

## IONEL SANDOVICI, M.D., PhD

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**CITIZENSHIP:** Romania

**BORN:** October 17, 1972

**CURRENT ADDRESS:** University of Cambridge  
Metabolic Research Laboratories, MRC Metabolic Diseases Unit  
Department of Obstetrics & Gynaecology  
Box 223, The Rosie Hospital, Robinson Way, Cambridge CB2 0SW  
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### EDUCATION:

- **University of Medicine and Pharmacy “Gr. T.Popa”, Iasi, Romania** *PhD (Honors), November 2006*

Thesis: “Interindividual variability and familial aggregation of specific epigenetic markers in a human population – theoretical and clinical applications”

- **University of Medicine and Pharmacy “Gr. T.Popa”, Iasi, Romania**  
*Medical Doctor (Honors), September 1997*

Diploma thesis: “Clinical aspects of lymphoblastic leukemia in immunodeficient children”

- **“Nicu Gane” National College, Falticeni, Suceava county, Romania**  
*Baccalaureate Diploma (Honors), July 1991*

### RESEARCH EXPERIENCE:

- **Research Associate, University of Cambridge, Department of Obstetrics and Gynaecology, UK, Advisor Dr. Miguel Constância** (*October 2007 – Present*)

My current work is focused on the following main research areas:

- Using novel *in vivo* mouse models that I developed in the lab, I'm uncovering the molecular mechanisms by which the imprinted insulin-like growth factor 2 (*Igf2*) gene regulates key developmental processes, such as the expansion of placental vasculature during late gestation and pancreas growth;
- Understanding the role of imprinted microRNA *miR-483* in controlling growth and metabolism using *in vivo* loss-of-function and gain-of-function mouse models generated in our laboratory;
- I'm also studying the epigenetic basis of the so-called “nutritional programming” of adult diseases, a phenomenon by which suboptimal diet during critical periods of development is associated with risk of metabolic diseases such as type 2 diabetes and obesity in later life. I'm particularly interested in understanding the role of altered promoter-enhancer interactions in this phenomenon.

- **Research Scientist, The Babraham Institute, Cambridge, UK, Advisors Dr. Miguel Constância and Prof. Wolf Reik** (*March 2004 – September 2007*)

The two main areas of my research were: 1) understanding the function of the imprinted gene *Igf2* in the normal development and function with focus on placenta and pancreas, and 2) understanding the mechanisms leading to and the impact of epigenetic changes induced by maternal diet and aging in pancreatic islets and their role in the etiology of type 2 diabetes.

- **Research Fellow, Fels Institute for Cancer Research and Molecular Biology, Temple University School of Medicine, Philadelphia, Pennsylvania, USA, Advisor Prof. Carmen Sapienza** (*February 2001 – February, 2004*)

During this fellowship I was involved in several human epigenetic studies on a collection of archival DNA obtained from a panel of 48 three-generation families. The main results of these studies were the identification of familial clustering of individuals with abnormal methylation ratios at the IGF2/H19 and IGF2R DMRs; stability of X inactivation patterns in females over two decades of life with the exception of the old females; identification of significant interindividual variability and parent-of-origin DNA methylation differences at specific *Alu* repeats; and high levels of meiotic recombination at imprinted chromosomal regions.

- **Junior Research Associate – Department of Human Genetics, University of Medicine and Pharmacy “Gr. T. Popa”, Iasi, Romania** (*January 1999 – January 2001*)

### **MEDICAL EXPERIENCE:**

- **Resident Physician – Medical Oncology, University Hospital” Sf. Spiridon”, Iasi, Romania** (*March 1999 - February 2001*)

### **TEACHING EXPERIENCE:**

- Supervision for **Part II Data Handling Sessions**, Natural Sciences TRIPOS Part II (44 undergraduate students, University of Cambridge, 15-17 February 2021, online teaching)
- **“Non-coding RNAs and overview of methods for epigenetic analysis”** to postgraduates studying for a Diploma in Genomic Medicine: Genomic Medicine Module 5: "Epigenetics and epigenomics" (27 April 2020, Institute of Continuing Education, University of Cambridge – online session)
- Supervision for **Part II Data Handling Sessions**, Natural Sciences TRIPOS Part II (13 undergraduate students, University of Cambridge, 27-28 February 2020)
- Overseeing one of the **Peer Research Groups** (13 MPhil and PhD students) established at the Department of Biochemistry, University of Cambridge (October 2019 – July 2020)
- Facilitator for two **“Molecules in Medicine Problem Based Learning”** sessions offered to 1<sup>st</sup> year medicine students (October-November 2019, University of Cambridge)
- **“Epigenetic regulation of gene expression I: The role of DNA methylation and histone modifications”, “Epigenetic regulation of gene expression II: Non-coding RNAs and 3D chromatin structure”, “Overview of methods used for epigenetics analysis”** and **“Links between epigenetics and metabolism”** to bioengineering students attending the China UK Development Centre Winter School (23-30 August 2019 Sidney Sussex College, University of Cambridge)
- **“Obesity: etiology, pathophysiology and therapy”** and **“Diabetes mellitus: etiology, pathophysiology, treatment”** to Chinese medical students attending the China UK Development Centre Winter School (17-18 August 2019, St. John’s College, University of Cambridge)
- **“Non-coding RNAs and overview of methods for epigenetic analysis”** to postgraduates studying for a Diploma in Genomic Medicine: Genomic Medicine Module 5: "Epigenetics and epigenomics" (29 April 2019, Institute of Continuing Education, University of Cambridge)
- **“Obesity: etiology, pathophysiology and therapy”** and **“Diabetes mellitus: etiology, pathophysiology, treatment”** to Chinese medical students attending the China UK Development Centre Winter School (19-20 January 2019, Clare Hall, Murray Edwards College and Lucy Cavendish College, University of Cambridge)

- **“Obesity: etiology, pathophysiology and therapy”** and **“Diabetes mellitus: etiology, pathophysiology, treatment”** to Chinese medical students attending the China UK Development Centre Summer School (25 July 2018, St. John’s College, University of Cambridge)
- **“ncRNAs and the 3D genome: overview and methods for epigenetic analysis”** to postgraduates studying for a Diploma in Genomic Medicine: Genomic Medicine Module 5: "Epigenetics and epigenomics" (30 April 2018, Institute of Continuing Education, University of Cambridge)
- **“Obesity: etiology and pathophysiology”** to Chinese medical students attending the China UK Development Centre Winter School (2 February 2018, Clare Hall, University of Cambridge)
- **“ncRNAs and epigenetic regulation of gene expression”**; **“The 3D genome: organization and function”** and **“Overview of methods for epigenetic analysis”** to postgraduates studying for a Diploma in Genomic Medicine, organized by the Institute of Continuing Education: Genomic Medicine: Optional Module 5: "Epigenetics and epigenomics" (24-28 April 2017, Homerton College, University of Cambridge)
- **“A code upon a code: beyond packaging DNA”** and **“Analysis of DNA methylation by MethyLight Assays”** to PhD students undertaking the **“Epigenomics of Metabolic Disease”** module, CIM-FMUP (University of Porto) (21-22 July 2016)
- **“Introduction to epigenetics”** to students in grades 10-12, Oxbridge Academic Programs, The Cambridge Tradition, Jesus College (July 2015)
- **“Introduction to epigenetics and implications for metabolic diseases”** to A-level students, Oxbridge Academic Programs, The Cambridge Prep Experience, Peterhouse (July 2014)
- **“Introduction to epigenetics and implications for growth”** to students in grades 10-12, Oxbridge Academic Programs, The Cambridge Tradition, Jesus College (July 2013)
- **“Introduction to epigenetics”** to GCSE-level students, Oxbridge Academic Programs, The Cambridge Tradition, Peterhouse (July 2012)
- **“Introduction to epigenetics”** to A-level students, Oxbridge Academic Programs, Cambridge Prep Experience, Jesus College (July 2011)
- Junior lecturer – teaching Human Genetics to second year medical students, Department of Human Genetics, University of Medicine and Pharmacy “Gr. T. Popa”, Iasi, Romania (January 1999 – January 2001)

## TRAINING, SUPERVISION, MENTORSHIP

- Masa Josipovic, PhD student in Mark Evans' lab, IMS-MRL Mentor Scheme (December 2020 – present)
- Robert Hansford, PhD student in Clemance Blouet's lab, IMS-MRL Mentor Scheme (December 2020 – present)
- Samira-Nadine Schiefer, Erasmus student: **“The role of endothelial *Igf2* in placental fetal capillary expansion in late gestation.”** (September 2017 – December 2017)
- Antonia Sophie Hufnagel, Erasmus student: **“Novel insights into placental blood vessel formation”** (November 2016-February 2017)
- Stephen Cole, first year Natural Sciences student: **“Biological validation of differential promoter-enhancer interactions in 3T3-L1 murine cells by quantitative 3C”** (August-September 2016)
- Chelsea Gaudreau, Masters Student: **“The role of the imprinted *Igf2* gene in the stem cell niche of the labyrinthine zone in the murine placenta.”** (May – July 2016)
- Constanze Hammerle, PhD student: **“The role of insulin-like growth factor 2 in development and growth of the mouse pancreas.”** (October 2011 – July 2015)

- Katerina Georgopoulou, Masters Student: “**The role of *Igf2* in placental fetal capillary expansion in late gestation.**” (September 2012 – December 2013)
- James Lamming, first year Biology student: **Training on qRT-PCR analysis** (September 2012)
- Olatejumoye Knee, Part II PDN student: “**Is the placenta adapting its nutrient transport capacities in response to a reduced fetal demand for growth?**” (October 2011-April 2012).
- Claire Fenelon, Wellcome Trust Vacation Scholarship: “**The role of the imprinted *Igf2* gene in gestational diabetes.**” (June – August 2011)
- Constanze Hammerle, first year PhD rotation: “**Age related hypomethylation and upregulation of a subset of genes in rat pancreatic islets.**” (January – April 2011)
- Adriana Jimenez, Amgen Foundation vacation fellowship: “**How does the imprinted *Igf2* gene control pancreatic development? Implications for type 2 diabetes.**” (June – August 2010)
- Bliss Anderson, CTR visiting student: “**Embryonic-specific deletion of *Igf2* leads to growth restriction and architectural alterations in the labyrinthine zone of the mouse placenta.**” (June – August 2010)
- Barbara Villela, CTR visiting student: “**Embryonic-specific deletion of mouse *Igf2* leads to disproportional placental morphological changes during late gestation.**” (January-February 2010)
- Matthew Ackers-Johnson, first year Wellcome Trust PhD student: “**Epigenetic regulation at the *HNF4A* locus in human pancreatic islets, blood and skeletal muscle - a DNA methylation profiling study.**” (January-April 2009)
- Roberta Jordan, Part II PDN student: “**The role of *Igf2* in pancreatic  $\beta$ -cell mass enlargement during pregnancy**” (October 2008-April 2009)
- Katharina Hoelle, PhD student: “**The role of System A amino acid transport in fetal growth and development.**” (October 2007 – December 2010)
- Carlos Melo, Masters student: “**The role of imprinted genes in placenta**” (February 2007- September 2007)
- Yendi Linares, summer student: “**Temporal stability of X-inactivation ratios in human females**” (June 2003-September 2003)
- Patricia Red Hawk, MD student: “**Allele-specific DNA methylation marks at imprinted loci in a normal population**” (January 2002-September 2002)

## PUBLICATIONS:

### Peer reviewed journals (\* shared first co-authorship; § - corresponding author)

- Angiolini, E., Sandovici, I., Coan, P.M., Burton, G.J., Sibley, C.P., Fowden, A.L., Constância, M.: **Deletion of the imprinted *Phlda2* gene increases placental passive permeability in the mouse.** *Genes* (Basel). 2021 (in press).
- Sandovici, I.\*§, Hammerle, C.M.\*, Virtue, S., Vivas-Garcia, Y., Izquierdo-Lahuerta, A., Ozanne, S.E., Vidal-Puig, A., Medina-Gómez, G., Constância, M.: **Autocrine IGF2 programmes  $\beta$ -cell plasticity under conditions of increased metabolic demand.** *Sci. Rep.* 2021, 11:7717.
- Hammerle, C.M.\*, Sandovici, I.\*, Brierley, G.V., Smith, N.M., Zimmer, W.E., Zvetkova, I., Prosser, H.M., Sekita, Y., Lam, B.H.Y., Ma, M., Cooper, W.N., Vidal-Puig, A., Ozanne, S.E., Medina-Gómez, G., Constância, M.: **Mesenchyme-derived IGF2 is a major paracrine regulator of pancreatic growth and function.** *PLoS Genet.* 2020, 16:e1009069.
- López-Tello, J., Pérez-García, V., Khaira, J., Kusinski, L.C., Cooper, W.N., Andreani, A., Grant, I., Fernández de Liger, E., Lam, B.Y., Hemberger, M., Sandovici, I., Constancia,

- M., Sferruzzi-Perri, A.N.: **Fetal and trophoblast PI3K p110 $\alpha$  have distinct roles in regulating resource supply to the growing fetus in mice.** *Elife*. 2019, 8: pii: e45282.
- Wieczorek, A., Perani, C.V., Nixon, M., Constancia, M., Sandovici, I., Zazara, D.E., Leone, G., Zhang, M.-Z., Arck, P.C., Solano, M.E.: **Sex-specific regulation of stress-induced fetal glucocorticoid surge by the mouse placenta.** *Am. J. Physiol. Endocrinol. Metab.* 2019, 317:E109-E120.
  - Ziegler, A.N., Feng, Q., Chidambaram, S., Testai, J.M., Kumari, E., Rothbard, D.E., Constancia, M., Sandovici, I., Cominski, T., Pang, K., Gao, N., Wood, T.L., Levison, S.W.: **Insulin-like Growth Factor II: An Essential Adult Stem Cell Niche Constituent in Brain and Intestine.** *Stem Cell Rep.* 2019, 12:816-830.
  - Sferruzzi-Perri, A.N., Sandovici, I., Constancia, M., Fowden, A.L.: **Placental phenotype and the insulin-like growth factors: resource allocation to fetal growth.** *J. Physiol.* 2017, 15:5057–5093.
  - Pestana, D., Teixeira, D., Meireles, M., Marques, C., Norberto, S., Sa, C., Fernandes, V.C., Correia-Sa, L., Faria, A., Guardao, L., Guimaraes, J.T., Cooper, W.N., Sandovici, I., Domingues, V.F., Delerue-Matos, C., Monteiro, R., Constancia, M., Calhau, C.: **Adipose tissue dysfunction as a central mechanism leading to dysmetabolic obesity triggered by chronic exposure to p,p'-DDE.** *Sci. Rep.* 2017, 7:2738.
  - Sandovici, I., Hammerle, C.M., Cooper, W.N., Smith, N.H., Tarry-Adkins, J.L., Dunmore, B.J., Bauer, J., Andrews, S.R., Yeo, G.S.H., Ozanne, S.E., Constância, M.: **Ageing is associated with molecular signatures of inflammation and type 2 diabetes in rat pancreatic islets.** *Diabetologia* 2016, 59:502-511.
  - Ferrón, S.R., Radford, E.J., Domingo-Muelas, A., Kleine, I., Ramme, A., Gray, D., Sandovici, I., Constância, M., Ward, A., Menhenniott, T.R., Ferguson-Smith A.C.: **Differential genomic imprinting regulates paracrine and autocrine roles of IGF2 in mouse adult neurogenesis.** *Nat. Commun.* 2015, 6:8265.
  - Shen, H., Cavallero, S., Estrada, K.D., Sandovici, I., Kumar, S.R., Makita, T., Lien, C.L., Constancia, M., Sucov, H.M.: **Extracardiac control of embryonic cardiomyocyte proliferation and ventricular wall expansion.** *Cardiovasc. Res.* 2015, 105:271-278.
  - Sandovici, I., Hammerle C., M., Ozanne, S., E., Constância, M.: **Developmental and environmental epigenetic programming of the endocrine pancreas: consequences for type 2 diabetes.** *Cell. Mol. Life Sci.* 2013, 70:1575-1595.
  - Haley, V.L., Barnes, D.J., Sandovici, I., Constância, M., Graham, C.F., Pezzella, F., Buehmann, C., Carter, E., Hassan, A.B.: **Igf2 pathway dependency of the Trp53 developmental and tumor phenotypes.** *EMBO Mol. Med.* 2012, 4:705-718.
  - Sandovici, I., Hoelle, K., Angiolini, E., Constância, M.: **Placental adaptations to the maternal-fetal environment: implications for fetal growth and developmental programming.** *RBM Online* 2012, 25:68-89.
  - Ozanne, S.E., Sandovici, I., Constância, M. Maternal diet, aging and diabetes meet at a chromatin loop. *Aging (Albany NY)* 2011, 3:548-554.
  - Angiolini, E., Coan, P.M., Sandovici, I., Iwajomo, O.H., Peck, G., Burton, G.J., Sibley, C.P., Reik, W., Fowden, A.L., Constância, M.: **Developmental adaptations to increased fetal nutrient demand in mouse genetic models of Igf2-mediated overgrowth.** *FASEB J.* 2011, 25:1737-1745.
  - Sandovici, I.\*, Smith, N.H.\*, Nitert, M.D., Ackers-Johnson, M., Uribe-Lewis, S., Ito, Y., Jones, R.H., Marquez, V.E., Cairns, W., Tadayyon, M., O'Neill, L.P., Murrell, A., Ling, C., Constância M, Ozanne SE.: **Maternal diet and aging alter the epigenetic control of a promoter-enhancer interaction at the Hnf4a gene in rat pancreatic islets.** *Proc. Natl. Acad. Sci. U.S.A.* 2011, 108:5449-5454.
  - Sandovici, I., Sapienza, C.: **PRDM9 sticks its zinc fingers into recombination hotspots and between species.** *F1000 Biol. Rep.* 2010, 2:37.
  - Coan, P.M., Angiolini, E., Sandovici, I., Burton, G.J., Constancia, M., Fowden, A.L.: **Adaptations in placental nutrient transfer capacity to meet fetal growth demands depend on placental size in mice.** *J. Physiol.* 2008, 586:4567-4576.

- Sandovici, I., Kassovska-Bratinova, S., Vaughan, J.E., Stewart, R., Leppert, M., Sapienza, C.: **Human imprinted regions are historical hot-spots of recombination.** PLoS Genet. 2006, 2:944-954.
- Angiolini, E.J., Fowden, A., Coan, P., Sandovici, I., Ferguson-Smith, A., Smith, P., Dean, W., Burton, G., Tycko, B., Reik, W., Sibley, C., Constancia, M.: **Regulation of placental efficiency for nutrient transport by imprinted genes.** Placenta, 2006, Suppl A:S98-S102.
- Constancia, M., Angiolini, E., Sandovici, I., Smith, P., Smith, R.J., Kelsey, G., Dean, W., Ferguson-Smith, A.C., Sibley, C.P., Reik, W., Fowden, A.L. **Adaptation of nutrient supply to fetal demand in the mouse involves interaction between the Igf2 gene and placental transporter systems.** Proc. Natl. Acad. Sci. U.S.A. 2005, 102:19219-19224.
- Sandovici, I., Kassovska-Bratinova, S., Loredó-Osti, J.C., Leppert, M., Suarez, A., Stewart, R., Bautista, F.D., Schiraldi, M., Sapienza, C.: **Interindividual variability and parent of origin DNA methylation differences at specific human *Alu* elements.** Hum. Mol. Genet. 2005, 14:2135-2143.
- Sandovici, I., Naumova, A.K., Leppert, M., Linares, Y., Sapienza C.: **A longitudinal study of X-inactivation ratio in human females.** Hum. Genet. 2004, 115:387-392.
- Sandovici, I., Leppert, M., Red Hawk, P., Suarez, A., Linares Y., Sapienza C.: **Familial aggregation of abnormal methylation of parental alleles at the IGF2/H19 and IGF2R differentially methylated regions.** Hum. Mol. Genet. 2003, 12:1569-1578.

#### Books, chapters, magazine articles

- Sandovici, I., Nicholas, L.M., O'Neill, L.P. **Analysis of histone modifications in rodent pancreatic islets by native chromatin immunoprecipitation.** Methods Mol. Biol. 2020, 2076:199-213.
- Covic, M., Stefanescu, D., Sandovici, I., Gorduza, V. (editor): **Medical genetics**, 3<sup>rd</sup> Edition. "Polirom" Publishing, Iasi, Romania, 2017 (won the "Constantin I. Parhon" prize awarded by the Romanian Academy in December 2019).
- Kusinski, L.C., Cooper, W.N., Sandovici, I., Constância, M. **Parental-specific gene expression and epigenetic analyses of imprinted genes in mouse placenta.** In The Guide to Investigation of Mouse Pregnancy, Academic Press, Elsevier Inc. 2014, p. 763-772.
- Kusinski, L.C., Cooper, W.N., Sandovici, I., Constância, M. **Contribution of placental genomic imprinting and identification of imprinted genes.** In The Guide to Investigation of Mouse Pregnancy, Academic Press, Elsevier Inc. 2014, p. 275-284.
- Sandovici, I. **Establishment of tissue-specific epigenetic states during development.** In Epigenetics and Complex Traits, Springer New York, 2013, p. 35-62.
- Covic, M., Stefanescu, D., Sandovici, I. (editor): **Medical genetics**, 2<sup>nd</sup> Edition. "Polirom" Publishing, Iasi, Romania, 2011.
- Sandovici, I., Sapienza, C.: **Sticky fingers: one protein fingers recombination "hotspots".** The Scientist, 2010, 24(6): 59-60.
- Sandovici, I., Smith, N., Ozanne, S.E., Constancia, M. **The dynamic epigenome: the impact of the environment on epigenetic regulation of gene expression and developmental programming.** In Epigenetics, Horizon Press, 2008, p. 343-370.
- Covic, M., Stefanescu, D., Sandovici, I. (editor): **Medical genetics**, "Polirom" Publishing, Iasi, Romania, 2004.
- Gorduza, E.V., Rusu, C., Buhusi, M., Volosciuc, M., Hurjui, A., Sandovici, I., Braha, E., Human genetics – laboratory book. Ed. Kollos Group, Iasi, Romania, 2003.

#### Posters, oral presentations, invited seminars

- Sandovici, I.: **The role of the imprinted *Igf2* gene in pancreatic development and function.** Invited seminar by Prof. Andrew Ward at the Department of Cellular and Developmental Biology, University of Bath (25 November 2020, via zoom)
- Sandovici, I., Georgopoulou, A., Hufnagel, A.S., Schiefer, S.N., Gaudreau, C., Santos, F., Hoelle, K., Lam, B.Y.H., Yeo, G.S.H., Burling, K., López-Tello, J., Reiterer, M., Fowden, A.L., Burton, G.J., Branco, C.M., Sferruzzi-Perri, A.N., Constância, M.: **The imprinted *Igf2-Igf2r* axis is critical for matching placental microvasculature expansion to fetal growth.** Genomic Imprinting – from Biology to Disease (Virtual Conference), 28-30 September 2020 (Short Oral Presentation Prize winner).
- Sandovici, I., Hammerle, C.M., Smith, N.M., Zimmer, W., Zvetkova, I., Prosser, H., Sekita, Y., Lam, B.Y.H., Ma, M., Cooper, W.N., Vidal-Puig, A., Ozanne, S.E., Medina-Gómez, G., Constância, M.: **Mesenchymal *Igf2* is a key regulator of pancreatic growth and function.** Metabolism in Action - lifetime influence of genes and environment, Favrholm Campus, Denmark, 1-5 October 2017 (Poster).
- Sandovici, I., Fernandez-Twinn, D., Schoenfelder, S., Wingett, S., Campbell N., Hamilton, R., Birney, E., Fraser, P., Ozanne, S.E., Constância, M.: **Epigenetic programming of chromatin during adipocyte differentiation by early life nutrition.** KAUST Research Conference on environmental epigenetics, KAUST (King Abdullah University of Science and Technology), Saudi Arabia, 12-15 February 2017 (Poster).
- Sandovici, I., Georgopoulou, A., Fowden, A.L., Burton, G.J., Sferruzzi-Perri, A.N., Constância, M.: **Genetic drive for growth mediated by the imprinted *Igf2* gene controls the expansion of the fetoplacental vasculature in late gestation in mice.** The CTR Annual Trophoblast Meeting, St John's College, 14 July 2015 (oral presentation).
- Sandovici, I., Campbell, N., Schoenfelder, S., Wingett, S., Fernandez-Twinn, D., Fraser, P., Ozanne, S., Constância, M.: **Hunting for novel regulators of adipogenesis through mapping of promoter-enhancer interactions across the genome.** MRL SAB meeting Robinson College, 5 November 2014 (Poster).
- Sandovici, I., Georgopoulou, K., Constância, M.: **The role of *Igf2* in placental fetal capillary expansion in late gestation.** Centre for Trophoblast Research Away Day, Robinson College, 4 October 2013 (oral presentation).
- Sandovici, I., Hammerle, C.M., Cooper W.N., Smith N.H., Tarry-Adkins J.L., Dunmore B.J., Bauer J., Andrews S.R., Yeo G.S.H., Ozanne S.E., Constância, M.: **Age-related signatures of inflammaging and type 2 diabetes in rat pancreatic islets revealed by transcriptome and DNA methylation studies.** Gordon conference Biology of Aging, Renaissance Tuscany Il Ciocco Resort in Barga, Italy, 11-16 August 2013 (Poster).
- Sandovici, I., Hammerle, C.M., Cooper, W.N., Smith, N.H., Tarry-Adkins, J.L., Dunmore, B.J., Bauer, J., Andrews, S.R., Yeo, G.S.H., Ozanne, S.E., Constância, M.: **The impact of early diet on epigenetic regulation of gene expression during aging in pancreatic islets.** 5<sup>th</sup> London Epigenomics Club, London, 5 June 2013 (oral presentation).
- Sandovici, I., Knee, J., Villela, B., Anderson, B., Peck, G., Vaughan, O., Fowden, A., Constância, M.: **Placental adaptations to a reduced fetal demand for growth.** CTR Away Day, Clare College, 30 September 2011 (oral presentation).
- Sandovici, I., Smith, N.H., Nitert, M.D., Ackers-Johnson, M., Uribe-Lewis, S., Ito, Y., Jones, R.H., Marquez, V.E., Cairns, W., Tadayyon, M., O'Neill, L.P., Murrell, A., Ling, C., Andrews, S., Down, T., Ozanne, S.E., Constância, M.: **The role of environmentally-induced epigenetic changes in the etiology of type 2 diabetes.** the 3<sup>rd</sup> National Congress of Medical Genetics, Timisoara, Romania, 22-25 September 2010 (oral presentation)
- Sandovici, I., Smith, N.H., Nitert, M.D., Ackers-Johnson, M., Jones, R.H., Marquez, V.E., Cairns, W., Tadayyon, M., O'Neill, L.P., Ling, C., Constância, M., Ozanne SE.: **Dynamic epigenetic regulation by early-diet and aging of the type 2 diabetes susceptibility gene *Hnf4a* in pancreatic islets.** The Keystone symposia on Islet Biology, Whistler, Canada, 12-17 April 2010 (Poster).

- Sandovici, I., Smith, N.H., Nitert, M.D., Ackers-Johnson, M., Jones, R.H., Marquez, V.E., Cairns, W., Tadayyon, M., O'Neill, L.P., Ling, C., Andrews S., Down T., Ozanne S.E., Constância, M.: **Epigenetic programming by early diet and aging**. Imprinting and X inactivation workshop, Emmetten, Switzerland, 27-30 January 2010 (oral presentation)
- Sandovici, I., Smith, N.H., Jones, R., H., O'Neill, L., Constancia, M., Ozanne, S.E.: **Epigenetic regulation of the Hnf4a (MODY1) gene: role in developmental programming of type 2 diabetes**. The 5<sup>th</sup> International Congress on Developmental Origins of Health and Disease. Perth, Australia, 7-10 November 2007 (Poster).
- Sandovici, I., Angiolini, E., Smith, P, Smith, R.J., Kelsey, G., Dean, W., Ferguson-Smith, A.C., Sibley, C.P., Reik, W., Fowden, A.L., Constancia, M.: **Adaptation of nutrient supply to fetal demand in the mouse involves interaction between the Igf2 gene and placental transporter systems**. The 3<sup>rd</sup> International Congress on Developmental Origins of Health and Disease. Toronto, Canada, 16-20 November, 2005 (oral presentation).
- Steward, E., Fowden, A., Coan, P., Sandovici, I., Ferguson-Smith, A., Smith, P., Dean, W., Burton, G., Sibley, C., Tycko, B., Reik, W., Smith, R., Kelsey, G., Constância, M.: **Regulation of Placental Efficiency for Nutrient Transport by Imprinted Genes**. Harwell Imprinting Conference, Oxford, April 11-13, 2005 (Poster).
- Sandovici, I., Leppert, M., Red Hawk, P., Suarez, A., Linares Y., Sapienza, C.: **Familial aggregation of abnormal methylation of parental alleles at the IGF2/H19 and IGF2R differentially methylated regions**. Gordon Epigenetics Conference, Holderness School, Plymouth, New Hampshire, August 10-15, 2003 (Poster).
- Sandovici, I., Naumova, A.K., Covic, M., Sapienza, C.: **Temporal stability of X-inactivation ratio in human females**, 3<sup>rd</sup> National Conference on Medical Genetics, Oradea, Romania, October 7-10, 2002 (Poster).
- Sandovici, I., Leppert, M., Sapienza C.: **Familial study of epigenetic marks at imprinted loci in a normal population**. Epigenetic Mechanisms in Human Disease, NCI/NIH, Bethesda, Maryland, May 30-31, 2002 (Poster).
- Sandovici, I., Buiuc, A., Covic, M., Bild, E.: **The prevalence of familial cancers in our Department of Medical Oncology**. 10<sup>th</sup> International Congress of Human Genetics, Vienna, Austria, May 15-19, 2001 (Poster).
- Sandovici, I., Covic, M.: **Genetic susceptibility to colorectal cancer**, 3<sup>rd</sup> Balkanian Congress of Oncology, Poiana Brasov, Romania, September 10 –14, 2000 (oral presentation).
- Sandovici, I., Stoica, O.: **Molecular screening in hereditary and familial cancer syndromes**, First International Congress of Romanian Society for Cell Biology, Iasi, Romania, June 7-10, 2000 (oral presentation).
- Stoica, O., Sandovici, I., Covic, M.: **Genetic susceptibility to cancer**, 2<sup>nd</sup> National Conference on Medical Genetics, Constanta, Romania, October 7-10, 1999 (oral presentation).

## EDITORIAL AND REVIEWING ACTIVITY

- **Editor for:**
  - **Romanian Journal of Rare Diseases** (October 2011 – present)
  - **Frontiers in Genetics of Aging – Review Editor** (September 2011 – present);
- Reviewed articles submitted to: **Arch Med Genet.** (August 2014), **Biology-MDPI** (November 2019), **Biol Reprod.** (October 2018, February 2021), **BMC Biol.** (January 2018), **Diabetologia** (January 2011), **Eur J Obstet Gynecol Reprod Biol.** (June 2012), **Exp Cell Res.** (August 2011), **Front Cardiovasc Med.** (January 2017), **Front Cell Dev Biol** (March 2021), **Front Endocrinol.** (April 2016), **Front Genet.** (November 2012, March 2017, July 2017, September 2018, October 2018, February 2019, February 2020, October 2020), **Front Physiol.** (January 2018), **Genes** (August 2018), **Int J Mol Sci.** (March 2019, May 2019), **J Nutr Sci Vitaminol.** (November 2018), **Med Sci Monit.** (December 2017), **Nat Commun.** (December 2017, May 2020), **Nat Genet.** (January



- 2006), **PLoS Genet.** (September 2011, February 2012), **PloS One** (October 2012, April 2014, July 2016, October 2017), **Reproduction** (April 2014, July 2014), **Sci Rep.** (February 2016, February 2020, December 2020), **Trends Genet.** (April 2009).
- **Guest editor** (together with Miguel Constanca, professor Eamonn Maher and Marika Charalambous) for a special issue of **Genes: "Genomic Imprinting and the Regulation of Growth and Metabolism"** (2020).
  - **Grant application review for: Israel Science Foundation** (April 2012), **Diabetes UK** (July 2013), **World Cancer Research Fund International** (April 2014), **Croatian Science Foundation** (August 2016), **Neurological Foundation of New Zealand** (October 2019)

## PUBLIC ENGAGEMENT

- Volunteering as **data analyst for Cambridge COVID-19 Test Centre** – analysis of over 30,000 tests (the COVID Test Team, won in the Cross University category, which celebrates teams comprised of individuals from across the entire University) (May 2020 – July 2020)
- **Cambridge Science Festival: "Hands-on at the Guildhall"** (17 March 2019, Guildhall, Cambridge)
- Laboratory demonstrations to sixth-form students, **Babraham Institute Schools Day** (2005 and 2006)

## GRANTS AND AWARDS

- **Short Oral Presentation Prize Winner (£150)** at Genomic Imprinting – from Biology to Disease (Virtual Conference) (28-30 September)
- **Bursary sponsored by Merck (£100)** covering the registration fees for Genomic Imprinting – from Biology to Disease (Virtual Conference) (28-30 September)
- Co-applicant of the **Public Engagement Starter Fund (£760)** awarded to a team of four at the Department of Obstetrics and Gynaecology (October 2019)
- **Co-Investigator on MRC grant (£520,000):** Epigenetic Programming of Metabolic Health across the Life-Course (2018-2023)
- **Co-Investigator on MRC grant (£1,686,000):** Epigenetic Programming of Metabolic Health across the Life-Course (2013-2018)
- **Postdoctoral membership,** Clare Hall College (October 2012-December 2013)
- **The Keystone symposia / Barrie Hesp scholarship (\$1,000):** The Keystone symposia on Islet Biology, Whistler, Canada, Apr 12 - Apr 17, 2010
- **Co-Investigator on BBSRC research grant (BB/H003312/1 – £510,015):** Role of the imprinted Igf2 gene in pancreatic development and function (2009-2012)
- **Co-Investigator on BBSRC research grant (BB/D01235X/1 and BB/D01235X/2 – £424,150):** Epigenetic regulation of gene expression as a mechanism of nutritional programming and developmental origins of health and disease (2006-2009)
- **Travel scholarship awarded by the Babraham Institute (£500):** The 3<sup>rd</sup> International Congress on Developmental Origins of Health and Disease. Toronto, Canada, 16-20 November, 2005

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