



## Curriculum Vitae of Professor Antonis Makrigiannakis

### *Graduate studies, PhD studies and Specialty training*

Prof A. Makrigiannakis was born in Greece on 1964 (age 52). He graduated from the Medical School of the Kapodistrian University of Athens (1988) and completed his PhD thesis on Reproductive Endocrinology and Pharmacology (1994) at the Medical School of the University of Crete. He was trained in Obstetrics and Gynecology at the University Hospital of Heraklion, Crete (1993 – 1997) and he received the license to practice Obstetrics and Gynecology from the Greek Ministry of Health (1997).

### *Postdoctoral Research and Subspecialty Training*

He was a Postdoctoral Research Fellow in the University of Pennsylvania, Division of Human Reproduction, Department of Obstetrics and Gynecology, Philadelphia, USA (1997-1999) and a Clinical Research Fellow in the In Vitro Fertilization Unit, Department of Reproductive Surgery & Medicine, Imperial College School of Medicine, Hammersmith Hospital, London, UK (1999-2001). He conducted basic and clinical research mainly on the mechanisms of implantation and endometrial receptivity, involving reproductive immunology and receptivity markers. Having already established the role of CRH in reproduction, his main achievement was the description of the mechanism by which trophoblast and desidual CRH immunomodulates local maternal T-cell immunity, facilitating implantation.

This research yielded a great volume of publications in scientific journals with a high impact factor (>5) as well as invited reviews in highly accessed journals. Due to the major impact of his research he was nominated Adjunct Assistant Professor in the Department of Obstetrics and Gynecology, Division of Human Reproduction, Philadelphia, PA, USA and Senior Scientist in the Imperial College School of Medicine, London, UK (1999-2001). More importantly, Professor Makrigiannakis was short-listed by invitation for the post of the Professor and Chair in Reproductive Science/Infertility in the Imperial College School of Medicine, Hammersmith Hospital, London, UK (2006).

His overall scientific activity has so far resulted in 143 publications with 5515 citations (Scopus) and H-index: 36. His wide recognition resulted in being a reviewer in more than 15 scientific journals and in receiving more than 10 national and international awards. Additionally, he has been an invited speaker in more than 200 international conventions.

### *Current academic and other professional positions*

Professor Makrigiannakis was elected Assistant Professor in Obstetrics and Gynecology in the Medical School of the University of Crete (2001) and Full Professor in the same School (2010). He is the Head of the Department of Obstetrics and Gynecology of the Medical School of the University of Crete and the founder and Head of the Division of Reproductive Medicine including the IVF unit (1000 cycles yearly since 2006) and the recurrent miscarriages clinic. He is also the founder and Head of the University Laboratory of Human Reproduction continuing his research

on the role of CRH on implantation mechanisms, repeated implantation failures and gynaecological cancer. Five PhD theses have been completed so far while 4 are currently on-going in this laboratory.

He is/was also a member of:

- The Advisory Committee of ESHRE
- Executive Committee of ESHRE
- Executive Committee of MSRM
- General Secretary of MSRM
- Executive Committee of ESCI
- Scientific Committee EBCOG
- Steering Committee of ECRES

### **Selected Publications**

1. **Makrigiannakis A**, Margioris A, Markogiannakis E, Stournaras C, Gravanis A. Steroid hormones regulate the release of immunoreactive beta-endorphin from the Ishikawa human endometrial cell line. J Clin Endocrinol Metab. 1992 Aug;75(2):584-9.
2. **Makrigiannakis A**, Zoumakis E, Margioris AN, Theodoropoulos P, Stournaras C, Gravanis A. The corticotropin-releasing hormone (CRH) in normal and tumoral epithelial cells of human endometrium. J Clin Endocrinol Metab. 1995 Jan;80(1):185-9.
3. **Makrigiannakis A**, Zoumakis E, Margioris AN, Stournaras C, Chrousos GP, Gravanis A. Regulation of the promoter of the human corticotropin-releasing hormone gene in transfected human endometrial cells. Neuroendocrinology. 1996 Aug;64(2):85-92.
4. **Makrigiannakis A**, Coukos G, Christofidou-Solomidou M, Gour BJ, Radice GL, Blaschuk O, Coutifaris C. N-cadherin-mediated human granulosa cell adhesion prevents apoptosis: a role in follicular atresia and luteolysis? Am J Pathol. 1999 May;154(5):1391-406.
5. Coukos G, **Makrigiannakis A**, Kang EH, Caparelli D, Benjamin I, Kaiser LR, Rubin SC, Albelda SM, Molnar-Kimber KL. Use of carrier cells to deliver a replication-selective herpes simplex virus-1 mutant for the intraperitoneal therapy of epithelial ovarian cancer. Clin Cancer Res. 1999 Jun;5(6):1523-37.
6. **Makrigiannakis A**, Margioris AN, Chatzaki E, Zoumakis E, Chrousos GP, Gravanis A. The decidualizing effect of progesterone may involve direct transcriptional activation of corticotrophin-releasing hormone from human endometrial stromal cells. Mol Hum Reprod. 1999 Sep;5(9):789-96.
7. Kohen P, Castro A, Caballero-Campo P, Castro O, Vega M, **Makrigiannakis A**, Simón C, Carvallo P, Devoto L. Interleukin-1beta (IL-1beta) is a modulator of human luteal cell steroidogenesis: localization of the IL type I system in the corpus luteum. J Clin Endocrinol Metab. 1999 Nov;84(11):4239-45.
8. **Makrigiannakis A**, Amin K, Coukos G, Tilly JL, Coutifaris C. Regulated expression and potential roles of p53 and Wilms' tumor suppressor gene (WT1) during follicular development in the human ovary. J Clin Endocrinol Metab. 2000 Jan;85(1):449-59.
9. **Makrigiannakis A**, Margioris AN, Zoumakis E, Stournaras C, Gravanis A. The transcription of corticotropin-releasing hormone in human endometrial cells is regulated by cytokines. Neuroendocrinology. 1999 Dec;70(6):451-9.

10. Coukos G, **Makrigiannakis A**, Kang EH, Rubin SC, Albelda SM, Molnar-Kimber KL. Oncolytic herpes simplex virus-1 lacking ICP34.5 induces p53-independent death and is efficacious against chemotherapy-resistant ovarian cancer. Clin Cancer Res. 2000 Aug;6(8):3342-53.
11. Chatzaki E, **Makrigiannakis A**, Margioris AN, Kouimtzioglou E, Gravanis A. The Fas/FasL apoptotic pathway is involved in kappa-opioid-induced apoptosis of human endometrial stromal cells. Mol Hum Reprod. 2001 Sep;7(9):867-74.
12. **Makrigiannakis A**, Zoumakis E, Kalantaridou S, Coutifaris C, Margioris AN, Coukos G, Rice KC, Gravanis A, Chrousos GP. Corticotropin-releasing hormone promotes blastocyst implantation and early maternal tolerance. Nat Immunol. 2001 Nov;2(11):1018-24.
13. **Makrigiannakis A**, Coukos G, Mantani A, Prokopakis P, Trew G, Margara R, Winston R, White J. Expression of Wilms' tumor suppressor gene (WT1) in human endometrium: regulation through decidual differentiation. J Clin Endocrinol Metab. 2001 Dec;86(12):5964-72.
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15. Bamberger AM, Bamberger CM, Aupers S, Milde-Langosch K, Löning T, **Makrigiannakis A**. Expression pattern of the activating protein-1 family of transcription factors in the human placenta. Mol Hum Reprod. 2004 Apr;10(4):223-8.
16. Kiapekou E, Loutradis D, Patsoula E, Koussidis GA, Minas V, Bletsas R, Antsaklis A, Michalis S, **Makrigiannakis A**. Prolactin receptor mRNA expression in oocytes and preimplantation mouse embryos. Reprod Biomed Online. 2005 Mar;10(3):339-46.
17. Briese J, Oberndörfer M, Pättschenik C, Schulte HM, **Makrigiannakis A**, Löning T, Bamberger AM. Osteopontin is colocalized with the adhesion molecule CEACAM1 in the extravillous trophoblast of the human placenta and enhances invasion of CEACAM1-expressing placental cells. J Clin Endocrinol Metab. 2005 Sep;90(9):5407-13.
18. Kravariti M, Naka KK, Kalantaridou SN, Kazakos N, Katsouras CS, **Makrigiannakis A**, Paraskevidis EA, Chrousos GP, Tsatsoulis A, Michalis LK. Predictors of endothelial dysfunction in young women with polycystic ovary syndrome. J Clin Endocrinol Metab. 2005 Sep;90(9):5088-95.
19. Bamberger AM, Minas V, Kalantaridou SN, Radde J, Sadeghian H, Löning T, Charalampopoulos I, Brümmer J, Wagener C, Bamberger CM, Schulte HM, Chrousos GP, **Makrigiannakis A**. Corticotropin-releasing hormone modulates human trophoblast invasion through carcinoembryonic antigen-related cell adhesion molecule-1 regulation. Am J Pathol. 2006 Jan;168(1):141-50.
20. Kalantaridou SN, Naka KK, Bechlioulis A, **Makrigiannakis A**, Michalis L, Chrousos GP. Premature ovarian failure, endothelial dysfunction and estrogen-progestogen replacement. Trends Endocrinol Metab. 2006 Apr;17(3):101-9.
21. **Makrigiannakis A**, Minas V, Kalantaridou SN, Nikas G, Chrousos GP. Hormonal and cytokine regulation of early implantation. Trends Endocrinol Metab. 2006 Jul;17(5):178-85.

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35. **Makrigiannakis A**, BenKhalifa M, Vrekoussis T, Mahjub S, Kalantaridou SN, Gurgan T. Repeated implantation failure: a new potential treatment option. *Eur J Clin Invest*. 2015 Apr;45(4):380-4.

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37. **Makrigiannakis A**, Vrekoussis T, Zoumakis E, Kalantaridou SN, Jeschke U. The Role of HCG in Implantation: A Mini-Review of Molecular and Clinical Evidence. *Int J Mol Sci*. 2017 Jun 19;18(6).

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