



ASLI UYAR BIOGRAPHY

Dr. Asli Uyar is an Associate Research Scientist at Department of Obstetrics, Gynecology and Reproductive Sciences at Yale School of Medicine; and an Assistant Professor at the Department of Computer Engineering at Okan University in Istanbul. She is specialized in reproductive bioinformatics utilizing machine learning and advanced statistical approaches for analysis of high-throughput data to investigate oocyte maturation, early embryo development and embryo viability.

Dr. Uyar received her Ph.D. degree from the Department of Computer Engineering at Bogazici University in Istanbul. Her Ph.D. work focused on machine learning based predictive models in in vitro fertilization (IVF) treatment. She worked in collaboration with embryologists and IVF physicians to develop algorithms predictive of embryo implantation and IVF outcome. Related publications brought her best paper awards at International Conference on Machine Learning and Data Analysis in 2009 and at Turkish Medical Informatics Conference in 2010. She also received best reviewer certificate from Human Reproduction Journal in 2010.

After completing her Ph.D., she joined Seli Lab at Yale Ob/Gyn as a postdoctoral research associate in 2011 and completed studies comparing gene expression in oocytes and cumulus cells from mouse homozygous deficient for embryonic poly(A) binding protein (ePAB) to wild type using microarrays, and investigating cumulus cell predictors of oocytes viability using microRNA microarrays. She also used metabolomics technology to determine how bovine embryo viability and gender affects embryo culture media metabolome. Currently, she is investigating the impact of assisted reproduction on genomic imprinting in mouse ovaries using RNA-Seq and advanced bioinformatics.

ASLI UYAR RESEARCH LIST

- [Uyar A](#), Seli E. The impact of assisted reproductive technologies on genomic imprinting and imprinting disorders. *Current Opinion in Obstetrics and Gynecology*, 26(3):210-21, 2014.
- [Uyar A](#), Seli E. Metabolomic assessment of embryo viability. *Seminars in Reproductive Medicine* 32(2):141-52, 2014.
- [Muñoz M](#), [Uyar A](#), Correia E, Diez C, Fernandez-Gonzalez A, Caamaño JN, Trigo B, Carrocera S, Seli E, Gomez E. Non-invasive assessment of embryonic sex in cattle by metabolomic fingerprinting of in vitro culture medium. *Metabolomics* 10(3):443-51, 2014.
- [Uyar A](#), Torrealday S, Seli E. Cumulus and granulosa cell markers of oocyte and embryo quality. *Fertility and Sterility* 99(4):979-97, 2013.
- [Uyar A](#), Seli E. Embryo assessment strategies and their validation for clinical use: a critical analysis of methodology. *Current Opinion in Obstetrics and Gynecology* 24(3):141-50, 2012.

- Uyar A, Bener A, Ç,ray HN, Bahçeci M. Physicians' experience performing embryo transfers may affect outcome. *Fertility and Sterility* 95(5):1860-2, 2011.
- Uyar A, Bener A, Ciray HN. Predictive modeling of implantation outcome in an IVF setting: An application of machine learning methods. *Medical Decision Making* 2014 (In press) DOI: 10.1177/0272989X14535984.
- Muñoz M, Uyar A, Correia E, Diez C, Fernandez-Gonzalez A, Caamaño JN, Trigo B, Humblot P, Ponsart C, Guyader-Joly C, Carrocera S, Martin D, Le Guienne B, Seli E, Gomez E. Prediction of pregnancy viability in bovine in vitro produced embryos and recipients with Fourier transform infrared spectroscopy. *BioMed Research International* 2014 (In press) <http://dx.doi.org/10.1155/2014/608579>.
- Karakaya C, Guzeloglu-Kayisli O, Hobbs RJ, Gerasimova T, Uyar A, Erdem M, Oktem M, Erdem A, Gumuslu S, Ercan D, Sakkas D, Comizzoli P, Seli E, Lalioti MD. Follicle stimulating hormone receptor (FSHR) alternative skipping of exon 2 and 3 are affecting ovarian response to FSH in vivo and in vitro. *Molecular Human Reproduction* 2014 (In press) doi:10.1093/molehr/gau024
- Uyar A, Seli E. Embryo selection by transcriptomics, proteomics, and metabolomics. In *A Practical Guide to Selecting Gametes and Embryos*. Edited by: Montag M. pp. 211-28, 2013.
- Bruce C, Uyar A. Transcriptomics technology: promise and potential pitfalls. In *Human Gametes and Preimplantation Embryos*. Edited by: Gardner DK, Sakkas D, Seli E, Wells D. pp. 173-84, 2013.
- Manafi S, Uyar A, Bener A. Sampling bias in microarray data analysis: a demonstration in the field of reproductive biology. In *Proceedings of Int. Symposium on Health Informatics and Bioinformatics (HIBIT)*, pp. 1-7, 2013, Ankara, Turkey.
- Segmen E, Uyar A. Performance analysis of classification models for medical diagnostic decision support systems. In *Proceedings of Signal Processing and Communications Conf. (SIU)*, pp. 1-4, 2013, Girne, Cyprus.
- Uyar A, Bener A, Ç,ray HN, Bahçeci M. Bayesian networks for predicting IVF blastocyst development. In *Proceedings of Int. Conf. on Pattern Recognition, ICPR*, pp. 2772-5, 2010, Istanbul, Turkey.
- Uyar A, Bener A, Ç,ray HN, Bahçeci M. A frequency based encoding technique for transformation of categorical variables in mixed IVF dataset. In *Proceedings of Int. Conf. of the IEEE EMBC (Engineering in Medicine and Biology Society)*, pp. 6214-7, 2009, Minneapolis, USA.
- Uyar A, Bener A, Ç,ray HN, Bahçeci M. Adjusting decision threshold in Naive Bayes based IVF embryo selection. In *Proceedings of Biomedical Engineering National Meeting (BIYOMUT)*, pp. 1-4, 2009, Izmir, Turkey.
- Ari I, Uyar A and Akarun L. Facial feature tracking and expression recognition for sign language. In *Proceedings of 23rd Int. Symposium on Computer and Information Sciences. (ISCIS)*, pp. 1-6. 2008, Istanbul, Turkey.