

Curriculum vitae – Status: 07.2017

NAME Katja Schenke-Layland		POSITION Professor of Medical Technologies and Regenerative Medicine	
EDUCATION/ TRAINING			
INSTITUTION AND LOCATION	DEGREE(s)	YEAR(s)	FIELD(s) OF STUDY
UCLA, Cardiovascular Research Laboratories, Los Angeles/CA, USA	Postdoctoral Research Fellow	2005-2008	Stem Cell Research/ Cardiovascular Tissue Engineering
Children's Hospital Los Angeles, Saban Research Institute, Los Angeles/CA, USA	Postdoctoral Research Fellow	2004-2005	Cardiovascular Tissue Engineering
Friedrich Schiller University (FSU) Jena, Germany	Dr.rer.nat.	2001-2004 (23.9.2004)	Biology/ Cardiovascular Tissue Engineering
Friedrich Schiller University (FSU) Jena, Germany	M.Sc.	1995-2000	Biology, Sociology, Psychology

Personal Information:

Birth Date/Place: March 21st 1977; Eisenach, Germany
Citizenship: Dual Nationality: U.S. and German
Website: <http://www.schenke-layland-lab.com>
Work Addresses: Eberhard Karls University Tübingen
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Professional Experience:

01/16-present **Director** (interim, executive), Fraunhofer IGB, Stuttgart, Germany
04/13-present **Department Head**, Fraunhofer IGB, Dept. of Cell and Tissue Engineering, Stuttgart, Germany
11/11-present **Full Professor (W3)**, Eberhard Karls University Tübingen (EKUT), Dept. of Women's Health, Research Institute for Women's Health, Tübingen, Germany
11/13-present **Adjunct Associate Professor**, University of California Los Angeles (UCLA), Dept. of Medicine/ Cardiology, Cardiovascular Research Laboratories (CVRL), Los Angeles, CA, USA
01/12-present **Executive Editor**, Advanced Drug Delivery Reviews (ADDR), Elsevier, *Impact Factor: 11.76*
01/10-09/13 **Visiting Scholar**, UCLA, Dept. of Medicine/ Cardiology, CVRL, Los Angeles, CA, USA
01/10-03/13 **Deputy Department Head and Group Leader**, Fraunhofer IGB, Dept. of Cell and Tissue Engineering, Stuttgart, Germany
11/08-12/09 **Assistant Research Professor**, UCLA, Dept. of Medicine/ Cardiology, Cardiovascular Research Laboratories, Los Angeles, CA, USA

Overview of Peer-Reviewed Publications:

Peer-Reviewed Articles	Original Articles:	81
	Review Articles, Editorials, Commentaries, etc.:	22
	Senior/First Authorships:	39/24
	Book Chapters:	5
Citations	ISI Web of Science	2834
	Google Scholar	4686
Total Impact Factor Points		482
H-Index	ISI Web of Science	31
	Google Scholar	38

Patents:

- "Verfahren und Systemtechnik zur markerfreien Detektion und Selektion transgener Einzelzellen", *submitted*
- "Glycosylated protein of an extra-cellular matrix for use in a method of treating diabetes in a human or animal subject", *submitted*
- "Markers for human cardiac stem cells for regenerative therapies", USA, *US Prov App Serial No. 61/828,502*
- "Glycosylated protein of an extra-cellular matrix for use in a method of treating an ischemic heart of a human or animal subject in need thereof", PCT/EP2014/066497

Selected Awards:

- **CyberOne Business Plan Competition Finalist** (2016)
- **RPB Harold F. Spalter International Scholar Award** (2016)
- **Tissue Engineering and Regenerative Medicine International Society (TERMIS)-EU Young Investigator Award** (2014)
- **Young Investigator Morphological Sciences Award**, American Association of Anatomists (2010)
- **Best Young Researcher Award/ Family Klee Prize**, German Society for Biomedical Engineering (2004)
- **Teaching Award Best Module - Vital Implants**, Eberhard Karls University Tübingen (2016)
- **Teaching Award Best Module - Vital Implants**, Eberhard Karls University Tübingen (2014)
- **Teaching Award Best Module - Vital Implants**, Eberhard Karls University Tübingen (2013)

Conference Leadership:

- **Conference Host** (2018) Annual Meeting of the German Society of Matrix Biology (DGMB), Stuttgart, Germany
- **Conference Host** (2016) 9th European Elastin Meeting 2016, Stuttgart, Germany
- **Conference Host** (2015) bone-tec, Stuttgart, Germany
- **Conference Co-Host** (2013) Annual Meeting DGMB, Tübingen, Germany

Academic Institutional Responsibilities

2017-present **Deputy Ombudsman**, Medical Faculty, EKUT, Germany
 2016-present **Deputy Study Dean - Medical Technology**, Medical Faculty, EKUT, Germany
 2016-present **Science Strategy Committee**, EKUT, Germany
 2016-present **Klinikumsrat** (Hospital Senate), Medical Faculty, EKUT, Germany
 2014-present **Technology Transfer Committee**, Medical Faculty, EKUT, Germany
 2014-present **Science Committee**, Medical Faculty, EKUT, Germany
 2014-present **Habilitation Committee**, Medical Faculty, EKUT, Germany
 2013-present **Member Medical Faculty**, UCLA, USA
 2012-present **Member Faculty of Science**, EKUT, Germany
 2011-present **Member Medical Faculty**, EKUT, Germany

Selected National and International Committees and Boards:

2017-present **German-Israeli Foundation (GIF) Advisory Board** – Cancer and Biomedical Research Committee
 2017-present **TERMIS, Strategic Alliance Committee (EU Council)**
 2016-present **Board Member, German Society for Matrix Biology e.V.** (DGMB)
 2016-present **Editorial Board, Journal of 3D Printing in Medicine** (Future Medicine)
 2015-present **Fraunhofer Vintage Class**
 2015-present **Editorial Board, Tissue Engineering**, Parts A, B and C (Mary Ann Liebert)
 2015-present **Editorial Board, Scientific Reports** (Nature Publishing Group)
 2014-present **Advisory Board, Journal of Materials Chemistry B** (Wiley)
 2012-present **bone-tec Scientific Board**
 2012-2015 **American Association of Anatomist (AAA) Postdoctoral Awards Committee**
 2011-2015 **AAA Scientific Affairs Committee**

Selected Memberships/ Invited Fellowships:

2017-present **International Society of Matrix Biology**
 2015-present **Fellow, European Alliance for Medical and Biological Engineering and Science (EAMBES)**
 2013-present **DGMB**
 2010-present **TERMIS**
 2005-present **International Society for Stem Cell Research (ISSCR)**
 2010-2015 **American Association of Anatomist (AAA)**

Teaching Conceptualization and Coordination:

Coordinator Module “Vital Implants”, B.Sc. Medical Technology (Medizintechnik), EKUT, Germany
Coordinator Module “Implantology”, M.Sc. Biomedical Technologies, EKUT, Germany
Instructor FELASA C, TIZ-BIFO, Munich, Germany
Instructor PromoCell Academy, Heidelberg, Germany

Special Issue Editorships:

- “Extracellular Matrix Proteins and Mimics in Regenerative Medicine and Tissue Engineering“ **Acta Biomaterialia** 52 (2017)
- “Strategies in Tissue Engineering“ **Biotechnology Journal** 8(3) (2013)
- “From Tissue Engineering to Regenerative Medicine – The Potentials and the Pitfalls“ **Advanced Drug Delivery Reviews** 63(4-5) (2011)

Invited Mentoring Programs:

- **TERMIS America SYIS** (2013), Atlanta, USA
- **TERMIS Europe SYIS** (2010), Galway, Ireland
- **MINT and WISP Program**, Germany

International Journal Reviewer (selection):

Acta Biomaterialia • Advanced Biomaterials • Advanced Drug Delivery Reviews • Advanced Functional Materials • American Journal of Transplantation • Biofabrication • Biomaterials • Biomedical Materials • Cardiovascular Pathology • Circulation • Circulation Research • eLife • EMBO Journal • International Journal of Pharmaceutics • Journal of Anatomy • Journal of Biophotonics • Journal of Investigative Dermatology • Journal of the Royal Society Interface • Journal of Structural Research • Macromolecular Bioscience • Matrix Biology • Molecular Therapy • PLoSOne • PNAS • Scientific Reports • Tissue Engineering Part A, B and C

International Grant Reviewer (selection):

- **Australia** – Australian Research Council (ARC)
- **Austria** – Austrian Science Fund (FWF)
- **Belgium** – Research Council: Katholieke Universiteit Leuven
- **Canada** – ALS Society of Canada
– Québec Consortium for Drug discovery (CQDM)
- **Finland** – Academy of Finland
- **France** – L'Agence nationale de la recherche (ANR)
- **Germany** – Deutsche Forschungsgemeinschaft/ German Research Foundation (DFG)
– Bundesministerium für Bildung und Forschung/ Fed. Min. of Education and Research (BMBF)
– Alexander von Humboldt Foundation
– Helmholtz Association (Young Investigator Groups)
– VolkswagenStiftung
– Deutsche Krebshilfe
- **Ireland** – Science Foundation Ireland (SFI)
- **Israel** – Israeli Ministry of Science, Technology and Space
– Advisor, German-Israeli Foundation (GIF)
- **Netherlands** – Dutch Technology Foundation STW
– Dutch Burns Foundation
- **UK** – Arthritis Research
– UK Regenerative Medicine Platform

Certifications:

- FELASA B and C (EU certified animal safety instructor/supervisor)
- Laser Safety Officer (VBG 93/BGV B2)
- Certificate, Training for project leaders in biological safety (§ 15 Abs. 2 GenTSV)

Other Notable Accomplishments:

- Handelsblatt magazine's Top 100 Innovators in Germany (2017)
- Academia.net top 100 female scientists in Germany (2010)
- Nominee UCLA Chancellor's Award for Postdoctoral Research (2007)

Ongoing Support as PI:

DFG <i>Blood vessel tissue engineering (EKUT)</i>	SCHE701/14-1	2016-2019	€217.150
DFG Large Instrument Grant Raman Microspectroscope	INST 2388/64-1	01.2017	€195.000
Industry-on-campus Fonds, MWK Baden-Württemberg <i>Raman Spectroscopy for intraoperative tissue differentiation (Fh-IGB/ IGVP)</i>	83820131	2012-2016	€133.173
EU FP7 NMP AMCARE (Fh-IGB)	604531	2014-2017	€733.000
DFG <i>Ice Free Heart Valve Cryopreservation (EKUT)</i>	SCHE701/10-1	2014-2017	€125.250
Fraunhofer MAVO <i>OptisCell (Fh-IGB)</i>	122610	2015-2018	€306.876
EU Horizon 2020 NMP-10-2014 <i>DRIVE (EKUT)</i>	645991	2015-2019	€679.153
ZIM – AiF <i>Artificial Heart Development (EKUT)</i>	KF3349501CR4	2015-2017	€174.756

Completed Support as PI:

MWK Baden-Württemberg (EKUT)	33-729.55-3/214	2015-2016	€200.000
University Hospital Teaching Program PROFIL		2015	€30.000
EU FP7 Marie Curie (Michael Monaghan)	331430	2013-2015	€168.794
BMBF-CIRM Collaborative Grant	0316059	2012-2015	€1.072.042

DFG Optical Cellular Reprogramming	SCHE701/7-1	2012-2015	€304.425
DFG Large Instrument Grant Fluorescence Microscope	INST 2388/34-1	05.2013	€127.758
DFG Large Instrument Grant 5D Multiphoton System	INST 2388/30-1	02.2013	€275.000
DFG Large Instrument Grant ImageStreamX	INST 2388/33-1	01.2013	€265.000
Ministry of Science, Research and the Arts (MWK) Baden-Württemberg	SI-BW 01222-91	08.2011	€750.000
MWK Baden-Württemberg	33-729.55-3/214	2012-2014	€300.000
Fraunhofer Attract Group Leader Grant	Attract 692263	2010-2014	€2.704.413
DFG Research Grant, Co-Investigator	STO 359/7-1	2007-2010	€240.000
NIH-Ruth L. Kirschstein Training Grant	5T32HL007895-10	2007-2009	\$165.000
DFG - Postdoctoral Research Fellowship	SCHE 701/2-1	2005-2007	€52.800

Complete List of Peer-Reviewed Publications:

2017

1. Exogenous miR-29B delivery via a hyaluronan-based injectable system yields functional maintenance of the infarcted myocardium. Monaghan MG, Holeiter M, Brauchle E, Layland SL, Lu Y, Deb A, Pandit A, Nsair A, **Schenke-Layland K**. *Tissue Eng Part A* in press
2. Steps towards maturation of embryonic stem cell-derived cardiomyocytes by defined physical signals. Shen N, Knopf A, Westendorf C, Kraushaar U, Riedl J, Bauer H, Pöschel S, Layland SL, Monika Holeiter M, Knolle S, Brauchle E, Nsair A, Hinderer S, **Schenke-Layland K**. *Stem Cell Reports* 9(1): 122-135 (2017)
3. In vivo human somitogenesis guides somite development from hPSCs. Xi H, Fujiwara W, Gonzales K, Jan M, Liebscher S, Van Handel B, **Schenke-Layland K**, Pyle A. *Cell Reports* 18(6): 1573-1585 (2017)
4. Raman spectroscopic analyses of jaw periosteal cell mineralization. Brauchle E, Carvajal Berrio D, Rieger M, **Schenke-Layland K**, Reinert S, Alexander-Friedrich D. *Stem Cells Int* 2017: 1651376 (2017)
5. Allograft Heart Valves: Current Aspects and Future Applications. Lisy M, Kalender G, **Schenke-Layland K**, Brockbank KG, Biermann A, Stock UA. *Biopreserv Biobank* 15(2): 148-157 (2017)
6. Special Issue "Extracellular matrix proteins and mimics." **Schenke-Layland K**. *Acta Biomater* 52 (2017) (Editorial)
7. Enhanced elastin synthesis and maturation in human vascular smooth muscle tissue derived from induced-pluripotent stem cells. Eoh JH, Shen N, Burke JA, Hinderer S, Xia Z, **Schenke-Layland K**, Gerecht S. *Acta Biomater* 52: 49-59 (2017)
8. Raman microspectroscopy as diagnostic tool for the non-invasive analysis of fibrillin-1 deficiency in skin and in in vivo skin models. Brauchle E, Bauer H, Fernes P, Zuk A, **Schenke-Layland K**, Sengle G. *Acta Biomater* 52: 41-48 (2017)
9. Electrospun poly-L-lactide scaffold for the controlled and targeted delivery of a synthetically obtained Diclofenac prodrug to treat actinic keratosis. Piccirillo G, Bochicchio B, Pepe A, **Schenke-Layland K**, Hinderer S. *Acta Biomater* 52: 187-196 (2017)
10. Applying phasor approach analysis of multiphoton FLIM measurements to probe the metabolic activity of three-dimensional in vitro cell culture models. Lakner PH, Monaghan M, Möller Y, Olayioye M, **Schenke-Layland K**. *Sci Rep* 7: 42730 (2017)
11. Invited Commentary: Label-free live cell imaging by Confocal Raman Microscopy identifies CHO host and producer cell lines. Brauchle E, **Schenke-Layland K**. *Biotechnol J* 12(1): 1600412 (Commentary) (2017)

2016

12. Differentiation of human embryonic stem cells to HOXA⁺ hemogenic vasculature that resembles the aorta-gonad-mesonephros. Ng ES, Azzola L, Bruveris FF, Calvanese V, Phipson B, Vlahos K, Hirst C, Jokubaitis VJ, Yu QC, Maksimovic J, Liebscher S, Januar V, Zhang Z, Williams B, Conscience A, Durnall J, Jackson S, Costa M, Elliott D, Haylock DN, Nilsson SK, Saffery R, **Schenke-Layland K**, Oshlack A, Mikkola HKA, Stanley EG, Elefanty AG. *Nat Biotechnol* 34(11): 1168-1179 (2016)
13. Enabling multiphoton and second harmonic generation imaging in paraffin-embedded and histologically stained sections. Monaghan M, Kroll S, Brucker SY, **Schenke-Layland K**. *Tissue Eng Part C Methods* 22(6): 517-523 (2016)
14. Mononuclear phagocytes contribute to intestinal invasion and dissemination of *Yersinia enterocolitica*. Drechsler-Hake D, Alamir H, Günter M, Wagner S, Schütz M, Bohn E, **Schenke-Layland K**, Pisano F, Dersch P, Autenrieth IB, Autenrieth SE. *Int J Med Microbiol pii: S1438-4221(16)30040-6* (2016)
15. Cardiomyocyte generation from somatic sources – current status and future directions. Monaghan MG, Holeiter M, Layland SL, **Schenke-Layland K**. *Curr Opin Biotechnol* 40: 49-55 (2016) (Review)
16. Endocardial-to-mesenchymal transformation and mesenchymal cell colonization at the onset of human cardiac valve development. Monaghan MG, Linneweh M, Liebscher S, Van Handel B, Layland SL, **Schenke-Layland K**. *Development* 143(3): 473-482 (2016)
17. Non-invasive Chamber-Specific Identification of Cardiomyocytes in Differentiating Pluripotent Stem Cells. Brauchle E, Knopf A, Bauer H, Shen N, Linder S, Monaghan MG, Ellwanger K, Layland SL, Brucker SY, Nsair A, **Schenke-Layland K**. *Stem Cell Reports* 6(2): 188-199 (2016)
18. Visualizing tropoelastin in a long-term human elastic fibre cell culture model. Halm M, **Schenke-Layland K**, Jaspers S, Wenck H, Fischer F. *Sci Rep* 6: 20378 (2016)

19. ECM and ECM-like materials – Biomaterials for applications in regenerative medicine and cancer therapy. Hinderer S, Layland SL, **Schenke-Layland K**. *Adv Drug Deliv Rev* 97: 260-269 (2016) (Review)
20. Loss of spatial organization and destruction of the pericellular matrix in early osteoarthritis in vivo and in a novel in vitro methodology. Felka T, Rothdiener M, Bast S, Uynuk-Ool T, Zouhair S, Ochs BG, De Zwart P, Stoeckle U, Aicher WK, Hart ML, Shiozawa T, Grodzinsky AJ, **Schenke-Layland K**, Venkatesan JK, Cucchiari M, Madry H, Kurz B, Rolaufts B. *Osteoarthritis Cartilage pii: S1063-4584(16)01020-7* (2016)
21. PSM Peptides of Staphylococcus aureus Activate the p38-CREB Pathway in Dendritic Cells, Thereby Modulating Cytokine Production and T Cell Priming. Armbruster NS, Richardson JR, Schreiner J, Klenk J, Günter M, Kretschmer D, Pöschel S, **Schenke-Layland K**, Kalbacher H, Clark K, Autenrieth SE. *J Immunol* 196(3): 1284-1292 (2016)

2015

22. Prospects for regenerative medicine approaches in women's health. **Schenke-Layland K**, Brucker SY. *J Anat* 227: 781-785 (2015) (Review)
23. Optical reprogramming and optical characterization of cells using femtosecond lasers. Uchugonova A, Breunig HG, Augspurger C, Monaghan M, **Schenke-Layland K**, König K. *Optically Induced Nanostructures: Biomedical and Technical Applications*. Berlin: De Gruyter; Chapter 1 (2015)
24. Modulation of inflammation and angiogenesis and changes in ECM GAG-activity via dual delivery of nucleic acids. Browne S, Monaghan MG, Brauchle E, Carvajal Berrio D, Chantepie-Laborde S, Papy-Garcia D, **Schenke-Layland K**, Pandit A. *Biomaterials* 69: 133-147 (2015)
25. In vitro elastogenesis – Instructing human vascular smooth muscle cells to generate an elastic fiber-containing extracellular matrix scaffold. Hinderer S, Shen N, Ringuette LJ, Hansmann J, Reinhardt DP, Brucker SY, Davis EC, **Schenke-Layland K**. *Biomed Mater* 10(3): 034102 (2015)
26. Fluorescent Ly6G antibodies determine macrophage phagocytosis of neutrophils and alter the retrieval of neutrophils in mice. Bucher K, Schmitt F, Autenrieth SE, Dillmann I, Nürnberg B, **Schenke-Layland K**, Beer-Hammer S. *J Leukoc Biol*. 98(3): 365-72 (2015)
27. Generation and Assessment of Functional Biomaterial Scaffolds for the Application in Cardiovascular Tissue Engineering and Regenerative Medicine. Hinderer S, Brauchle E, **Schenke-Layland K**. *Adv Healthc Mater* 10(3):034102 (2015) (Review)
28. Drug and cell delivery for cardiac regeneration. Hastings CL, Roche ET, Ruiz-Hernandez E, **Schenke-Layland K**, Walsh CJ, Duffy GP. *Adv Drug Deliv Rev* 84: 85-106 (2015) (Review)

2014

29. Human eye development is characterized by coordinated expression of fibrillin isoforms. Hubmacher D, Reinhardt DP, Plesec T, **Schenke-Layland K**, Apte SS. *Invest Ophthalmol Vis Sci* 55(12): 7934-44 (2014)
30. Preserved bioactivity and tunable release of a SDF1-GPVI bi-specific protein using photo-crosslinked PEGda hydrogels. Schesny M, Monaghan M, Bindermann A, Freund D, Seifert M, Eble JA, Vogel S, Gawaz MP, Hinderer S, **Schenke-Layland K**. *Biomaterials* 35(25): 7180-87 (2014)
31. Raman spectroscopy as analytical tool for melanoma research. Brauchle E, Noor S, Holthorf E, Gerbe C, **Schenke-Layland K**, Busch C. *Clin Exp Dermatol* 39(5): 636-45 (2014)
32. Cell death stages in single apoptotic and necrotic cells monitored by Raman microspectroscopy. Brauchle E, Thude S, Brucker SY, **Schenke-Layland K**. *Sci Rep* 15(4): 4698 (2014)
33. A collagen-based scaffold delivering exogenous micro-RNA-29B to modulate extracellular matrix remodelling. Monaghan M, Browne S, **Schenke-Layland K**, Pandit A. *Mol Ther* 22(4): 786-96 (2014)
34. Engineering of a bio-functionalized hybrid off-the-shelf heart valve. Hinderer S, Seifert J, Votteler M, Shen N, Rheinlaender J, Schäffer TE, **Schenke-Layland K**. *Biomaterials* 35(7): 2130-39 (2014)
35. A human in vitro model that mimics the renal proximal tubule. Hoppensack A, Kazanecki CC, Colter D, Gosiewska A, Schanz J, Walles H, **Schenke-Layland K**. *Tissue Eng Part C Methods* 20(7): 599-609 (2014)

2013

36. Elastogenesis at the early onset of human cardiac valve development. Votteler M, Berrio DAC, Horke A, Sabatier L, Reinhardt DP, Nsair A, Aikawa E, **Schenke-Layland K**. *Development* 140: 2345-53 (2013)
37. Design and analysis of a squamous cell carcinoma in vitro model system. Brauchle E, Johannsen H, Nolan S, Thude S, **Schenke-Layland K**. *Biomaterials* 34(30): 7401-07 (2013)
38. Tracheal tissue engineering: building on a strong foundation. Hinderer S, **Schenke-Layland K**. *Expert Rev Med Devices*. 10(1): 33-35 (2013) (Expert Opinion)
39. Epigenetic regulation of myogenic gene expression by heterochromatin protein 1 alpha. Sdek P, Oyama K, Angelis E, Chan SS, **Schenke-Layland K**, MacLellan WR. *PLoS One* 8(3): e58319 (2013)
40. Non-invasive identification of proteoglycans and chondrocyte differentiation state by Raman microspectroscopy. Pudlas M*, Brauchle E*, Klein TJ, Hutmacher DW and **Schenke-Layland K**. *J Biophotonics* 6(3): 205-211 (2013)
41. RNA isolation from Fetal and Adult Human Tissues for Transcription Profiling. Votteler M, Layland SL, Lill G, Brockbank KG, Horke A, **Schenke-Layland K**. *Biotechnol J* 8(3): 338-44 (2013)
42. Raman spectroscopy in biomedicine – non-invasive in vitro analysis of cells and extracellular matrix components in tissues. Brauchle E, **Schenke-Layland K**. *Biotechnol J* 8(3): 288-97 (2013) (Review)
43. Strategies in tissue engineering and regenerative medicine. **Schenke-Layland K**, Walles H. *Biotechnol J* 8(3): 278-79 (2013) (Editorial)

2012

44. Characterization and Therapeutic Potential of Induced Pluripotent Stem Cell-Derived Cardiovascular Progenitor Cells. Nsair A*, **Schenke-Layland K***, Van Handel B, Evseenko D, Kahn M, Zhao P, Mendelis J, Heydarkhan S, Votteler M, Geist S, Chyu J, Gago-Lopez N, Crooks GM, Goldhaber J, Mikkola HKA, MacLellan RW. *PLoS One* 7(10): e45603 (2012)
45. Engineering of fibrillar decorin matrices for a tissue-engineered trachea. Hinderer S, Schesny M, Bayrak A, Ibold B, Hampel M, Walles T, Stock UA, Seifert M, **Schenke-Layland K**. *Biomaterials* 33(21): 5259-66 (2012)
46. Re: Hedgehog/Wnt Feedback Supports Regenerative Proliferation of Epithelial Stem Cells in Bladder. Vaegler M, **Schenke-Layland K**, Stenzl A. *Eur Urol* 61(6): 1263-1264 (2012) (Commentary)
47. Raman spectroscopy enables the non-contact, label-free monitoring of cells and extracellular matrix. Votteler M, Berrio DAC, Pudlas M, **Schenke-Layland K**. *J Vis Exp* 29(63) pii: 3977 (2012)
48. Reply: Long-Term Storage of Human Heart Valves above the Glass Transition at -80°C. Brockbank KG, Stock UA, **Schenke-Layland K**. *Ann Thorac Surg* 93(2): 695 (2012) (Commentary)
49. Oligonucleotide and Parylene Surface Coating of Polystyrene and ePTFE for Improved Endothelial Cell Attachment and Hemocompatibility. Schleicher M, Hansmann J, Elkin B, Kluger PJ, Liebscher S, Huber AJ, Fritze O, Schille C, Müller M, **Schenke-Layland K**, Seifert M, Walles H, Wendel HP, Stock UA. *Int J Biomater* 2012:397813 (2012)
50. Raman spectroscopy for the non-contact and non-destructive monitoring of collagen damage within tissues. Votteler M, Berrio DAC, Pudlas M, Walles H, Stock UA, **Schenke-Layland K**. *J Biophotonics* 5(1): 47–56 Jan (2012)
51. Preclinical Evaluation of Ice-Free Cryopreserved Arteries: Structural Integrity and Hemocompatibility. Huber AJ, Brockbank KG, Riemann I, Schleicher M, **Schenke-Layland K**, Fritze O, Wendel HP, Stock UA. *Cells Tissues Organs* 196(3):262-70 (2012)
52. Ice-free cryopreservation of heart valve allografts: better extracellular matrix preservation in vivo and preclinical results. Brockbank KG, **Schenke-Layland K**, Greene ED, Chen Z, Fritze O, Schleicher M, Kaulitz R, Riemann I, Fend F, Albes JM, Stock UA, Lisy M. *Cell and Tissue Banking* DOI: 10.1007/s10561-011-9288-7 (2012)
53. Age-Related Changes in the Elastic Tissue of the Human Aorta. Fritze O, Romero B, Schleicher M, Jacob MP, Oh DY, Starcher B, **Schenke-Layland K**, Bujan J, Stock UA. *J Vasc Res* 49(1): 77–86 (2012)

2011

54. The physiological performance of a three-dimensional model that mimics the microenvironment of the small intestine. Pusch J, Votteler M, Göhler S, Engl J, Hampel M, Walles H, **Schenke-Layland K**. *Biomaterials* 32(30): 7469-7478 (2011)
55. Recapitulation of the embryonic cardiovascular progenitor cell niche. **Schenke-Layland K**, Nsair A, Van Handel B, Angelis E, Gluck J, Votteler M, Goldhaber JI, Mikkola HK, Kahn M, MacLellan WR. *Biomaterials* 32(11): 2748-2756 (2011)
56. Raman spectroscopy - A Non-Invasive Analysis Tool for the Discrimination of Human Skin Cells. Pudlas M, Koch S, Bolwien C, Thude S, Jenne N, Hirth T, Walles H, **Schenke-Layland K**. *Tissue Eng Part C Methods* 17(10): 1027-1040 (2011)
57. In vitro human tissue models — moving towards personalized regenerative medicine. **Schenke-Layland K**, Nerem RM. *Adv Drug Deliv Rev* 63(4-5): 195-196 (2011) (Editorial)
58. Non-contact discrimination of human bone marrow-derived mesenchymal stem cells and fibroblasts using Raman spectroscopy. Pudlas M, Berrio DAC, Votteler M, Koch S, Thude S, Walles H, **Schenke-Layland K**. *Medical Laser Application* 26(3): 119-125 (2011)
59. Allogeneic Heart Valve Storage Above the Glass Transition at -80°C. Brockbank KG, Wright GJ, Yao H, Greene ED, Chen ZZ, **Schenke-Layland K**. *Ann Thorac Surg* 91(6): 1829-1835 (2011)
60. From tissue engineering to regenerative medicine — the potential and the pitfalls. **Schenke-Layland K**. *Adv Drug Deliv Rev* 26(3): 119-125 (2011) (Preface)
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