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Transplantation of cultured corneal endothelial cells: Towards clinical application

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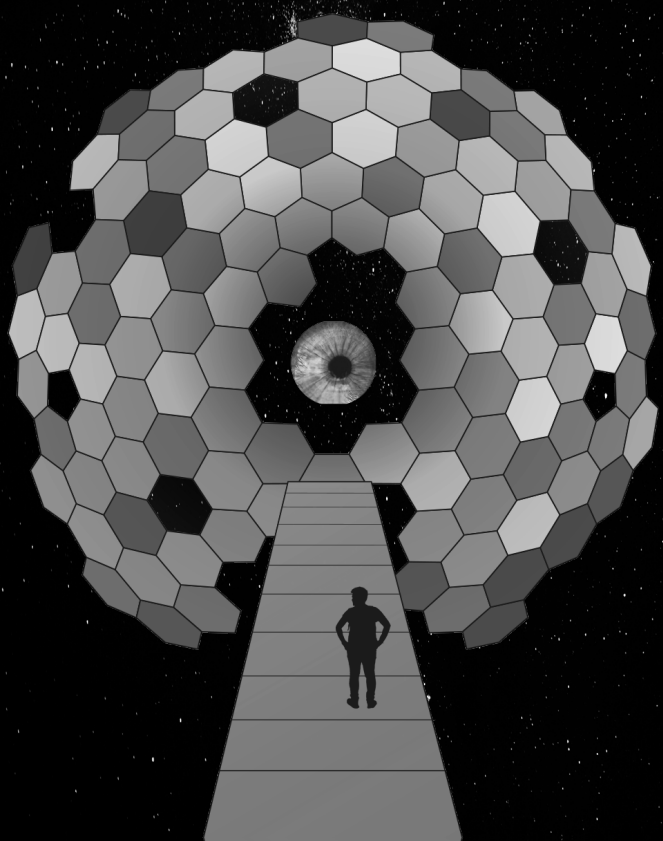
Acknowledgements



LIST OF PUBLICATIONS

1. **Spinozzi D,** Miron A, Bruinsma M, Dapena I, Kocaba V, Jager MJ, Melles GRJ, Ní Dhubhghaill S, Oellerich S. New Developments In Corneal Endothelial Cell Replacement. *Review. Submitted for publication.*

2. **Spinozzi D,** Miron A, Lie J, Oellerich S, Ní Dhubhghaill S, Melles GRJ. The influence of preparation and storage time on endothelial cells in Quarter-Descemet membrane endothelial keratoplasty (Quarter-DMEK) grafts *in vitro. Cell Tissue Bank. 2020 Aug 14. doi: 10.1007/s10561-020-09854-z.*

3. Miron A, **Spinozzi D,** Lie J, Melles GR, Oellerich S, Ní Dhubhghaill S. Improving Endothelial Explant Tissue Culture by Novel Thermoresponsive Cell Culture System. *Curr Eye Res. 2020 Jul 29:1-4. doi: 10.1080/02713683.2020.1798468.*

4. **Spinozzi D,** Miron A, Lie JT, Rafat M, Lagali N, Melles GRJ, Dhubhghaill SN, Dapena I, Oellerich S. *In vitro* Evaluation and Transplantation of Human Corneal Endothelial Cells Cultured on Biocompatible Carriers. *Cell Transplant. 2020 Jan-Dec;29:963689720923577. doi: 10.1177/0963689720923577.*

5. Telinius N, **Spinozzi D,** Rasic D, Dapena I, Baandrup U, Miron A, Oellerich S, Hjortdal J. Göttingen Minipig is not a Suitable Animal Model for *in Vivo* Testing of Tissue-Engineered Corneal Endothelial Cell-Carrier Sheets and for Endothelial Keratoplasty. *Curr Eye Res. 2020 Aug;45(8):945-949. doi: 10.1080/02713683.2019.1706747.*

6. Miron A, **Spinozzi D,** Ní Dhubhghaill S, Lie JT, Oellerich S, Melles GRJ. In vitro endothelial cell migration from limbal edge-modified Quarter-DMEK grafts. *PLoS One. 2019 Nov 20;14(11):e0225462. doi: 10.1371/journal.pone.0225462.*

7. **Spinozzi D,** Miron A, Bruinsma M, Dapena I, Lavy I, Binder PS, Rafat M, Oellerich S, Melles GRJ. Evaluation of the Suitability of Biocompatible Carriers as Artificial Transplants Using Cultured Porcine Corneal Endothelial Cells. *Curr Eye Res. 2019 Mar;44(3):243-249. doi: 10.1080/02713683.2018.1536215.*

8. Miron A, **Spinozzi D,** Bruinsma M, Lie JT, Birbal RS, Baydoun L, Oellerich S, Melles GRJ. Asymmetrical endothelial cell migration from in vitro Quarter-Descemet membrane endothelial keratoplasty grafts. *Acta Ophthalmol. 2018 Dec;96(8):828-833. doi: 10.1111/aos.13841.*

9. Baydoun L, Zygoura V, Hsien S, Birbal RS, **Spinozzi D,** Lie JT, Ham L, Oellerich S, Melles GRJ. Clinical feasibility of using multiple grafts from a single donor for Quarter-DMEK. *Acta Ophthalmol. 2018 Aug;96(5):e656-e658. doi: 10.1111/aos.13720.*

10. Cioni B, Nevedomskaya E, Melis MHM, van Burgsteden J, Stelloo S, Hodel E, **Spinozzi D,** de Jong J, van der Poel H, de Boer JP, Wessels LFA, Zwart W, Bergman AM. Loss of androgen receptor signaling in prostate cancer-associated fibroblasts (CAFs) promotes CCL2- and CXCL8-mediated cancer cell migration. *Mol Oncol. 2018 Aug;12(8):1308-1323. doi: 10.1002/1878-0261.12327.*

11. **Spinozzi D,** Miron A, Bruinsma M, Lie JT, Dapena I, Oellerich S, Melles GRJ. Improving the success rate of human corneal endothelial cell cultures from single donor corneas with stabilization medium. *Cell Tissue Bank. 2018 Mar;19(1):9-17. doi: 10.1007/s10561-017-9665-y.*

CURRICULUM VITAE

Daniele Spinozzi was born on May 14th, 1990 in Giulianova (Italy). After graduating from secondary school in 2008 (Liceo Scientifico Marie Curie, Giulianova, Italy), he worked for a Bachelor's degree in Biological Sciences at the Università degli Studi dell'Aquila (Italy). During this training, he did an internship in clinical biochemistry and microbiology at Laboratorio Italia S.r.l. (Giulianova, Italy). He obtained his Bachelor's degree in 2011 with a thesis on the molecular mechanisms underlying trichomes development in *Arabidopsis Thaliana*.

While attending a Master's degree in Molecular Biology at the Università degli Studi di Parma (Italy), he won an Erasmus scholarship to spend a period abroad at the Université de Lille 1 (France). Here, under the supervision of Prof. Robert-Alain Toillon, he worked at the INSERM U908 lab on growth factor signaling in breast cancer cells, in particular on the characterization of the expression of the tyrosine-kinase receptor TrkB in breast cancer cells. This project served as a thesis for his Master's degree in Molecular Biology, which he completed in 2014.

In January 2015, for a period of 6 months, he worked at the Nederlands Kanker Instituut (NKI) in Amsterdam (The Netherlands), where he performed research in the division of Molecular Genetics under the supervision of Dr. André Bergman. The aim of his research during this spell was to elucidate the role and the expression of the androgen receptor in prostate cancer associated fibroblasts.

From January 2016 to December 2019, he worked as a PhD candidate at Netherlands Institute of Innovative Ocular Surgery (NIIOS) in Rotterdam (The Netherlands). Under the supervision of Dr. Gerrit Melles, Dr. Isabel Dapena and Dr. Silke Oellerich, he mainly worked on the establishment of a robust, GMP-compliant cell culture protocol for human corneal endothelial cells, as part of the "ARREST BLINDNESS" project funded by Horizon2020 European Union grant. His main tasks were *in vitro* cell culture with human and animal material, tissue engineering, viability and functionality assays and immunofluorescence. Moreover, in August 2016, he started at the Graduate School at Leiden University Medical Center (LUMC) in Leiden (The Netherlands) as a PhD student in Ophthalmology, under the supervision of Prof. Martine Jager.

Since January 2020, he is working as a PostDoc researcher at the "DRAPH" project on the decellularization and repopulation of aortic and pulmonary heart valves within the Department of Thoracic Surgery at the LUMC, under the supervision of Prof. Mark Hazekamp and Dr. Marten Engelse.

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