

## Universitätsklinik für Augenheilkunde

### Forschungsschwerpunkte:

#### Entwicklung neuer Techniken zur Hornhaut- u. Bindehaut-Rekonstruktion

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**Schrader S**, Tuft SJ, Beaconsfield M, Borrelli M, Geerling G, Daniels JT. Evaluation of human MRC-5 cells as a feeder layer in a xenobiotic-free culture system for conjunctival epithelial progenitor cells. *Curr Eye Res.* 2012 Dec;37(12):1067-74. doi: 10.3109/02713683.2012.713155.

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Feng Y, Borrelli M, Meyer-Ter-Vehn T, Reichl S, **Schrader S\***, Geerling G\*. Epithelial wound healing on keratin film, amniotic membrane and polystyrene in vitro. *Curr Eye Res.* 2014 Jun;39(6):561-70. doi: 10.3109/02713683.2013.853804. Epub 2014 Jan 8.

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Massie I, Kureshi AK, **Schrader S**, Shortt AJ, Daniels JT. Optimization of optical and mechanical properties of real architecture for 3-dimensional tissue equivalents: Towards treatment of limbal epithelial stem cell deficiency. *Acta Biomater.* 2015 Sep;24:241-50. doi: 10.1016/j.actbio.2015.06.007. Epub 2015 Jun 17.

**Schrader S**, Witt J, Geerling G. Plastic compressed collagen transplantation - a new option for corneal surface reconstruction? *Acta Ophthalmol.* 2017 Nov 30. doi: 10.1111/aos.13649.

Spaniol K, Witt J, Mertsch S, Borrelli M, Geerling G, **Schrader S**. Generation and characterisation of decellularised human corneal limbus. *Graefes Arch Clin Exp Ophthalmol.* 2018 Feb 1. doi: 10.1007/s00417-018-3904-1.

Witt J, Mertsch S, Borrelli M, Dietrich J, Geerling G, **Schrader S**, Spaniol K. Decellularised conjunctiva for ocular surface reconstruction. *Acta Biomater.* 2018 Feb;67:259-269. doi: 10.1016/j.actbio.2017.11.054.

### **Evaluation neuer Keratoplastik- und Keratoprothesen-Techniken**

Spaniol K, Borrelli M, Holtmann C, **Schrader S**, Geerling G. Complications of Descemet's membrane endothelial keratoplasty]. *Ophthalmologe.* 2015 Dec;112(12):974-81.

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Bachmann BO, **Schrader S**. [Biomaterials or Donor Tissue - What is the Future of Tissue Engineering for Cornea Reconstruction?]. *Klin Monbl Augenheilkd.* 2017 Jun;234(6):758-762. doi: 10.1055/s-0043-109024. Epub 2017 Jun 6. German.

### **Entwicklung Regenerativer Strategien zur Therapie des trockenen Auges**

**Schrader S**, Wedel T, Moll R, Geerling G. Combination of serum eye drops with hydrogel bandage contact lenses in the treatment of persistent epithelial defects. *Graefes Arch Clin Exp Ophthalmol.* 2006 Oct;244(10):1345-9. Epub 2006 Mar 17

**Schrader S**, Wedel T, Kremling C, Laqua H, Geerling G. Amniotic Membrane As A Carrier for Lacrimal Gland Acinar Cells. *Graefes Arch Clin Exp Ophthalmol.* 2007 Nov;245(11):1699-704. Epub 2007 Jun 12

**Schrader S**, Kremling C, Klinger M, Laqua H, Geerling G. Cultivation of lacrimal gland acinar cells in a microgravity environment. *Br J Ophthalmol.* 2009 Aug;93(8):1121-5. Epub 2009 May 4

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Finis D, Ackermann P, Pischel N, König C, Hayajneh J, Borrelli M, **Schrader S\***, Geerling G\*. Evaluation of Meibomian Gland Dysfunction and Local Distribution of Meibomian Gland Atrophy by Non-contact Infrared Meibography. *Curr Eye Res*. 2015;40(10):982-9. doi: 10.3109/02713683.2014.971929. Epub 2014 Oct 20.

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### **Reviews und Buchbeiträge**

1. **Schrader S**, Mircheff AK, Geerling G: Animal Models of Dry Eye. *Dev Ophthalmol*. 2008;41:298-312. (Buchbeitrag)
2. Geerling G, Unterlauff JD, Kasper K, **Schrader S**, Opitz A, Hartwig D: Autologous serum and alternative blood products for the treatment of ocular surface disorders. *Ophthalmologe*. 2008 Jul;105(7):623-31. (Review)
3. Notara M, Alatza A, Gilfillan J, Harris AR, Levis HJ, **Schrader S**, Vernon A, Daniels JT. In sickness and in health: Corneal epithelial stem cell biology, pathology and therapy. *Exp Eye Res*. 2010 Feb;90(2):188-95. Epub 2009 Oct 17. (Review)

4. **Schrader S**, Notara M, Beaconsfield M, Tuft SJ, Daniels JT, Geerling G. Tissue engineering for conjunctival reconstruction: established methods and future outlooks. *Curr Eye Res.* 2009 Nov;34(11):913-24. (Review)
5. **Schrader S**, Liu L, Kasper K, Geerling G. Generation of two- and three-dimensional lacrimal gland constructs. *Dev Ophthalmol.* 2010;45:49-56. Epub 2010 May 18 (Buchbeitrag)
6. Finis D, **Schrader S**, Geerling G. Meibomian Gland Dysfunction. *Klinische Monatsblätter für Augenheilkunde* 2012 Apr;229:506-513 (Review)
7. Borrelli M, Feng Y, Spaniol K, Geerling G, **Schrader S**. New Developments in Matrices for Ocular Surface Reconstruction, *Current Tissue Engineering*, 2012 (Accepted 05/2012) (Review)
8. Finis D, Gerber PA, **Schrader S**, Geerling G. Okuläre Rosazea und Meibomdrüsendysfunktion. *Z. prakt. Augenheilkd.* 33: 457 – 467 (2012) (Review)
9. Feng Y, Borrelli M, Reichl S, **Schrader S**, Geerling G. Review of alternative carrier materials for ocular surface reconstruction. *Curr Eye Res.* 2014 Jun;39(6):541-52. doi: 10.3109/02713683.2013.853803. Epub 2014 Jan 9. (Review)
10. **Schrader S**, Tost HW, Geerling G. Lacrimal punctal occlusion. Chapter 37 of the Book „Ocular Surface Disorders by Jose M Benitez-del-Castillo and Michael A Lemp. JP Medical Publisher 2013. ISBN 978-1-907816-31-4 (Buchbeitrag)
11. **Schrader S**, Finis D, Spaniol K, Roth M, Ackermann P, Geerling G. [Clinical Diagnostics for the Tear Film and the Ocular Surface.]. *Klin Monbl Augenheilkd.* 2014 Aug 12. [Epub ahead of print] German. (Review)
12. **Schrader S**, Knop E, Knop N, Finis D, Geerling G. Klinisches Bild und Diagnostik. Kapitel 6 des Buches *Meibom-Drüsen-Dysfunktion – Aktuelle Diagnose und Therapieoptionen.* Uni-Med Verlag 2015. ISBN 978-3-8374-1437-0. (Buchbeitrag)
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14. Roth M, **Schrader S**, Finis D, Spaniol K, MacKenzie C, Ackermann P, Geerling G. [Diagnostics of Infectious Corneal and Conjunctival Diseases]. *Klin Monbl Augenheilkd.* 2015 Jun;232(6):789-803; quiz 804-6. doi: 10.1055/s-0033-1358135. Epub 2015 May 27. German. (Review)
15. Finis D, Ackermann P, **Schrader S**, Geerling G. [Special Diagnostics of the Cornea]. *Klin Monbl Augenheilkd.* 2015 Nov;232(11):1319-32; quiz 1333-4. doi: 10.1055/s-0033-1358205. Epub 2015 Nov 17. German. (Review)
16. Chao W, Belmonte C, Benitez Del Castillo J, Bron A, Dua H, Nichols K, Novack G, **Schrader S**, Willcox M, Wolffsohn J, Sullivan DA. Report of the Inaugural Meeting of the TFOS i2 = initiating innovation Series: Targeting the Unmet Need for Dry Eye Treatment (London, United Kingdom, March 21, 2015). *Ocul Surf.* 2016 Jan 13. pii: S1542-0124(15)00205-0. doi: 10.1016/j.jtos.2015.11.003. [Epub ahead of print] (Review)
17. Dietrich J, Massie I, Roth M, Geerling G, Mertsch S, **Schrader S**. Development of Causative Treatment Strategies for Lacrimal Gland Insufficiency by Tissue Engineering and Cell Therapy. Part 1: Regeneration of Lacrimal Gland Tissue: Can We Stimulate Lacrimal Gland Renewal In Vivo? *Curr Eye Res.* 2016 Apr 26:1-12. [Epub ahead of print] PubMed PMID: 27116653. (Review)
18. Spaniol K, Guthoff R, **Schrader S**, Borrelli M, Kajasi N, Schramm M, Geerling G. Diagnostik von Binde- und Hornhauterkrankungen Teil 4: Histologische Verfahren. *Klin Monbl Augenheilkd.* 2016 May 20. [Epub ahead of print] German. (Review)

19. Massie I, Dietrich J, Roth M, Geerling G, Mertsch S, **Schrader S**. Development of Causative Treatment Strategies for Lacrimal Gland Insufficiency by Tissue Engineering and Cell Therapy. Part 2: Reconstruction of Lacrimal Gland Tissue: What Has Been Achieved So Far and What Are the Remaining Challenges? *Curr Eye Res*. 2016 Jun 27;1-11. [Epub ahead of print] PubMed PMID: 27348234. (Review)
20. Spaniol K, Holtmann C, Geerling G, **Schrader S**. [New approaches to ocular surface reconstruction beyond the cornea]. *Ophthalmologe*. 2016 Dec 22. doi: 10.1007/s00347-016-0419-1. [Epub ahead of print] German. (Review)
21. Bachmann BO, **Schrader S**. [Biomaterials or Donor Tissue - What is the Future of Tissue Engineering for Cornea Reconstruction?]. *Klin Monbl Augenheilkd*. 2017 Jun;234(6):758-762. doi: 10.1055/s-0043-109024. Epub 2017 Jun 6. German. (Review)
22. Bramann EL, Schröder K, **Schrader S**, Geerling G. [Descemetectomy : An alternative to transplantation?]. *Ophthalmologe*. 2017 Jul;114(7):666-669. doi: 10.1007/s00347-017-0516-9. German. (Review)
23. Novack GD, Asbell P, Barabino S, Bergamini MVW, Ciolino JB, Foulks GN, Goldstein M, Lemp MA, **Schrader S**, Woods C, Stapleton F. TFOS DEWS II Clinical Trial Design Report. *Ocul Surf*. 2017 Jul;15(3):629-649. doi: 10.1016/j.jtos.2017.05.009. Epub 2017 Jul 20. Review)