



**Ioannis Economidis, short CV**

Dr Economidis is a graduate of the Agricultural University of Athens and holds a PhD on Biochemical Genetics from the University of Texas at Austin. His research was concentrated on protein/nucleic acid interactions related to gene expression. He worked as research associate in United States, in Belgium and in Greece. In 1987, he joined the Research General Directorate of the European Commission where he developed research sectors in the interface of Biotechnology and the Environment such as the safety of GMOs, topics of environmental biotechnology, and issues on molecular diversity. In 2005, he joined the team which developed the concept of the Knowledge Based Bioeconomy and developed sectors such as Environmental Biotechnology, Molecular Diversity, Metagenomics, GMO safety and Emerging Technologies serving Biotechnology such as the Synthetic Biology. He represented his service in the European Federation of Biotechnology, the Working Party on Biotechnology of the OECD and the EU-US Task Force on Biotechnology Research. He retired from the European Commission on June 2010. He continued his activity as member of advisory boards for several international activities. He served, also, as visiting professor at the Universities of Athens and Crete. His latest appointment was with the International Hellenic University offering distance lectures on Bioeconomy, Biosafety, Bioethics and Sustainability in a MSc programme of Bioeconomy, Biotechnology and Law.

## **CURRICULUM VITAE**

*Ioannis V. ECONOMIDIS*

### **PERSONAL DATA**

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Birthplace : Cairo, Egypt, May 25, 1945

Citizenship : Greek

Marital Status : Divorced, 2 children

### **EDUCATION**

1963-1968 Agricultural College of Athens, Department of Plant Pathology and Entomology.

1970-1975 University of Texas at Austin. Division of Biological Sciences, Laboratory of Biochemical Genetics. Thesis supervisor : Prof. R.P. Wagner, Fellowship from the Welch Foundation. Degree: Doctor of Philosophy (Ph. D.)

## **PROFESSIONAL EXPERIENCE**

- 2010 - 2015 Special Advisor of the Working Group on Synthetic Biology of the EU-US Task Force on Biotechnology Research.  
Member of the ERASynBio (FP 7 Development and coordination of Synthetic Biology in the European Research Area)
- Member of the Scientific Advisor Board of the project ST FLOW (Standardization and orthogonalization of the gene expression flow for robust engineering of NTN (new-to-nature) biological properties.).
- Visiting Professor University of Athens, Division of Biology, Dept. of Botany. Master Course on Microbial Biotechnology: Aspects of Bioeconomy, Biosafety and Bioethics.
- 2004 – 2010 Principal Scientific Officer, Unit of Biotechnologies, European Commission, Directorate-General Research  
Brussels, Belgium
- 2002 - 2004 Principal Scientific Officer, Biotechnology and Applied Genomics  
Commission of the European Communities  
Directorate-General Research  
Brussels, Belgium
- 1999 - 2002 Principal Scientific Officer, Cell Factory Unit  
Commission of the European Communities  
Directorate-General Research  
Brussels, Belgium
- 1994- 1998 Principal Scientific Officer, Biotechnology Unit  
Commission of the European Communities  
Directorate-General: Science, Research and Development  
Brussels, Belgium
- 1987-1994 Scientific Officer, Biotechnology Division  
Commission of the European Communities  
Directorate-General: Science, Research and Development.  
Brussels, Belgium
- 1983-1987 Senior Investigator at the International Institute of Cellular and Molecular Pathology (ICP), Brussels, Belgium.
- 1984 Visiting Scientist at the Institute of Cancer Research and Dept. of Human Genetics and Development, College of Physicians and Surgeons, Columbia University of New York
- 1977-1983 Research Associate at the National Hellenic Research Foundation. Biological Research Centre. Athens, Greece.

- 1981-1982 Research Associate in Cell Biology at the Worcester Foundation for Experimental Biology, Shrewsbury, Ma. USA.
- 1978 Visiting Scientist at the DKFZ, Heidelberg, The Institute für Zellforschung, FRG. (Director: Prof. C. E. Sekeris)
- 1976-1977 Research Associate at Nuclear Research Center "Demokritos"; Biology Division, Laboratory of Cellular Mechanisms.
- 1975-1976 Lecturer at the University of Thessaloniki, Greece; Department of General Biology.
- 1968-1970 Fellowship from the Greek Atomic Energy Commission, at the Nuclear Research Center "Demokritos", Athens. Laboratory of Physiological Genetics.

## **LANGUAGES**

Greek, English, French.

## **AFFILIATIONS**

American Society for Cell Biology, Greek Biochemical and Biophysical Society, Greek Society of the Biological Sciences, Belgian Biochemical Society, Hellenic Biotechnology Society, Scientific Society "Microbiokosmos", International Society of Biosafety Research (Advisory Board), Centre for Environmental Risk Assessment (Advisory Board). EC-US Task Force on Biotechnology Research,

## **TEACHING**

- Interdisciplinary lectures in Technoscope: an Advanced Course on Technology Management and Strategy for Business Executives (2000-2005). Technical University of Athens, GR.
- M.Sc. Graduate lectures on Bioeconomy and Bioethics of Plant Biotechnology in the Institute of Molecular Biology and Biotechnology of University of Crete (Heraklion), GR.
- M.Sc. Graduate lectures on the Bioeconomy of Microbial Biotechnology. Biology Division of University of Athens, GR.
- M.Sc. Graduate lectures on Biotechnology, Bioeconomy, Biosafety and Bioethics. Interdepartmental Graduate Programme on Health and Environment. Medical School of University of Athens, GR.
- MSc in Bioeconomy: Biotechnology and Law. Distance lectures on Bioeconomy, Biosafety, Bioethics and Sustainability. International Hellenic University.

## **PUBLICATIONS**

### A. Full papers

1. Economidis, I.V. Studies on the regulation of the branched chain amino acyl-tRNA synthetases of the fungus *Neurospora crassa*. Ph. D. Thesis, 1975.
2. Economidis, I.V. and R.P. Wagner. Non-inhibition of the cytosolic and mitochondrial isoleucyl-, valyl- and leucyl-tRNA synthetases of *Neurospora crassa*, by isoleucine, valine and leucine biosynthetic precursors. Genetics, **77**: s19, 1974.
3. Economidis, I.V. and R.P. Wagner. Studies on the regulation of the branched chain amino acyl-tRNA synthetases of the fungus *Neurospora crassa*. Whilhem Roux's Archives, **189**: 171, 1980.
4. Economidis, I.V. and T. Pederson. Assembly of nuclear ribonucleoprotein particles during in vitro transcription. Proceedings of the National Academy of Sciences U.S.A. **79**: 1469-1477, 1982.

5. Economidis, I.V. and T. Pederson. Assembly of nuclear ribonucleoprotein particles during in vitro transcription. Perspectives on Genes and the Molecular Biology of Cancer. 35th Annual Symposium on Fundamental Cancer Research, 1982.
6. Economidis, I.V. and T. Pederson. Assembly of nuclear ribonucleoprotein particles during in vitro transcription. CETUS UCLA symposium on Gene Regulation, Keystone, Colorado. 1982.
7. Sekeris, C.E., I.V. Economidis and M. Hatzoglou. Homoribonucleotide polymerases of eucaryotic cells. In Cell Function and Differentiation, Akoyunoglou et al, eds., Alan R. Liss, Inc., New York, 1982.
8. Economidis, I.V. and T. Pederson. hnRNA-associated proteins identified by RNA-protein cross-linking in vivo. Proc. Natl. Acad. Sci., USA, 80 : 1599-1602, 1983.
9. Economidis, I.V. and T. Pederson. In vitro assembly at a pre-messenger ribonucleoprotein. Prot. Natl. Acad. Sci., USA, 80 : 4226-4300, 1983.
10. Economidis, I.V. and G.G. Rousseau. Association of the glucocorticoid hormone receptor within ribonucleic acid. FEBS Letters 181 : 47-52, 1985.
11. De Meyts, P., Hallez, S., Gu, J.L., Merchez, M., Economidis, I.V. Rousseau, G.G., Van Snick, J., Spinel, G., Squifflet, Y.P., Ravoet, A.M., De Bruyère, M., Williard, K., Pessaire, F., Lemoine, C., Boon, T., Toyoda, H., Chen, F., and Shively, J. Aberrant expression of HLA-DR determinants on human thyroid cells treated with phytohemagglutinin and gamma-interferon, and on human melanoma cells: Demonstration with a binding assay using a new potent 125I-monoclonal antibody against the HLA-DR beta-chain (Mab 03-D7). Annals New York Acad. Sci., 475 359-360, 1986.
12. Barlow, J.W., Voz, M.L.J., Eliard, P.H., Mathy-Hartert, M., De Nayer, Ph., Economidis, I.V., Belayew, A., Martial, J.A. and Rousseau, G.G. Thyroid hormone receptors bind to defined regions of the growth hormone and placenta lactogen genes. Proc. Natl. Acad. USA, 83, 9021-9026, 1986.
13. Rousseau, G.G., Eliard, P.H., Barlow, J.W., Lemaigre, F.P., Lafontaine, D.A., De Nayer, Ph., Economidis, I.V., Formstecher, P., Mathy-Hartert, M., Voz, M.L.J., Belayew, A. and Martial, J.A. Approach to the molecular mechanism of the stimulation of growth hormone gene expression by glucocorticoid and thyroid hormones. J. Steroid Biochem.27, 149-158, 1987.
14. Rajpert, E.J., Lemaigre, F.P., Eliard, P.H., Place, M., Lafontaine, D.A., Economidis, I.V., Belayew, A., Martial, J.A. and Rousseau, G.G. Glucocorticoid receptors bound to the antagonist RU486 are not down-regulated despite their capacity to interact in vitro with defined gene regions. J. Steroid Biochem.; 26., 513-520, 1987.

15. Lafontaine, D., Economidis, I.V. and Rousseau, G.G. Multifactorial Transcriptional Control of the Triiodothyronine-Sensitive Growth Hormone Gene : A Plausible Model. *Hormone and Metabolic Research, Suppl. series* 1987.
16. Sablonnière, B., Economidis, I.V., Lefebvre, P., Place, M., Richard, C., Formstecher, P., Rousseau, G. and Dautrevaux, M., RNA binding to the untransformed glucocorticoid receptor. *Eur. J. Biochem.* 177, 371-382 (1988).
17. De Nettancourt, D. and I. Economidis. Biosafety Research in the framework of the Biotechnology Action Programme. (1988)
18. Economidis, I. Research and Training activities of the European Communities in Biotechnology : Biosafety, In Risk Management in Biotechnology European Forum (J. Defaye, H. de Roissart and P.M. Vignais Eds). Paris (1989)
19. Economidis, I. Research activities of the European Communities on biosafety. In Ingegneria genetica e rischio ambientale (S. Dumontet and E. Landi, Eds) Giardini Naxos ME (1990).
20. Economidis, I. (Ed). Advanced monitoring and computer control of biotechnological processes. CEC - BAP. European Laboratory Without Walls.
21. Economidis, I. (Ed.) Biotechnology R&D in the EC, Risk Assessment part I and part II. Brussels (1991).
22. Economidis, I. Research activities of the European Communities in the biosafety. In Scientific-Technical Backgrounds of Biotechnology Regulations (F. Campagnari, Ed.) Kluwer Academic Publishers. Technological Innovation. 2 31-36 (1994).
23. Economidis, I. An Overview of the Biotechnology Research Activities in the European Community. Advances in Biochemical Engineering. 46, 225-234 (1992).
24. Economidis, I. Biosafety Research in the European Community: Results and Perspectives. In 2nd International Symposium on the Biosafety Results of Field Tests of Genetically Modified Plants and Microorganisms. (Casper, R. and Landsmann, J. Eds) Goslar (1992).
25. Economidis, I. Biotechnology for the Environment. ISEB'95. Brighton, UK (1995)
26. Economidis, I. Biosafety Research. What's next? In Unanswered Safety Questions when employing GMOs (Workshop organised by the Coordination Commission Risk Assessment Research), Leeuwenhorst, The Netherlands.(1995)
27. Economidis, I. Prenormative biosafety research on the release into the environment of genetically modified organisms. In Second International CCRO Workshop, Leeuwenhorst, The Netherlands.(1998)

28. Economidis, I. Summation of the 5th International Symposium on the Biosafety Results of Field Tests of Genetically Modified Plants and Microorganisms. Braunschweig (1998)
29. Kessler, Ch. and I. Economidis (Eds). EC-sponsored research on safety of genetically modified organisms. A review of results. EUR 19884, European Commission 2001.
30. I. Economidis and Ch. Kessler. Safe or Unsafe? 15 Years of EU Risk Assessment Research on GMOs. In Handbook of Plant Biotechnology. (P. Christou and H. Klee) 2004 John Wiley & Sons Ltd.
31. European Commission Directorate-General for Research and Innovation Biotechnologies, Agriculture and Food: A decade of EU-funded GMO research (2001-2010) J. Hoegel, C. Cichocka and I. Economidis .
32. D. Cichocka, J. Claxton, I. Economidis, J. Hoegel, P. Venturi and Alfredo Aguilar. European Union Research and Innovation Perspectives on Biotechnology. *J. Biotechnology*, v. 156 pp. 382-391 (2011)
33. Alfredo Aguilar, Danuta Cichocka, Jens Hoegel, Piero Venturi and Ioannis Economidis. Biotechnology research for innovation and sustainability in agriculture in the European Union. In *"Successful new genetics crops in emerging economies"* Cambridge University Press, 2013
34. Kenneth Timmis, Victor de Lorenzo, Willy Verstraete, Jose Luis Garcia, Juan Luis Ramos, Helena Santos, Ioannis Economidis, Balbina Nogales, James Kenneth Timmis, Cesar Fonseca, Carla Pruzzo, Amalia Karagouni, Nickolas Panopoulos, and Bernard Dixon. "Pipelines for New Chemicals: a strategy to create new value chains and stimulate innovation-based economic revival in Southern European countries" *Environmental Microbiology* (2013) doi:10.1111/1462-2920.12337

## B. Abstracts

1. Economidis, I.V. and Wagner, R.P. Studies on the regulation of cytosolic and mitochondrial branched chain aminoacyl-tRNA synthetases of *Neurospora*. Intern. Biochemistry Conference, Hamburg, F.R.G., 1976.
2. Economidis, I.V. and Wagner, R.P. Studies on the regulation of branched chain aminoacyl-tRNA synthetases of *Neurospora crassa*. Greek-Bulgarian Biochemical and Biophysical Days, Athens, Greece, 1977.
3. Economidis, I.V. and Sekeris, C.E. Homoribopolynucleotide synthetase from rat liver nuclei. Meeting of the Greek Biochemical and Biophysical Society, Athens, Greece, December 1979.



4. Economidis, I.V. and Sekeris, C.E. Homoribopolynucleotide synthetase from rat liver nuclei. Third Balkan Biochemical and Biophysical Days, Beograd, Yugoslavia, May 1980.
5. Economidis, I.V. and Sekeris, C.E. Homoribopolynucleotide synthetase from rat liver. 4th Eur. Molecular Biology Organization Workshop on Messenger RNA Formation in Eukaryotes. Arolla, Switzerland, August, 1980.
6. Economidis, I.V. and Pederson, T. hnRNP assembly in vivo and in vitro. 5th Eur. Molecular Biology Organization Workshop on Messenger RNA Formation in Eukaryotes. Arolla, Switzerland, August 1980.
7. Economidis, I.V. and Pederson, T. hnRNP assembly in vivo and in vitro. 22th Annual Meeting of the American Society for Cell Biology, Baltimore, USA, December 1982.
8. Economidis, I.V. and Pederson, T. Assembly of a specific RNA polymerase II transcript into hnRNP. 3rd Sitges Conference on Nucleic Acids Protein Interaction. Sitges, Spain, April 1983.
9. Economidis, I.V. and Pederson, T. Assembly of a pre-messenger ribonucleoprotein in vitro. 2nd Annual Meeting of RNA Processing, Cold Spring Harbor, USA, May 1983.
10. Economidis, I.V. and Rousseau, G.G. Possible association of a RNA with the non-transformed glucocorticoid receptor. FNRS Contact Group on "Steroid Hormones", Leuven, October 1984.
11. Economidis, I.V. and Rousseau, G.G. Possible association of a RNA molecule with the glucocorticoid hormone receptor. 24th Annual Meeting of the American Society for Cell Biology, Kansas City, Mi, November 1984.
12. De Meyts, P., Hallez, S., Gu, J.L., Merchez, M., Economidis, I.V., Rousseau, G.G., Van Snick, J., Spinel, C., Suifflet, Y.P., Ravoet, A.M., De Bruyère, M., Willard, K., Toyoda, H., Chen, H., Shively, J. Aberrant expression of class II molecules on endocrine cells : Demonstration with a new potent 125I-monoclonal antibody against the HLA-DR antigen. Intern. Meeting on the Autoimmune Aspects of Type I Diabetes and Thyroid Diseases, St John's Newfoundland, Canada, August, 1985.
13. Barlow, J.W., Voz, M.L.J., Eliard, P.H., De Nayer, Ph., Economidis, I.V., Belayew, A., Martial, J.A., and Rousseau, G.G. Binding of human T3 receptor to defined regions of the human growth hormone (hGH) gene. 15th Annual Meeting European Thyroid Association, Stockholm, June 1986. Ann. Endocrinol. (Paris) 47, 10, abstr 3, 1986.
14. Lafontaine, D., Rousseau, G.G., Martial, J.A., and Economidis, I.V. Accurate and efficient cell-free transcription of the human growth hormone gene. 17th FEBS Meeting, Berlin, August 1986, Biol. Chem. Hoppe Seyler 367, 119, 1986.

15. Barlow, J.W., Voz, M.L.J., Eliard, P.H., Mathy-Hartert, M., De Nayer, Ph., Economidis, I.V., Belayew, A., Martial, J.A. and Rousseau, G.G. Thyroid hormone receptors bind to defined regions of the human growth hormone (GH) and placental lactogen (CS) genes. 61th Ann. Meeting American Thyroid Association, Phoenix, Arizona, 1986, Endocrinology, Bangkok, Thailand, 1986, abst. 82.
17. Louette, J., Voz, M., Mathy-Hartert, M., Berwaer, M., Lemaître-Mathy, C., Belayew, A., Martial, J., Barlow, J., Lemaigre, F., Eliard, P., De Nayer, Ph., Economidis, I.V. and Rousseau, G.G. Interaction in vitro of glucocorticoid and thyroid hormone receptors with the human prolactin gene. Arch. Intern. Physiol. Biochim. (Paris), 95 : B28, 1987.
18. Lafontaine, D., Place, M., Belayew, A., Martial, J., Rousseau, G.G. and Economidis, I.V. Cell-free transcription of the glucocorticoid-sensitive human growth hormone gene. Proc. 8th Internat. Symposium of the J. Steroid Biochem. Paris, 1987.
19. Lemaigre, F., Rajpert, E., Eliard, P., Place, M., Lafontaine, D., Economidis, I.V., Belayew, A., Martial, J. and Rousseau, G.G. The antagonist RU486 promotes binding of the glucocorticoid receptor to the growth hormone gene in vitro but fails to down regulate the receptor in intact cells. Proc. 8th Internat. Symposium of the J. Steroid Biochem. Paris, 1987.
20. Barlow, J.W., Voz, M.L.J., Eliard, P.H., Mathy-Hartert, M., De Nayer, P., Lafontaine, D., Economidis, I.V., Belayew, A., Martial, J.A. and Rousseau, G.G. The putative c-ERB-A proto-oncogene product binds to defined gene regions. EMBL Conference on Oncogenes and Growth Control. Heidelberg, 1987.
21. Economidis, I.V., Sablonnière, B., Place, M., Formstecher, P. and Rousseau, G.G. Association of the Glucocorticoid Receptor with RNA Molecules. EMBO-NSF Workshop on RNA-Protein Interactions. Urbino, 1987
22. Lafontaine, D.A., Lemaigre, F.P., Place, M., Rousseau, G.G. and Economidis, I.V. Cell-free control of growth hormone and placental lactogen genes transcription. Jacques Monod Conference on Control of Gene Expression. Roscoff, 1987.
23. Bertazzoni, U. and I. Economidis. Present and future activities on Risk Assessment within the EEC Biotechnology Action Programme. The Release of Genetically-engineered Micro-organisms. Cardiff, U.K. 1988.
24. Economidis, I. Environmental Biotechnology in Europe. AAAS, Chicago, USA. 1992.
25. Economidis, I. Biosafety Research in the European Community. ECB7. Nice, F. , 1995.

26. Economidis, I. Biotechnology for the Environment. Development of a European Research Sector. Biodegradation of Organic Pollutants. Mallorca, ES. 1996.
27. Economidis, I. Issues of Bioethics and Biosafety related to Transgenic Plants. 13<sup>th</sup> Congress of the Federation of the European Societies of Plant Physiology. Hersonissos, Grete, GR. 2002.
28. Economidis, I. Safe or unsafe? Almost two decades of EC risk assessment on GMOs. 8<sup>th</sup> Annual conference of the European Biosafety Association. Barcelona, ES, 2005.
29. Economidis, I. Molecular Microbial Diversity and Metagenomics in the FP7 European Programmes. BAGECO 9, Wernigerode, DE. 2007.
30. Economidis, I. Synthetic Biology in the EC. Towards a European Strategy in Synthetic Biology. Brussels, BE, 2008.
31. Economidis, I. Environmental Biotechnology the *sine qua non* of Knowledge-based Bioeconomy. Chania, GR. 2008.
32. Economidis, I. The safety of GMOs in the research agenda of the Knowledge-based Bioeconomy. The 10<sup>th</sup> International Symposium on the Biosafety of Genetically Modified Organisms. Wellington, New Zealand, 2008.
33. Economidis, I. The importance of Synthetic Biology activities in a European Biotechnology Programme. Hearing in the European Group of Ethics, European Commission, BE, 2009.
34. Economidis, I. Investment models in Synthetic Biology (Round table). Opportunities and challenges in the emerging field of Synthetic Biology. US National Academies, OECD, UK Royal Society, Washington D.C., 2009.
35. Economidis, I. The importance of Microbial diversity in the Knowledge based bioeconomy. Microbiokosmos, Athens, GR. 2009.
36. Economidis, I. Mini-Symposium on Synthetic Biology. BAGECO 11, Corfu, GR. 2011.