated transcriptomics and the Theory of Genomic Patholog as new tools in drug discovery. *Future drug discovery,* 110-113.
35 **Iacobas DA**, Urban M, Massimi A, Iacobas S, Spray DC. (2002) Hits and misses from gene expression ratio measurements in cDNA microarray studies. *J. Biomol. Tech.* 13(3), 143-157. PMCID:PMC2279857. **Open access.**
34 **Iacobas DA**, Urban M, Massimi A, Spray DC. (2002). Improved procedure to mine the spotted cDNA arrays. *J Biomol Tech* 13(1), 5-19. PMCID:PMC2279841. **Open access.**

33 **Iacobas DA,** Urban M, Iacobas S, Spray DC. (2002). Control and variability of gene expression in mouse brain and in a neuroblastoma cell line. *Rom J Physiol.* 39:71-90. PMID: 15984670

32 **Iacobas DA**, Iacobas S. (2001). Noi concepte şi indicatori în terapia genetică. *Analele Universităţii Ovidius. Seria Ştiinţe medicale.* 7, 41-47.

31 **Iacobas DA**, Urban M, Iacobas S, Spray DC. (2001). Bazele matematice şi conceptuale ale analizei pattern-urilor profilelor de exprimare ale genelor individuale. *Analele Universităţii Ovidius. Seria Ştiinţe medicale*. 7, 48-52.

30 **Iacobas DA**, Urban M, Iacobas S, Spray DC. (2000). New protocol in spotting microarray technique. *Rom. J. Physiology*, 37(1-4), 69-80. PMID: 12413148

29 **Iacobas DA**, Iacobas S, Spray DC. (2000). The "patholog" of the genes expression profile, a new tool in defining, evaluating, and classifying the genetic diseases. *Rom. J. Physiology*, 37(1-4), 59-67. PMID: 12413147.

28 **Iacobas DA**. (2000). Ecosystem stability in the Theory of many-population correlation functions. *Ovidius University Annals of Physics*, 1(1). 12-19

27 **Iacobas DA**, Urban M, Iacobaş S, Spray DC. (2000). The "patholog" of the genes expression profile in stable transfected mouse N2A cells with Cx36 and Cx50. *Ars Medica Tomitana*, **VI** (23), 13-18.

26 **Iacobas DA**. (1996). New ideas in thermodynamic ecology. *Ecology of industrial regions*. 2(1-2), 96-100.

25 Iacobas S, **Iacobas DA**. (1996). Principles of ecological reconstruction. *Ecology of industrial regions*. 2(1-2), 101-106.

24 Pennec JP, **Iacobas DA**, Iacobas S. (1995). Membrane bioelectrogenesis and ionic channel activity simulation under drug action. *Rom J Physiol*, 32(1-4):3-10.

23 **Iacobas DA.** (1995). Ecologia matematică şi politica. *Buletin informativ A.O.Ş.* 8, 1-2.

22 **Iacobas DA.** (1995). The basis of thermodynamical ecology. *Procese ecologice, bază a dezvoltării societăţii.* 35-41.

21 Iacobas S, **Iacobas DA.** (1995). Actiunea strofantinei G asupra bioelectrogenezei nervului sciatic de *Rana temporaria*, studii "in vivo", *Ars Medica Tomitana*, **III,** 44-46.

20 **Iacobas DA.** (1995). The trophic postulate, *Ars Medica Tomitana*, **II**, 10-11.

19 **Iacobas DA**. (1992). Prelucrarea automată a semnalelor canalelor ionice. *Probleme de microelectronică, informatică şi telecomunicaţii.* **4:** 168-170.

18 **Iacobas DA**. (1992). Culegerea şi înregistrarea semnalelor canalelor ionice ale membranelor. *Probleme de Microelectronică, informatică şi telecomunicaţii.* **4:** 163-167.

17 **Iacobas DA**, Iacobas S. (1991). Parametrii de inhibare ai bioelectrogenezei de catre ouabaina. *Analele Universitatii "Ovidius" Constanta. Seria Stiinte medicale.* II, 143-151.

16 **Iacobas DA**, B.Amuzescu. (1991). Imbunătăţiri aduse tehnologiei micropipetelor de patch-clamp. *Analele Universitatii "Ovidius" Constanta. Seria Stiinte medicale.* II,, *30-33.*

15 **Iacobaş DA**. (1991). Descrierea structurii apei vicinale prin dubla dezvoltare în funcţii de corelaţie a distribuţiei spaţiale. *Analele Universitatii "Ovidius" Constanta. Seria Stiinte medicale.* II, 54-57.

14 **Iacobas DA**, Iacobas S. (1991). Formularea matematica a unei probleme medicale. *Analele Universitatii "Ovidius" Constanta. Seria Stiinte medicale.* II, 152-160.

13 **Iacobas DA**. (1991). Prelucrarea matematică a înregistrărilor unicanal din membrane şi deducerea unor structuri topologice ce ar putea genera curenţii culeşi. *Analele Universitatii "Ovidius" Constanta. Seria Stiinte medicale.* II, 23-27.

12 **Iacobas DA**, Stan V, Iacobas S. (1989). Computer simulation of some hydrated ions configurations, *Timisoara medicala*, Supplement Tom XXXIV, 73 - 78.

11 Iacobas S, **Iacobas DA**. (1988). A microcomputer based method in mathematical processing of single-channel data, *Seminars in Biophysics*, 5, 101-108.

10 Iacobas S, **Iacobas DA**. (1988). Ecological significant functions defined on a pre-Hilbert space of normal and "pathological" states of an ecosystem. *Ziridava* XVII, 44-45.

9 **Iacobas DA**, Iacobas S. (1988). A BASIC program for computer simulation of ecosystem behaviour. *Ziridava* XVII, 46-48.

8 Iacobas S, **Iacobas DA.** (1987). A mathematical transcription of a current problem in physiology. *Physiologie* 24(4):263-5. PMID: 3126510

7 **Iacobas DA**, Iacobas S. (1987). BASIC program in monitoring and analyzing of a living system. *Physiologie* 24(4):267-270. PMID: 3126511
6 **Iacobas DA.** (1987). Computer simulation of single channel events. *Timisoara medicala. Supplement Tom XXXII*. 53-55.
5 **Iacobas DA.** (1987). A method in computer processing of single channel data. *Timisoara medicala. Supplement Tom XXXII*. 59-61.
4 **Iacobas DA.** (1985). Theoretical model and simulation method in transepithelial transport. *Biophysics of biological membranes.* 49-55.
3 Iacobas S, **Iacobas DA**. (1983). Functions with medical meaning defined on a pre- Hilbert space for normal and pathological states of human organism. *Actual Problems in Biophysics*, 205-208.
2 **Iacobas DA**. (1983). Single-particle method to derive ionic transport equations in biological membrane close proximity. *Actual Problems in Biophysics*, 72-75.
1 Vasilescu V**, Iacobas DA**. (1983). Investigations concerning ATP-ouabain antagonism in bioelectrogenesis. Possible molecular explanation. *Actual Problems in Biophysics*, 68-71.

b. Submitted:

2. **Iacobas DA,** Iacobas S, Lee PR, Cohen JE, Fields RD. Covariance analysis identifies coordinated activity of transcriptional networks responding to the pattern of action potential firing in neurons. *Sci Rep*
1. **Iacobas DA,** Ede N, Iacobas S. The GMR approach of cancer gene therapy. *Physical Biol.*

3. Abstracts Given This Year (2018) based on posters or oral presentations

5 "The Gene Master Regulators Approach Provides the Best Targets for the Personalized Cancer Gene Therapy", International Conference on Disease Biomarkers and Precision Medicine (DBPM-2018), 10/22-24/2018 in Houston, TX; https://unitedscientificgroup.com/conferences/disease-biomarkers-and-precision-medicine
4 "Gene Master Regulators not Biomarkers should be tested for personalized cancer medicine", 4th World Congress on Cancer Research & Therapy, Rome (Italy), 08/13-15/2018.
3 "Gene Master Regulators and the Personalized Timely Cancer Gene Therapy", 3rd Intl. Conf on "Cancer Research and Targeted Therapy", London, UK, 08/06-08/2018.
2 "The GMR Approach of Cancer Gene Therapy", http://q-bio.org/wp/qbconference.
1 "Gene Master Regulators in Cancer Gene Therapy", 2nd Symposium of Translational Oncology STOP Cancer, Bucharest, Romania, 04/13-15/2018; http://www.stop-cancer-romania.ro.

4. Books

a. **Complete Books Written:**

19-25 **Iacobas DA**. (2000, 4th English edition). Ideas and Methods in the Physics of the Living. (total 7 editions: 4 English + 3 Romanian), Constanta: Tilia Press Intl. Ltd. ISBN 973-98470-6-4
18 Iacobas S, **Iacobas DA** (2000). Pharmacology of the nervous system (in Romanian). Constanta: Tilia Press Int. ISBN 973-98470-8-0.
17 **Iacobas DA**, Iacobas S (1998) Electrophysiology of the cell membrane (in Romanian) Constanta: Tilia Press Intl., Ltd. ISBN 973-98470-1-3.
10-16 **Iacobas DA**. (1997, 3rd English edition). Medical Biostatistics. (Total 7 editions: 3 English + 2 Romanian + 1 Spanish + 1 Greek), Bucharest: Bucura Mond. ISBN 973-97977-3-3.
6-9 **Iacobas DA**. (1996, 2nd English edition) Molecular Biophysics. (Total 4 editions: 2 English +2 Romanian) Bucharest: Bucura Mond. ISBN 973-97977-0-9
2-5 **Iacobas DA**. (1996, 2nd English edition) Cell Biophysics. (Total 4 editions: 2 English + 2 Romanian), Bucharest: Bucura Mond. ISBN 973-97977-2-5
1 **Iacobas DA**. (1995) (Romanian: Social pathology and therapy, A systems approach on social and political transition in post-communist Romania), Bucharest: Bucura Mond Ltd. ISBN 973-96889-5-0 (1st European PHARE Prize for "Young scientists and politicians in the civil society").

b. **Books Edited (include names of other editors, if applicable):**

1 **Iacobas DA** (1993-2000, Editor) Practical works of Biophysics. Ovidius University Press, 7 Romanian editions + 5 English editions).

c. **Book Chapters Written:**

27 Veliskova J, **Iacobas DA**, Iacobas S, Velisek L. (2017). Hormonal modulation of neuronal excitability. In *Reference Module in Neuroscience and Biobehavioral Psychology*, Elsevier, 1-6. http://dx.doi.org/10.1016/B978-0-12-809324-5.00082-1

26 Iacobas S, Neal-Perry G, **Iacobas DA** (2013). Analyzing the cytoskeletal transcriptome: sex differences in rat hypothalamus. In: Rolf Dermietzel (ed.), *The Cytoskeleton: Imaging, Isolation, and Interaction, Neuromethods*, 79: 119:133, Springer New York Heidelberg Dordrecht London, ISBN 978-1-62703-266-7 (eBook).

25 Iacobas S, **Iacobas DA** (2012). Effects of Chronic Intermittent Hypoxia on Cardiac Rhythm Transcriptomic Networks. In L XI & TV Serebrovskaya (Editors): *Intermittent Hypoxia and Human Diseases*, New York: Springer. Pp. 15-28. ISBN 978-1-4471-2906-6 (eBook)

24 Adesse D, Goldenberg RC, Fortes FS, **Iacobas DA**, Iacobas S, Campos de Carvalho AC, de Narareth M, Huang H, Tanowitz HB, Garzoni LR, Spray DC. (2011). Gap junctions and Chagas' disease. In: Louis M Weiss & Herbert B tanowitz (Editors) *Chagas Disease, Part B*, London Academic Press (by Elsevier), ISBN: 978-0-12-385895-5

23 Thi MM, **Iacobas DA**, Iacobas S, Spray DC. (2008). Fluid shear stress regulates vascular endothelial growth factor gene in osteoblasts. In *Skeletal Biology and Medicine, Part B* (Editor: Mone Zaidi), Wiley-Blackwell. ISBN: 978-1-573-31728-3.

22 **Iacobas DA**, Iacobas S, Spray DC (2005). Use of cDNA arrays to explore gene expression in genetically manipulated mice and cell lines. In: S Dhein, FW Mohr & M Delmar (Editors) *Practical Methods in Cardiovascular Research*, Berlin-Heidelberg-New York: Springer-Verlag. ISBN: 3-540-40763-4. pp. 907-915.

22 **Iacobas DA**, Scemes E, Iacobas S, Urban M, Fan C, Haddad GG, Werner P, Iacobas I, Spray DC (2003).
Coordinated Transcriptomics - A new tool to identify functional pathways in the cell. *Proceedings of the 1st MEDINF International Conference on Medical Informatics and Engineering*, Craiova, 72-82

21 **Iacobas DA**, Urban M, Iacobas S, Spray DC (2001). The "patholog" of the gene expression profile in evaluating the ecotoxin effects. In: C Brebia, Y Vilacampa & J Uso (Editors) *Ecosystems and sustainable development*, WIT Press, Southampton, U.K. 733-742.

20 **Iacobas DA**, Wilson D. (2000). Survey of the public awareness campaign on domestic violence. Proceedings to *Medinf'2000*. www.umfiasi.ro/medinf

19 Spray DC, **Iacobas DA**, Urban M. (2000). Theoretical and practical optimization of microarray technique. Proceedings to *Medinf'2000*. www.umfiasi.ro/medinf

18 **Iacobas DA**. (2000). Cancer classification by analyzing the patterns in the pre-Hilbert space of gene expression. Proceedings to *Medinf'2000.* www.umfiasi.ro/medinf

17 **Iacobas DA**. (1999). Statistical study on woman's health in the city of Constanţa. *Proceedings of the American - Romanian workshop* "*Healthy Communities"*. Mamaia. 14-15.

16 Steiner RWP, **Iacobas DA**, Verman D. (1999). The Project "Healthy Communities". Proceedings to *Medinf'99*. http://atlas.ici.ro/ehto/MEDINF99/papers/Iacobas/Iacobas1.htm

15 **Iacobas DA.** (1999) Stability and evolution in the Theory of many-population correlation functions.http://atlas.ici.ro/ehto/MEDINF99/papers/Iacobas/Iacobas1.htm

14 **Iacobas DA** (1998). Modelling of life origin and evolution. Proceedings to *MEDINF'98*. 204-212.

13 **Iacobas DA** (1998). Ecosystem modelling by network of virtual biocoenosis. Proceedings to *MEDINF'98*. 320-331.

12 **Iacobas DA**, Iacobas S. (1998). Drug efficiency estimate with the Theory of Pathologic. Proceedings to *MEDINF'98*. 80-85.

11 Georgescu G, Mihalas G, Spircu T, Tigan S, **Iacobas DA**. (1998). The current necessities of medical informatics education. Proceedings to *MEDINF'98*. 363-364.

10 **Iacobas DA**, Iacobas S. (1997). Evaluation and validation of the health care system by the Theory of Pathologic. In: E Kukurova (Editor) *Advances in Medical Physics, Biophysics and Biomaterials*, Bratislava

(**Slovak R**) Male Centrum, pp. 175-179, ISBN-80-967064-7-0.

9 **Iacobas DA (**1997). Instead of introduction... In: E Kukurova (Editor) *Advances in Medical Physics, Biophysics and Biomaterials*, Bratislava (**Slovak R**) Male Centrum, p. 1, ISBN-80-967064-7-0.

8 **Iacobas DA.** (1986). La thermodynamique des reseaux a l'analyse des phenomenes de transport dans les ecosytemes. In M Godeanu (editor): *Aspects energetiques et informationels dans les systhems vivants*, pp. 138-143.

7 Iacobas S, **Iacobas DA.** (1986). Le pathologique - synthese des informations sur l'organisme humain. In: M Godeanu (Editor) *Aspects energetiques et informationels dans les systhems vivants*, 127-134.

6 **Iacobas DA**. (1990). A cooperative model in the steady-state bioelectrogenesis. Proceedings to *The 8th Balkan Biochemical and Biophysical Days.* Cluj-Napoca. 256-257.

5 **Iacobas DA**, Stan V, Iacobas S. (1990). Computer simulation of some hydrated ion configurations in the presence of an external electric field. Proceedings to *The 8th Balkan Biochemical and Biophysical Days.* Cluj-Napoca. 263-264.

4 Spataru C, **Iacobas DA**. (1988). L'ordinateur personnel du medecin à la surveillance de l'évolution du malade. *Archives de l'Union Medicale Balkanique.* Tome XXVI. No.1-4. 118-119.

3 Spătaru C, **Iacobaş DA**. (1987). The correlation function approach in describing the structure of water in biological systems. Proceedings to *The Fourth International Conference "Water and ions in biological systems"*. Bucharest. 135-136.

2 **Iacobas DA**, Sanda Iacobaş. (1985). Algoritm pentru optimizarea pe computer a unor tratamente medicamentoase. In: A Florescu & E Niculescu Mizil (Editors) *Cibernetica aplicata*, Editura Academiei, Bucuresti, p.117-122

1 **Iacobas DA**, Iacobas S. (1980). Model of a theory of ecological efficiency (Romanian) In: A Ionescu, R Stancu (Editors) *Ecologie si protectia ecosistemelor*. CMSN Pitesti, Romania, 62-66.

5. Other Works Communicating Research Results to Scientific Colleagues (e.g., professional newsletters, blogs, video presentations, etc.)

5 **Iacobas DA.** (2018 video conference) "Gene Master Regulators in Cancer Gene Therapy", http://www.stop-cancer-romania.ro/prezentari/prezentari-2018/

4 Iacobas S, Thomas NM, Spray DC, **Iacobas DA**. (2010). Connexin-dependent regulatory networks in controlling the myelination gene fabric in mouse brain. 1st Intl Online and Onsite Ann Conf of Models of Human Diseases. http://www.vetbiotech.com/resources.php?id=29&p=1&site_cat=26

3 **Iacobas DA**, Spray DC. (2008). Connexin dependent transcriptomic networks. Scirus Topic Page. http://www.scitopics.com/Connexin_dependent_transcriptomic_networks.html

2 Knudson K, Brooks AI, Griffin C, Iacobas DA, Johnson K, Khitrov G, Levy S, Massimi A, Nowak N, Viale A, Grills G. (2003). A current profile of microarray laboratories: 2002-2003 Microarray Research Group Survey of laboratories using microarray technologies. http://www.abrf.org/ResearchGroups/Microarray/EPosters/MARG_Survey_Poster2003.pdf

1 Knudson KL, Griffin C, Brooks A, **Iacobas DA**, Johnson K, Khitrov G, Lilley K, Massimi A, Viale A, Zhang W, Bao Y, Grills G. (2002). Factors contributing to variability in DNA microarray results: the ABRF Microarray Research Group 2002 Study. J Biomol Tech. Posters on line http://www.abrf.org/ResearchGroups/Microarray/EPosters/MARG_2002_Poster.pdf

6. Other Works Communicating Research Results to General Public

- Numerous national and local TV radio talk shows, including 1 h weekly National TV broadcasting of "Universe, Matter, Life" 1 month in 1987
- Numerous columns and national and local journals on scientific, political and social issues

D. Innovation and Commercialization

1. Patents (list applications, patents awards, business development resulting from patents)

3 **Iacobas DA**, Amuzescu B. (1991). Device to clean and stabilise the patch-clamp pipettes (Romanian: Instalaţie pentru curatirea si stabilizarea micropipetelor de patch-clamp). Patent No.108844 (Romania).

2 **Iacobas DA**, Amuzescu B, Ciontu C. (1988). Procedure to fabricate the micro-pipettes for single-

channel current recording (Romanian: Procedeu de realizare a micropipetelor pentru culegerea curenţilor ionici unicanal din biomembrane). Patent no. 102203 (Romania).
1 **Iacobas DA**, Ailoaie, C. (1986). Micro-pipette puller (Romanian: Aparat pentru confectionarea micropipetelor din sticla). Patent no. 96704 (Romania

2. **Device, Software or Other Development:**

- numerous technical innovations in biophysics, nuclear medicine and genomics

3. **Evidence of Impacting Health/Scientific Policy or Clinical Practice Guidelines (e.g., note policy or guidelines where publications were cited)** N/A

"Women health at Constanta, Romania". University of Louisville, KY. 09/14/1999. (Host: Prof.P.W.Steiner).

"Survey of the project "Healthy communities for empowering women's health". 12th Conference "Environmental epidemiology in Pan America and the World: Building connections." Buffalo (USA), 2001

4. **Participation in Business Development and Commercialization**

- **Editor-in-Chief** Tilia Press Intl, a publishing house dedicated to publish textbooks for students at accessible prices

5. **Other Activities: Contributions to the databases of the National Center for Biotechnology Information** (https://www.ncbi.nlm.nih.gov/search/?term=iacobas)

a. Bioprojects:

7 **PRJNA479438:** Overexpression of miR-155 alters the hierarchy of gene master regulators in the adenocarcinomic human alveolar basal epithelial cell line A549 (human)
6 **PRJNA130217:** Alterations in the Brain Transcriptome in Plasmodium Berghei ANKA Infected Mice. Organism: Mus musculus.
5 **PRJNA119085:** Gene expression changes associated with myocarditis and fibrosis in hearts of mice with chronic chagasic cardiomyopathy. Organism: Mus musculus
4 **PRJNA119013:** Transcriptomic alterations in Trypanosoma cruzi-infected cardiac myocytes. Organism: Mus musculus
3 **PRJNA113619:** Effect of microgravity on brain gene expression in mice. Organism: Mus musculus
2 **PRJNA100989:** Fluid Shear Stress Up-regulates Vascular Endothelial Growth Factor Gene. Organism: Mus musculus
1 **PRJNA100967:** Gap junction and purinergic P2 receptor proteins as a functional unit: insights from transcriptomics. Organism: Mus musculus

b. Nucleotides:

5. Homo sapiens proline rich 7, synaptic (PRR7), transcript variant 3, mRNA; 1,375 bp linear mRNA; NM_001174102.2; GI:1134928664
4. Homo sapiens proline rich 7, synaptic (PRR7), transcript variant 1, mRNA; 1,543 bp linear mRNA; NM_030567.4; GI:291575151
3. Cloning vector 5A4 NP1, complete sequence 6,955 bp linear other-genetic; KM576780.1; GI:732555979
2. Homo sapiens proline rich 7, synaptic (PRR7), transcript variant 2, mRNA 1,458 bp linear mRNA; NM_001174101.1; GI: 291575153
1. Mus musculus plakophilin 2 (Pkp2), mRNA; 2,891 bp linear mRNA; NM_026163.2; GI:142349260

c. Proteins:

22. proline-rich protein 7 [Homo sapiens]; 274 aa protein; NP_001167573.1; GI:291575156
21. proline-rich protein 7 [Homo sapiens]; 274 aa protein; NP_001167572.1; GI: 291575154
20. proline-rich protein 7 [Homo sapiens]; 274 aa protein; NP_085044.2; GI:21361937
19. RecName: Full=F-box/WD repeat-containing protein 7; 713 aa protein; D3Z902.2; GI:

1270743855

18. RecName: Full=Proline-rich protein 7; AltName: Full=Synaptic proline-rich membrane protein; 269 aa protein; P0C6T3.1; GI:182676480

17. RecName: Full=Proline-rich protein 7; AltName: Full=Synaptic proline-rich membrane protein; 269 aa protein; Q3V0I2.1; GI:123785534

16. RecName: Full=Proline-rich protein 7; AltName: Full=Synaptic proline-rich membrane protein; 274 aa protein; Q8TB68.1; GI:74730435

15. RecName: Full=F-box/WD repeat-containing protein 7; AltName: Full=Archipelago homolog; Short=hAgo; AltName: Full=F-box and WD-40 domain-containing protein 7; AltName: Full=F-box protein FBX30; AltName: Full=SEL-10; AltName: Full=hCdc4; 707 aa protein; Q969H0.1; GI:44887885

14. RecName: Full=Glutamate receptor ionotropic, NMDA 2B; Short=GluN2B; AltName: Full=Glutamate [NMDA] receptor subunit epsilon-2; AltName: Full=N-methyl D-aspartate receptor subtype 2B; Short=NMDAR2B; Short=NR2B; AltName: Full=N-methyl-D-aspartate receptor subunit 3; Short=NR3; Short=hNR3; Flags: Precursor; 1484 aa protein; Q13224.3; GI:14548162

13. RecName: Full=Glutamate receptor ionotropic, NMDA 1; Short=GluN1; AltName: Full=Glutamate [NMDA] receptor subunit zeta-1; AltName: Full=N-methyl-D-aspartate receptor subunit NR1; Short=NMD-R1; Flags: Precursor 938 aa protein; P35439.1; GI: 548379

12. RecName: Full=Glutamate receptor ionotropic, NMDA 1; Short=GluN1; AltName: Full=Glutamate [NMDA] receptor subunit zeta-1; AltName: Full=N-methyl-D-aspartate receptor subunit NR1; Short=NMD-R1; Flags: Precursor 938 aa protein; Q05586.1; GI: 548377

11. RecName: Full=Glutamate receptor ionotropic, NMDA 2B; Short=GluN2B; AltName: Full=Glutamate [NMDA] receptor subunit epsilon-2; AltName: Full=N-methyl D-aspartate receptor subtype 2B; Short=NMDAR2B; Short=NR2B; Flags: Precursor 1482 aa protein; Q00960.1; GI:548372

10. RecName: Full=Disks large homolog 4; AltName: Full=Postsynaptic density protein 95; Short=PSD-95; AltName: Full=Synapse-associated protein 90; Short=SAP-90; Short=SAP90 724 aa protein; P31016.1; GI:400891

9. RecName: Full=Transcription factor AP-1; AltName: Full=Activator protein 1; Short=AP1; AltName: Full=Proto-oncogene c-Jun; AltName: Full=V-jun avian sarcoma virus 17 oncogene homolog 334 aa protein; P17325.1; GI:135300

8. RecName: Full=Transcription factor AP-1; AltName: Full=AH119; AltName: Full=Activator protein 1; Short=AP1; AltName: Full=Proto-oncogene c-Jun; AltName: Full=V-jun avian sarcoma virus 17 oncogene homolog; Short=Jun A 334 aa protein; P05627.3; GI:135299

7. RecName: Full=Transcription factor AP-1; AltName: Full=Activator protein 1; Short=AP1; AltName: Full=Proto-oncogene c-Jun; AltName: Full=V-jun avian sarcoma virus 17 oncogene homolog; AltName: Full=p39 331 aa protein; P05412.2; GI:135298

6. GFP [Cloning vector 5A4 NP1]; 238 aa protein; AIZ73052.1; GI:732555984

5. bbb22, partial [Cloning vector 5A4 NP1] 261 aa protein; AIZ73051.1; GI:732555983

4. bbb19 [Cloning vector 5A4 NP1] 210 aa protein; AIZ73050.1; GI:732555982

3. bbb20 [Cloning vector 5A4 NP1] 36 aa protein; AIZ73049.1; GI:732555981

2. accC1 [Cloning vector 5A4 NP1] 177 aa protein; AIZ73048.1; GI:732555980

1. plakophilin-2 [Mus musculus]; 795 aa protein; NP_080439.1; GI:21312960

d. Gene Expression Omnibus (GEO) DataSets:

57 GDS3655: Post-ischemic heart failure model [*Mus musculus*]

56 GSE116575: Overexpression of miR-155 alters the hierarchy of gene master regulators in the adenocarcinomic human alveolar basal epithelial cell line A549 [*Homo sapiens*].

55 GSE116361: Hierarchal gene master regulators of adenocarcinomic human alveolar basal epithelial cells A549 [*Homo sapiens*]

54 GSE110906: Genotoxicity of nitrosamines [*Gallus gallus*]

53 GSE110904: Gene expression in chicken embryo liver [*Gallus gallus*]
52 GSE109035: Proximity of oligodendrocytes remodels astrocytes' transcriptome [*Mus musculus*]
51 GSE107725: Estrogen protects neurotransmission transcriptome during status epilepticus [*Rattus norvegicus*]
50 GSE97427: Validation of the Personalized Gene Therapy by stably transfection of UBALD1 in the papillary (BCPAP) and anaplastic (8505C) thyroid cancer cell lines [*Homo sapiens*]
49 GSE97031: Validation of the Personalized Gene Therapy by stably transfection of NEMP1 (TMEM194A) in the papillary (BCPAP) and anaplastic (8505C) thyroid cancer cell lines [*Homo sapiens*]
48 GSE97030: Validation of the Personalized Gene Therapy by stably transfection of PANK2 in the papillary (BCPAP) and anaplastic (8505C) thyroid cancer cell lines [*Homo sapiens*]
47 GSE97028: Validation of the Personalized Gene Therapy by stably transfection of DDX19B in the papillary (BCPAP) and anaplastic (8505C) thyroid cancer cell lines [*Homo sapiens*]
46 GSE97002: Hierarchal gene master regulators of papillary (BCPAP) and anaplastic (8505C) thyroid cancer cell lines [*Homo sapiens*]
45 GSE97001: Hierarchal gene master regulators of one case of papillary thyroid cancer [*Homo sapiens*]
44 GSE84872: Gene-regulatory networks activated by pattern-specific generation of action potentials in dorsal root ganglia neurons [*Mus musculus*]
43 GSE84585: Remodeling of synaptic transmission genomic fabrics in the hypothalamic arcuate nucleus of a rat female model of infantile spasms [*Rattus norvegicus*]
42 GSE81061: Remodeling of synaptic transmission genomic fabrics in a model of infantile spasms [*Rattus norvegicus*]
41 GSE76694: Transcriptomic effects of prenatal exposure to corticosteroids on synaptic transmission [*Rattus norvegicus*]
40 GSE72707: Genomic alterations during the progress of pulmonary hypertension [*Rattus norvegicus*]
39 GSE72563: Haploinsufficiency in bromodomain containing 2 (Brd2) gene remodels synaptic transmission in female mouse striatum in a sex-specific manner [*Mus musculus*]
38 GSE72562: Haploinsufficiency in bromodomain containing 2 (Brd2) gene remodels synaptic transmission in male mouse striatum [*Mus musculus*]
37 GSE72561: Transcriptomic effects of law salt diet on the mouse left ventricle [*Mus musculus*]
36 GSE72415: Transcriptomic effects of Capridine on the acute promyelocytic leukemia HL-60 cell line [*Homo sapiens*]
35 GSE72414: Remodeling of DNA transcription genomic fabric in Capridine-treated LNCaP human prostate cancer cell line [*Homo sapiens*]
34 GSE72333: Remodeling of major genomic fabrics and their interplay in Capridine-treated DU145 classic human prostate cancer [*Homo sapiens*]
33 GSE72304: Remodeling of major genomic fabrics and their interplay in metastatic clear cell renal carcinoma [*Homo sapiens*]
32 GSE62686: PRR7 is a novel NMDA-dependent inhibitor of c-Jun ubiquitination in neurons [*Rattus norvegicus*]
31 GSE60013: EB-mediated NPY expression and release. [*Rattus norvegicus*]
30 GSE48170: Transcriptomic effects on early life and peripubertal dietary vitamin D deficiency on mouse ovary and pituitary gland [*Mus musculus*]
29 GSE48169: Transcriptomic effects on early life and peripubertal dietary vitamin D deficiency on mouse pituitary gland [*Mus musculus*]
28 GSE48167: Transcriptomic effects on early life and peripubertal dietary vitamin D deficiency on mouse ovary [*Mus musculus*]
27 GSE45348: Left-right transcriptomic differences in adult male mouse heart ventricles [*Mus musculus*]
26 GSE45339: Left-right transcriptomic differences in adult male mouse heart atria [*Mus musculus*]
25 GSE44858: Prenatal exposure to corticosteroids: hypothalamic changes relevant for postnatal behavioral impairments [*Rattus norvegicus*]
24 GSE44610: Postnatal glucocorticoids suppress myelination in a dose-dependent manner by genomic mechanisms [*Oryctolagus cuniculus*]

23 GSE44031: Transcriptome profiling of hypocampal CA1 after early life seizure-induced preconditioning may elucidate new genetic therapies for epilepsy [*Rattus norvegicus*]
22 GSE38450: Analyzing the cytoskeletal transcriptome: sex differences in rat hypothalamus [*Rattus norvegicus*]
21 GSE37239: The connexin43-dependent transcriptome during brain development: importance of genetic background [*Mus musculus*]
20 GSE29769: Functional and Transcriptomic Recovery of Infarcted Mouse Myocardium Treated with Bone Marrow Mononuclear Cells [*Mus musculus*]
19 GSE24088: Therapy with bone marrow cells recovers gene expression alterations in hearts of mice with chronic chagasic cardiomyopathy [*Mus musculus*]
18 GSE24086 record: Alterations in the Neurological Transcriptome by Malarial Infection in Mice [*Mus musculus*]
17 GSE18726: Astrocye proximity modulates the myelination gene fabric of oligodendrocyte [*Mus musculus*]
16 GSE18703: Cardiac gene expression and systemic cytokine profile are complementary in a murine model of post ischemic heart failure [*Mus musculus*]
15 GSE18175 record: Transcriptomic alterations in a myoblast cell line infected with four distinct strains of Trypanosoma cruzi [*Rattus norvegicus*]
14 GSE17324: Sex-dependent gene regulatory networks of the heart rhythm. [*Mus musculus*]
13 GSE17363: Gene expression changes associated with myocarditis and fibrosis in hearts of mice with chronic chagasic cardiomyopathy [*Mus musculus*]
12 GSE17330: Transcriptomic alterations in Trypanosoma cruzi-infected cardiac myocytes, [*Mus musculus*]
11 GSE12312: Effect of microgravity on brain gene expression in mice [*Mus musculus*]
10 GSE8168: "Compensatory" transcriptional mechanisms: Comparison of transcriptomes of Cx43 null and knockdown astrocytes [*Mus musculus*]
9 GSE8117: Fluid Shear Stress Up-regulates Vascular Endothelial Growth Factor Gene. [*Mus musculus*]
8 GSE8105: Gap junction and purinergic P2 receptor proteins as a functional unit: insights from transcriptomics. [*Mus musculus*]
7 GSE6355: Connexin-dependent transcellular transcriptomic networks in mouse brain [*Mus musculus*]
6 GSE3289: Chronic hypoxia alters the level, maturation and control of gene expression in mouse kidney [*Mus musculus*]
5 GSE2271: Gene expression and phenotypic characterization of mouse heart after chronic constant or intermittent hypoxia [*Mus musculus*]
4 GSE2446: Transcriptomic alterations induced by AT-EAE in mouse spinal cord [*Mus musculus*]
3 GSE196: Connexin43 null vs wildtype neonatal mouse heart [*Mus musculus*]
2 GSE1954: CX43 heterozygous, Cx43 null and Cx32 null vs wildtype neonatal mouse brain [*Mus musculus*]
1 GSE580: CX43 KO vs WT cortical astrocytes [*Mus musculus*]

e. Platforms:
9 GPL5371: AECOM 32K MOUSE OLIGONUCLEOTIDE ARRAY, MO2 printing series
8 GPL369: AECOM MOUSE 9K CHIP
7 GPL14005: AECOM Operon 3.0 34k Mouse Array
6 GPL9207: Duke Operon Rat 27k V3.0 printed oligonucleotide array
5 GPL8928: Duke Mouse 36K oligonucleotide array Operon V4.0
4 GPL8938: Duke Mouse 30k Oligonucleotide Array Operon V3.0.1
3 GPL2828: YaleNIA15k cDNA microarray
2 GPL1862: AECOM Mouse 27K Chip
1 GPL1698: AECOM Mouse 27k cDNA array

III. TEACHING INFORMATION

A. Educational Leadership Roles (title, dates, responsibilities)

1990 - 2001 **Chair Division of Biophysics, Biostatistics and Medical Informatics,** Ovidius University School of Medicine, Constanta Romania

B. Didactic Coursework

1) <u>High school level</u> (in Romanian)**:**

"Mircea cel Batran" National College of Mathematics and Physics, Constanta, Romania

Physics, Physics Laboratory (20h/week) 1976-1978

"M. Eminescu" High School of Natural Sciences, Constanta, Romania

Physics, Biophysics, Physics Laboratory (18h/w) 1978-1981

2) <u>Undergraduate College level</u> (in Romanian)**:**

"Carol Davila" University of Medicine & Pharmacy, Bucharest, Romania

Biophysics - practical classes, credit 2 semester hours 1981-1988
Seminars of Bioinformatics, credit 2 semester hours 1981-1988
Physiology & Clinical lab - practical classes, credit 2x2 semesters hours 1988-1990
Computational Methods in Physiology – Open course, credit 2 semester hours 1988-1990
"Connexins, Calcium waves and myelination", 2h/y Invited lecture within the optional Neuroscience course of Prof. L. Zagrean, Chair Department of Physiology, Carol Davila University of Medicine and Pharmacy, Bucharest 2008-2009

"Ovidius" University, Constanta, Romania

Biophysics Lectures in Romanian, English and French for MD, DDR, Biology and Ecology students, credit 2 semester hours 1990-2001
Biostatistics Lectures in Romanian and English for MD and DDR students, credit 2 semester hours 1992-2001
General Physics for foreign MD students in English and French, credit 2 semester hours 1992-1994
Mathematical Modeling of Biosystems for Biology and Ecology students, credit 2 semester hours 1994-2000

3) <u>Postgraduate level</u>:

Universidad de Caldas, Manizales, Colombia

Bioestadistica medica (in Spanish), 14 hrs, Intensive Introductory Course within an exploratory MS program in biomathematics in Colombia. 1999

Albert Einstein College of Medicine of Yeshiva University, Bronx, NY

"Transcriptomics" within E. Scemes course "Modern techniques applied to neuroscience", 6h/year 2003-2012
"A 2D stochastic model of calcium wave propagation in glia", 2hrs, Kennedy Center Computational Neuroscience Club 2005
"Microarray technology between fishing expedition and hypothesis driven research", 2h, Kennedy Center Computational Neuroscience Club 2005

New York Medical College, Valhalla, NY

"Microarrays to explore functional genomic fabrics" within C Ojaimi course, 2h/y 2013-2016
"Ecosystems stability and evolution" within N Haque course "Evolutionary Medicine", 2h/y, Graduate School of Basic Medical Sciences (GSBMS) 2016-2017

Prairie View A&M University, Prairie View, TX

"Biophysics and Medical Physics for Bioengineers", Special topic, ELEG 4103, Credit 3 semester hours 2018-

C. Curriculum Development Work (include institution where work was done)

1. Course(s)/Curricula to Which Contributions Have Been Made

I have introduced the following new courses:

"Ovidius" University, Constanta, Romania

Biophysics Lectures in Romanian, English and French for MD, DDR, Biology and Ecology students, credit 2 semester hours 1990-2001

Biostatistics Lectures in Romanian and English for MD and DDR students, credit 2 semester hours 1992-2001

General Physics for foreign MD students in English and French, credit 2 semester hours 1992-1994

Mathematical Modeling of Biosystems for Biology and Ecology students, credit 2 semester hours 1994-2000

Prairie View A&M University, Prairie View, TX

"Biophysics and Medical Physics for Bioengineers", Special topic, ELEG 4103, Credit 3 semester hours 2018-

D. Non-didactic Teaching

- mentored numerous postdocs, post graduate (PhD and MS) students and undergraduate students

E. Faculty Development or Continuing Medical Education (CME accredited seminars):

"Gene Master Regulators approach may provide the most legitimate targets for cancer gene therapy", Baylor College of Medicine, Houston 10/25/2018, host: Dr. Terzah, Division of Pediatric Hematology-Oncology.

"The personalized GMR approach of thyroid cancer gene therapy", MD Anderson Cancer Center, Houston, TX, 1/26/2018. Host: Dr. G. Calin, Co-Director, The RNA Interference and non-coding RNA Center.

"Hierarchal gene master regulators of papillary and anaplastic thyroid cancer phenotypes", New York Medical College Dept of Otolaringology, Valhalla, 9/9/2017, host Dr. A Moscatello, Chair

"Remodeling of host and pathogen genomic fabrics' topology and interplay in infections". Dept. of Microbiology and Immunology, New York Medical College, Valhalla, NY. 3/12/2015, Host. Dr. Cabbelo F.

"Genomic fabric remodeling in microflora-induced colon cancer", Gastroenterology Grand rounds, New York Medical College, Valhalla, NY. 12/11/2014, Host. Dr. E. Lebovics, Chief Division of Gastroenterology and Hepatobiliary Diseases, Department of Medicine.

"Mathematics of the cardiovascular disorders – correlation between pathophysiological and genomic data", Cardiology fellow's research conference, New York Medical College, Valhalla, NY. 12/3/2014, Host. Dr. G. Lanier, Director, Heart Failure & Pulmonary Hypertension, Department of Medicine.

"Developmental sex dichotomy of the heart rhythm determinant gene fabric", 6/28/2010. Albert Einstein College of Medicine, Department of Obstetrics & Gynecology and Women's Health. Host: Dr. A Etgen.

"Topology and dynamics of the myelination genomic fabric". 12/4/2009. Albert Einstein College of Medicine, Department of Neuroscience. Host: Dr. D.C. Spray.

"3D mathematical model of intercellular Ca2+ signaling in healthy and diabetic rat bladder and corpora". 2/8/2009. Albert Einstein College of Medicine, Department of Urology. Host: Dr. A. Melman.

"Alteration of transcriptomic networks in adoptive-transfer experimental autoimmune encephalomyelitis". 6/30/2007. Albert Einstein College of Medicine, Department of Neuroscience. Host: Dr. E. Scemes.

"Large scale transcriptomic analysis using oligonucleotide and cDNA microarrays", 6/11/2006. Albert Einstein College of Medicine, Department of Genetics. Host: A. Massimi, Director Microarray Core.

"¿Porque estudiar las biomatematicas en las ciencias de la salud?" Facultad de Enfermeria Universidad Libre de Pereira. Pereira, **Colombia**. 12/05/1999 (Host: Prof. Liliana E Achury, Dean)

F. Lectures and Presentations

1. International

"Evaluation and validation of the health care system by the Theory of pathologic". 20th International Congress on Medical Physics, Biophysics and Biomaterials, Stara Lesna, **Slovak R,** 1997**.**

"Ecology and politics. A mathematical approach. Report. 8º Congreso Internacional de Biomatematica, Panama City (**Panama**), 08/15/1997.

"Ecological reconstruction between science and politics". Spruce III International Conference, Statistics in Public Resources, Utilities and care of the Environment. Merida, **Mexico,** 1996

"For a U.N. Ministry of Peace. The Summer Festival of Peace University. Berlin, **Germany**, 1995

"The problem of ecological reconstruction. Sommerfestival der Friedensuniversität. Berlin, **Germany**, 1995

G. Visiting Professorships (include location, dates)

- Visiting Associate Professor, Dept. of Neuroscience, Albert Einstein College of Medicine (2001 – 2006)
- Visiting Associate Professor, Dept. Experimental Biophysics, Humboldt University, Berlin (Germany), 1996, Prof R Glaser, (German Academy)
- Visiting Assistant Professor, Institute of Biophysics, University of Ljubljana, Ljubljana, Slovenia, 1993, Prof S Svetina (Slovenian Academy of Sciences)
- Visiting Assistant Professor, Dept. Biophysics & Nuclear Medicine, Universite Bretagne Occidentale School of Medicine, Brest, France, 1992, Prof Morin (Tempus Program).

IV. PATIENT CARE AND CLINICAL CONTRIBUTIONS

A. Patient Care Responsibilities

1990-1992 **Chief Medical Physicist,** Nuclear Medicine Laboratory, Constanta District University Emergency Hospital

B. Clinical Leadership or Business Development (describe roles and documented outcomes)

1990-1992 **Director** of Nuclear Medicine Laboratory, Constanta District University Emergency Hospital

C. Voluntary Health Organization Participation

"Women health at Constanta, Romania". University of Louisville, KY. 09/14/1999. (Host: Prof.P.W.Steiner).

"Survey of the project "Healthy communities for empowering women's health". 12th Conference on Environmental epidemiology in Pan America and the World: Building connections. Buffalo (USA), 2001.

V. OTHER NOTABLE ACHIEVEMENTS

A. FICTION:

3 **Iacobas DA**. (2000). "Tucapai". (Romanian: Tucapai, philosophical novel on a possible quantum theory of cognition) Constanta: Tilia Press Intl. Ltd. ISBN 973-98470-9-9.

2 **Iacobas DA**. (1998) "Noul Tetractys". (Romanian: The New Tetractys, philosophical novel on a possible quantum refinement of Darwin's Theory of Evolution). Constanta: Tilia Press Intl. Ltd. ISBN 973-98470-3-X.

1 **Iacobas DA**. (1998) "Deseara, nu veni la gara! - Jurnalul lui Argon" (Romanian: Don't come at station tonight! Argon's diary, Thriller) Constanta: Tilia Press Intl. Ltd. ISBN 973-98470-

B. DRAMAS/SCRIPTS/MUSICALS:

4 Iacobas DA (2004) "Urzici, ciuperci şi caltabosi". (Stinging nettles, mushrooms and blood puddings, in Romanian) Lumea libera - A Worldwide Romanian Weekly, New York (in Romanian)

3 Iacobas D.A. (2000) "Deseara, nu veni la gară!" (Romanian: Don't come at station tonight!, in Romanian), Constanta: Tilia Press Intl. Ltd. ISBN 973-98470-2-1 - Student theater.

2 Iacobas DA (1982) "Yellow submarine in water with ions", student musical.

1 Iacobas D.A. (1980) “Un Faust atomic”. (An Atomic Faust, in Romanian) Constanta: Dobrogea noua. Musical.

C. TV AND RADIO BROADCASTING

- “Universe, matter, life” - 1 hr weekly for 4 weeks original series at the national Romanian Television –Channel 1 in 1987
- numerous talk shows on various scientific, political, social and cultural issues at national and local TV and radio stations (1990-2000)