

BIOGRAPHICAL SKETCH

NAME BOSSIS, IOANNIS	CURRENT POSITION Professor, Agricultural University of Athens Division Director, Anatomy and Physiology of Domestic Animals		
EDUCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Agricultural University of Athens, Athens, Greece	B.Sc	1992	Agricultural Engineering
Oklahoma State University, Stillwater OK	Ph.D.	1997	Animal Breeding and Reproduction
University of Maryland, College Park MD	Post-docctoral	1998-2001	Endocrinology, Developmental Biology
National Institutes of Health, Bethesda MD	Post-doctoral	2001-2003	Gene Therapy, Viral Vectors, Virology

A. Positions, Memberships, Editorial Services, Honors

Professional Employment

2003-2004: Research Associate, Dept. of Pathology, Johns Hopkins School of Medicine, Baltimore MD

2004-2007: Staff Scientist, NICHD, NIH, Developmental Endocrinology Branch, Bethesda MD

2007-2014: Professor of Epidemiology and Virology, Dept. of Veterinary Medicine, University of Maryland, College Park MD

2014-current: Professor of Animal Biosecurity and Infectious Diseases, Dept of Animal Science and Aquacultures, Agricultural University of Athens, Greece

2016-current: Division Director, Anatomy and Physiology of Domestic Animals, Dept of Animal Science and Aquacultures, Agricultural University of Athens, Greece

Editorial Service

Associate Editor: Frontiers in Genomic Endocrinology

Editorial Board: Molecular and Cellular Probes

Editorial Board: Dataset Papers in Oncology

Reviewer for journals: Journal of Animal Science, Journal of Dairy science, Biology of Reproduction, Endocrinology, Journal of Endocrinology, Journal of Clinical Endocrinology and Metabolism, Journal of Virology, Virology, Cancer Immunology Immunotherapy, Journal of Infectious Diseases, Human Gene Therapy, European Journal of Immunology, Veterinary Immunology and Immunopathology, FASEB Journal, Cancer Research, Endocrine Related Cancer, Human Molecular Genetics, Autophagy, Antioxidants and Redox Signalling, Vaccine, Journal of the Hellenic Veterinary Medical Society, Hormones (Athens).

B. Selected Peer-Reviewed Publications

1. **Bossis I**, Wettemann RP, Welty SD, Vizcarra JA, Spicer LJ, Diskin MG. 1999. Nutritionally induced anovulation in beef heifers: ovarian and endocrine function preceding cessation of ovulation. *Journal of Animal Science* 77:1536-1546.
2. **Bossis I**, Wettemann RP, Welty SD, Vizcarra JA, Spicer LJ. 2000. Nutritionally induced anovulation in beef heifers: ovarian and endocrine function during realimentation and resumption of ovulation. *Biology of Reproduction* 62:1436-44.
3. Wettemann RP and **Bossis I**. 2000. Energy intake regulates ovarian function in beef cattle (review). *Proceedings of the American Society of Animal Scientist*. Available at: <http://www.asas.org/jas/symposia/proceedings/0934.pdf>
4. **Bossis I** and Porter TE. 2000. Ontogeny of corticosterone inducible growth hormone secreting cells during chick embryonic development*. *Endocrinology* 141: 2683-90.
5. **Bossis I** and Porter TE. 2001. Identification of the somatostatin receptor subtypes involved in regulation of growth hormone secretion in chickens. *Molecular and Cellular Endocrinology* 182:203-213.

6. **Bossis I** and Porter TE. 2003. Evaluation of glucocorticoid-induced growth hormone gene expression in chicken embryonic pituitary cells using a novel in situ mRNA quantitation method. *Molecular and Cellular Endocrinology* 201:13-23.
7. **Bossis I** and Chiorini JA. 2003. Cloning of an Avian Adeno-Associated Virus (AAAV) and Generation of Recombinant AAAV Particles. *Journal of Virology* 7(12):6799-6810.
8. Stratakis CA, **Bossis I**. 2004. Genetics of the adrenal gland (Review). *Reviews in Endocrine and Metabolic Disorders*. 5:53-68.
9. Voutetakis A, Kok MR, Zheng C, **Bossis I**, Wang J, Cotrim AP, Marracino N, Goldsmith CM, Chiorini JA, Loh YP, Nieman LK, Baum BJ. 2004. Reengineered salivary glands are stable endogenous bioreactors for systemic gene therapeutics. *Proceedings of the National Academy of Science* 101:3053-3058.
10. **Bossis I**, Nishimura S, Muchow M, Porter TE 2004. Pituitary Expression of Type I and Type II Glucocorticoid Receptors during Chicken Embryonic Development and Their Involvement in Growth Hormone Cell Differentiation. *Endocrinology* 145:3523-3531.
11. Schmidt M, Katano H, **Bossis I**, Chiorini JA. 2004. Cloning and Characterization of a Bovine Adeno-Associated Virus. *Journal of Virology* 78:6509-6516.
12. Voutetakis A, Sertedaki A, Livadas S, Maniati-Christidi M, Mademtzis I, **Bossis I**, Dacou-Voutetakis C, Messinis IE. 2004. Ovulation induction and successful pregnancy outcome in two patients with Prop1 gene mutations. *Fertility and Sterility* 82:454-457.
13. Voutetakis A, Argyropoulou M, Sertedaki A, Livadas S, Xekouki P, Maniati-Christidi M, **Bossis I**, Thalassinou N, Patronas N, Dacou-Voutetakis C. 2004. Pituitary MR imaging in 15 patients with Prop1 gene mutations: Pituitary enlargement may originate from the intermediate lobe. *Journal of Clinical Endocrinology and Metabolism* 89:2200-2206.
14. **Bossis I**, Voutetakis A, Bei T, Sandrini F, Griffin K, Stratakis CA. 2004. Protein kinase A and its role in human neoplasia: the Carney complex paradigm (Review). *Endocrine Related Cancer* 11:265-280.
15. Stratakis CA, Matyakhina L, Courkoutsakis N, Patronas N, Voutetakis A, Stergiopoulos S, **Bossis I**, Carney AJ. 2004. Pathology and Molecular Genetics of the Pituitary Gland in Patients with the 'Complex of Spotty Skin Pigmentation, Myxomas, Endocrine Overactivity and Schwannomas' (Carney Complex. *Front. Horm. Res.* 32:253-264.
16. **Bossis I**, Voutetakis A, Matyakhina L, Pack S, Abu-Asab M, Bourdeau I, Griffin K, Courkoutsakis N, Stergiopoulos S, Batista D, Tsokos M, Stratakis CA. 2004. A pleiomorphic GH pituitary adenoma from a Carney complex patient displays universal allelic loss at the protein kinase A regulatory subunit 1A (PRKARIA) locus. *Journal of Medical Genetics* 41:596-600.
17. **Bossis I**, Stratakis CA. 2004. Minireview: PRKARIA: normal and abnormal functions. *Endocrinology* 145:5452-5458.
18. Kok MR, Voutetakis A, Yamano S, Wang J, Cotrim A, Katano H, **Bossis I**, Chiorini JA, Tran SD, Tak PP, Baum BJ. 2005. Immune responses following salivary gland administration of recombinant adeno-associated virus serotype 2 vectors. *Journal of Gene Medicine* 7:432-41.
19. Muchow M, **Bossis I**, Porter TE. 2005. Ontogeny of pituitary thyrotrophs and regulation by endogenous thyroid hormone feedback in the chick embryo. *Journal of Endocrinology* 184:407-416.
20. Voutetakis A, **Bossis I**, Kok MR, Zhang W, Wang J, Cotrim AP, Zheng C, Chiorini JA, Nieman LK, Baum BJ. 2005. Salivary glands as a potential gene transfer target for gene therapeutics of some monogenetic endocrine disorders. *Journal of Endocrinology*, 185:363-372.
21. Di Pasquale G, Rzadzinska A, Schneider ME, **Bossis I**, Chiorini JA, Kachar B. 2005. A Novel Bovine Virus Efficiently Transduces Inner Ear Neuroepithelial Cells. *Molecular Therapy*, 11:849-855.
22. **Bossis I**, Roden RB, Gambhira R, Yang R, Tagaya M, Howley PM, Meneses PI. 2005. Interaction of tSNARE Syntaxin 18 with the papillomavirus minor capsid protein mediates infection. *Journal of Virology* 79:6723-6731.
23. Porter TE, Ellestad LE, Fay A, Stewart JL, **Bossis I**. 2006. Identification of the Chicken Growth Hormone-Releasing Hormone Receptor (GHRH-R) mRNA and Gene: Regulation of Anterior Pituitary GHRH-R mRNA Levels by Homologous and Heterologous Hormones. *Endocrinology*, 147:2535-2543.

24. Robinson-White A, Meoli E, Stergiopoulos S, Horvath A, Boikos S, **Bossis I**, Stratakis CA. 2006. PRKAR1A mutations and protein kinase A interactions with other signaling pathways in the adrenal cortex. *Journal of Clinical Endocrinology and Metabolism*, 91:2380-2388.
25. Voutetakis A, Sertedaki A., Livadas S, Xekouki P, **Bossis I**, Dacou-Voutetakis C, Argyropoulou MI. 2006. Pituitary size fluctuation in long-term MR studies of PROP1 deficient patients: A persistent pathophysiological mechanism? *Journal of Endocrinological Investigation* 29(5):462-466.
26. Horvath A, Boikos S, Giatzakis C, Robinson-White A, Groussin L, Griffin KJ, Stein E, Levine E, Delimpasi G, Hsiao HP, Keil M, Heyerdahl S, Matyakhina L, Libè R, Fratticci A, Kirschner LS, Cramer K, Gaillard RC, Bertagna X, Carney JA, Bertherat J, **Bossis I**, Stratakis CA. 2006. A genome-wide scan identifies the gene encoding phosphodiesterase 11A4 (*PDE11A4*) mutated in patients with adrenocortical hyperplasia. *Nature Genetics* 38(7):794-800.
27. Porter TE, Ghavam S, **Bossis I**, Muchow M, Ellestad L. 2006. Cloning of partial cDNAs for the chicken glucocorticoid and mineralocorticoid receptors and characterization of mRNA expression in the embryonic pituitary gland. *Domestic Animal Endocrinology* 33:226-239.
28. Mavrakis M, Lippincott-Schwartz J, Stratakis CA, **Bossis I**. 2006. Depletion of type IA regulatory subunit (RI α) of protein kinase A (PKA) in mammalian cells and tissues activates mTOR and causes autophagic deficiency. *Hum Mol Genet.* 15:2962-2971.
29. Robinson-White AJ, Leitner WW, Aleem E, Kaldis P, **Bossis I**, Stratakis CA. 2006. PRKAR1A inactivation leads to increased proliferation and decreased apoptosis in human B lymphocytes. *Cancer Res.* 66:10603-10612.
30. Gambhira R, Gravitt PE, **Bossis I**, Stern PL, Viscidi RP, Roden RB. 2006. Vaccination of healthy volunteers with human papillomavirus type 16 L2E7E6 fusion protein induces serum antibody that neutralizes across papillomavirus species. *Cancer Res.* 66:11120-11124.
31. Horvath A, Giatzakis C, Robinson-White A, Boikos S, Levine E, Griffin K, Stein E, Kamvissi V, Soni P, **Bossis I**, de Herder W, Carney JA, Bertherat J, Gregersen PK, Remmers EF, Stratakis CA. 2006. Adrenal hyperplasia and adenomas are associated with inhibition of phosphodiesterase 11A in carriers of PDE11A sequence variants that are frequent in the population. *Cancer Res.* 66:11571-11575.
32. Mavrakis M, Lippincott-Schwartz J, Stratakis CA, **Bossis I**. 2007. mTOR kinase and the regulatory subunit of protein kinase A (PRKAR1A) spatially and functionally interact during autophagosome maturation. *Autophagy* 3:151-153.
33. Gambhira R, Karanam B, Jagu S, Roberts JN, Buck CB, **Bossis I**, Alphs H, Culp T, Christensen ND, Roden RB. 2007. A protective and broadly cross-neutralizing epitope of human papillomavirus L2. *J Virol* 81:13927-13931.
34. Spicer LJ, **Bossis I**, Wettemann RP. 2008. Effect of plasma from cyclic versus nutritionally induced anovulatory beef heifers on proliferation of granulosa cells in vitro. *Domest Anim Endocrinol* 34:250-253.
35. Horvath* A, **Bossis* I**, Giatzakis C, Levine E, Weinberg F, Meoli E Robinson-White A, Siegel J, Soni P, Groussin L, Matyakhina L, Verma S, Remmers E, Nesterova M, Carney JA, Bertherat J, Stratakis CA. 2008. Large Deletions of the PRKAR1A Gene in Carney Complex. *Clin Cancer Res* 14:388-395. *Equal Contribution.
36. Greene EL, Horvath AD, Nesterova M, Giatzakis C, **Bossis I**, Stratakis CA. 2008. In vitro functional studies of naturally occurring pathogenic PRKAR1A mutations that are not subject to nonsense mRNA decay. *Hum Mutat* 29:633-639.
37. Boikos A, Horvath A, Heyerdahl S, Stein E, Robinson-White A, **Bossis I**, Bertherat J, CA Stratakis. 2008. Phosphodiesterase 11A expression in the adrenal cortex, primary pigmented nodular adrenocortical disease and other corticotropin-independent lesions. *Horm Metab Res.* 40:347-353.
38. Meoli* E, **Bossis* I**, Cazabat* L, Mavrakis M, Horvath A, Shiferaw M, Fumey G, Perlemoine K, Muchow M, Dr. Robinson-White A, Weinberg F, Nesterova M, Patronas Y, Groussin L, Bertherat J, Stratakis CA. 2008. Protein kinase A (PKA) effects of an expressed PRKAR1A mutation associated with aggressive tumors. *Cancer Research* 68:3133-3141. *Equal Contribution.
39. Rajawat YS and **Bossis I**. 2008. Autophagy in aging and in neurodegenerative disorders. *Hormones* 7:46-61.

40. Nesterova M, **Bossis I**, Wen F, Horvath A, Matyakhina L, Stratakis CA. 2008. An immortalized human cell line bearing a PRKAR1A-inactivating mutation: Effects of overexpression of the wild-type allele and other Protein Kinase A subunits. *J Clin Endocrinol Metab* 93:565-571.
41. Severance EG, **Bossis I**, Dickerson FB, Stallings CR, Origoni AE, Sullens A, Yolken RH, Viscidi RP. 2008. Development of a nucleocapsid-based human coronavirus immunoassay and exposure estimates in a U.S. metropolitan population. *Clinical and Vaccine Immunology* 15:1805-1810.
42. Rajawat YS, Hilioti Z, **Bossis I**. 2009. Aging: Central role for autophagy and the lysosomal degradative system. *Ageing Res Rev.* 8(3):199-213.
43. Kannan H, Fan S, Patel D, **Bossis I**, Zhang YJ. 2009. The Hepatitis E Virus ORF3 Product Interacts with Microtubules and Interferes with Their Dynamics. *J Virol.* 83(13):6375-6382.
44. Severance EG, Dickerson FB, Viscidi RP, **Bossis I**, Stallings CR, Origoni AE, Sullens A, Yolken RH. 2009. Coronavirus Immunoreactivity in Individuals With a Recent Onset of Psychotic Symptoms. *Schizophr Bull.* Jun 2. [Epub ahead of print].
45. Robinson-White AJ, **Bossis I**, Hsiao HP, Nesterova M, Leitner WW, Stratakis CA. 2009. 8-CI-Adenosine Inhibits Proliferation and Causes Apoptosis in B-Lymphocytes via Protein Kinase A-Dependent and Independent Effects: Implications for Treatment of Carney Complex-Associated Tumors. *J Clin Endocrinol Metab.* 94:4061-4069.
46. Almeida MQ, Muchow M, Boikos S, Bauer AJ, Griffin KJ, Tsang KM, Cheadle C, Watkins T, Wen F, Starost MF, **Bossis I**, Nesterova M, Stratakis CA. 2010. Mouse Prkar1a haploinsufficiency leads to an increase in tumors in the Trp53[±]- or Rb1[±]- backgrounds and chemically induced skin papillomas by dysregulation of the cell cycle and Wnt signaling. *Hum Mol Genet.* 19:1387-1398.
47. Severance EG, Dickerson FB, Halling M, Krivogorsky B, Haile L, Yang S, Stallings CR, Origoni AE, **Bossis I**, Xiao J, Dupont D, Haasnoot W, Yolken RH. 2010. Subunit and whole molecule specificity of the anti-bovine casein immune response in recent onset psychosis and schizophrenia. *Schizophr Res.* 118:240-247.
48. Pejavar-Gaddy S, Rajawat Y, Hilioti Z, Xue J, Gaddy DF, Finn OJ, Viscidi RP, **Bossis I**. 2010. Generation of a tumor vaccine candidate based on conjugation of a MUC1 peptide to polyionic papillomavirus virus-like particles. *Cancer Immunol Immunother.* 59:1685-1696.
49. Rajawat YS, Hilioti Z, **Bossis I**. 2010. Autophagy: a target for retinoic acids. *Autophagy:* 6(8):1224-1229.
50. Rajawat YS, Hilioti Z, **Bossis I**. 2011. Retinoic Acid induces autophagosome maturation through redistribution of the cation-independent mannose-6-phosphate receptor. *Antioxidants and Redox Signalling* 14(11):2165-77.
51. Kumar M, Kaur S, Kariu T, Yang X, **Bossis I**, Anderson JF, Pal U. 2011. Borrelia burgdorferi BBA52 is a potential target for transmission blocking Lyme disease vaccine. *Vaccine* 29(48):9012-9019.
52. Klionsky DJ,.....Bossis I,...et al. 2012 Guidelines for the use and interpretation of assays for monitoring autophagy. 2012. *Autophagy* 8:445-544. **11.8**
53. Ritthipichai K, Nan Y, **Bossis I**, Zhang Y. 2012. Viral FLICE inhibitory protein of rhesus monkey rhadinovirus inhibits apoptosis by enhancing autophagosome formation. *PLoS One* 7(6):e39438. **3.25**
54. Kapazoglou A, Drosou V, Nitsos CK, **Bossis I**, Tsaftaris A, Triantafyllidis KS, Hilioti Z. 2013. Biofuels Get in the Fast Lane: Developments in Plant Feedstock Production and Processing. *Adv Crop Sci Tech* 1:117 **1.2**
55. Hilioti Z, Ganopoulos I, **Bossis I**, Tsaftaris A. 2014. LEC1-LIKE paralog transcription factor: how to survive extinction and fit in NF-Y protein complex. *Gene* 543(2): 220-33. **2.1**

C. Book Chapters

1. Robert H Yolken, Hakan Karlsson, **Ioannis Bossis**, Linnea Aspl, Faith Dickerson, Christoffer Nellaker, Michael Elashoff, Elizabeth Rubalcaba and Raphael P. Viscidi. 2008. Endogenous Retroviruses and Human Neuropsychiatric Disorders. In the book "Retrotransposition, Diversity and the Brain" from the book series "Research and Perspectives in Neurosciences". Editors: Fred H. Gage and Yves Christen. Publishers: Springer Berlin Heidelberg, ISSN 1861-2253.
2. **Bossis I**, Voutetakis A, Stratakis C A. 2004. Di-deoxy Fingerprinting. In "Medical Biomethods Handbook". Editors: John M. Walker and Ralph Rapley. Publishers: Humana Press, ISDN 1-58829-288-6.