

PUBLIKATIONSVERZEICHNIS

BEGUTACHTETE ZEITSCHRIFTEN

1. E. Berghaus, G. A. Muxkopf, S. Feddersen, M. Eisenburger, **S. Petersen**. Antimicrobial agents in dental restorative materials: Effect on long-term drug release and material properties. *European Journal of Oral Sciences*, 130:e12840, 2022.
2. S. Feddersen, G. Kern, E. Berghaus, N. Kommerein, A. Winkel, M. Eisenburger, **S. Petersen**. Antimicrobial agents in dental restorative materials: Effect on polymerization, short-term drug release and biological impact. *European Journal of Oral Sciences*, 130:e12839, 2022.
3. N. Osmanaj, **S. Petersen**, M. Eisenburger, A. Greuling. Abrasion Behavior of Different Charcoal Toothpastes on Human Dentin When Using Electric Toothbrushes. *Dentistry Journal*, 10, 46, 2022.
4. M. Behnecke, **S. Petersen**. Establishment of PEEK-Associated Drug Delivery Systems - Limits and Perspectives. *Journal of Materials Science and Chemical Engineering*, 8, 32-41. doi: 10.4236/msce.2020.810004, 2020.
5. M. Barth, K. Küpper, **S. Petersen**. Low-Pressure Plasma Treated Polyetheretherketone for Biomedical Application- A Comparative Study on Surface Chemistry and Storage Stability. *Archives in Biomedical Engineering and Biotechnology*, 4:3, 2020.
6. R. Harting, K. Johnston, **S. Petersen**. Correlating in vitro degradation and drug release kinetics of biopolymer-based drug delivery systems. *International Journal of Biobased Plastics*, 1:1, 8-21, 2019.
7. **S. Petersen**. Non-Specific Protein Adsorption on Polyetheretherketones -Challenges for Application as Biomaterial. *Modern Approaches on Material Science*, 1:4, 2019.
8. R. Harting, M. Barth, T. Bürke, R. Pfefferle, **S. Petersen**. Functionalization of polyetheretherketone for application in dentistry and orthopedics. *BioNanomaterials* doi.org/10.1515/bnm-2017-0003, 2017.
9. A. Strohbach, R. Begunk, **S. Petersen**, SB. Felix, K. Sternberg, R. Busch. Biodegradable polymers influence the effect of atorvastatin on human coronary artery cells. *International Journal of Molecular Sciences*, 17:148, 2016.
10. K. Wulf, S. Schünemann, A. Strohbach, R. Busch, S. B. Felix, K-P. Schmitz, K. Sternberg, **S. Petersen**. Development of a Tunable Drug Delivery System based on Chitosan/Polyacrylic acid Polyelectrolytemultilayers from Biodegradable Scaffolds. *BioNanomaterials*, 16:265-273, 2015.
11. **S. Petersen**, C. Häcker, G. Turan, S. Knödler, A. Brodehl, A. Drynda, S. Kische, R. Birkemeyer, B. Frerich, H. Ince, B. Vollmar, K-P. Schmitz, K. Sternberg. Implications for the biofunctionalization of drug-eluting devices at the example of a site-selective antibody modification for drug-eluting stents. *BioNanomaterials*, 16:275-284, 2015.
12. **S. Petersen**, D. G. Gliesche, G. Kurtbay, R. Begunk, M. Boeck, V. Hopf, H. K. Kroemer, K-P. Schmitz, H. E. Meyer zu Schwabedissen, K. Sternberg. Tailored surface design of biodegradable endovascular implants by functionalization of poly(L-lactide) with elastin-like proteins. *Journal of Biomedical Engineering and Informatics* 2015, doi: 10.5430/jbei.v2n1p52.

13. W. Kempin, S. Kaule, T. Reske, N. Grabow, **S. Petersen**, S. Nagel, KP. Schmitz, W. Weitschies, A. Seidlitz. In vitro evaluation of paclitaxel coatings for delivery via drug-coated balloons. *European Journal of Pharmaceutics and Biopharmaceutics* 2015, doi: 10.1016/j.ejpb.2015.08.010.
14. A. Seidlitz, W. Schick, T. Reske, V. Senz, N. Grabow, S. Petersen, S. Nagel, W. Weitschies. In vitro study of sirolimus release from a drug-eluting stent: Comparison of the release profiles obtained using different test setups. *European Journal of Pharmaceutics and Biopharmaceutics* 93:328-338, 2015.
15. J. Matena, **S. Petersen**, M. Gieseke, P. Alouis, M. Teske, G. Reuter, M. Beyerbach, A. Kampmann, H. Murua Escobar, N-C. Gellrich, H. Haferkamp, I. Nolte. Comparison of Selective Laser Melted Titanium and Magnesium Implants Coated with PCL. *International Journal of Molecular Sciences* 16:13287-13301, 2015.
16. J. Matena, **S. Petersen**, M. Gieseke, A. Kampmann, M. Teske, M., H. Murua Escobar, H. Haferkamp, N-C. Gellrich, I. Nolte. SLM Produced Porous Titanium Implant Improvements for Enhanced Vascularization and Osteoblast Seeding. *International Journal of Molecular Sciences* 16:7478-7492, 2015.
17. S. Kaule, I. Minrath, F. Stein, U. Kragl, W. Schmidt, K-P. Schmitz, K. Sternberg, **S. Petersen**. Correlating Coating Characteristics with the Performance of Drug-Coated Balloons – A comparative *in vitro* Investigation of own established Hydrogel- and Ionic Liquid-based Coating Matrices. *PLOS One* doi: 10.1371/journal.pone.011608, 2015.
18. J. Bandomir, S. Kaule, K-P. Schmitz, K. Sternberg, **S. Petersen**, U. Kragl. Usage of different vessel models in a flow-through cell: in-vitro study of a novel coated balloon catheter. *RSC Advances* doi: 10.1039/C4RA12524J, 2015.
19. M. Vehse, **S. Petersen**, K. Sternberg, K-P. Schmitz, H. Seitz. Drug delivery from poly(ethylene glycol) diacrylate scaffolds produced by DLC-Micro-Stereolithography. *Macromolecular Symposia* 346:43-47, 2014.
20. K. Wulf, S. Schünemann, K. Koeck, K-P. Schmitz, K. Sternberg, **S. Petersen**. Combination of drug delivery and stable biofunctionalization on biodegradable implant surfaces via layer by layer deposition. *Biomedizinische Technik (Berl)* 59(S1):2-4, 2014.
21. I. Minrath, O. Sahmel, R. L. Weiß, K-P. Schmitz, K. Sternberg, **S. Petersen**. Linker-mediated attachment of switchable, drug delivering hydrogels to structured surfaces. *Biomedizinische Technik (Berl)* 59(S1):101-103, 2014.
22. S. Kaule, P. Wahl, N. Grabow, K-P. Schmitz, K. Sternberg, **S. Petersen**. Development of a Biocompatible Lubricous Coating for Biomedical Applications. *Biomedizinische Technik (Berl)* 59(S1):28-30, 2014.
23. A. Bohl, T. Eickner, **S. Petersen**, K-P. Schmitz, K. Sternberg. Polymer-based, biodegradable, brain-derived neurotrophic factor-containing coatings on cochlear implant electrode carriers for enhancement of spiral ganglion cell growth - investigation of drug load and degradation behavior. *Biomedizinische Technik (Berl)* 59(S1):53-54, 2014.
24. A. Seidlitz, W. Kempin, T. Reske, S. Kaule, N. Grabow, **S. Petersen**, C. Harder, S. Nagel, W. Weitschies. Evaluation of the influence of contact time and inflation pressure on drug transfer from drug-coated balloons. *Biomedizinische Technik (Berl)* 59(S1):391-394, 2014.
25. J. Matena, M. Gieseke, A. Kampmann, **S. Petersen**, M. Teske, H. Murua Escobar, N-C. Gellrich, H. Haferkamp, I. Nolte. Effects of different coatings and proangiogenic factors using titanium-hybrid-implants. *Biomedizinische Technik (Berl)* 59(S1):1197, 2014.
26. I. Minrath, K.-P. Schmitz, K. Sternberg, **S. Petersen**. Preparation and characterization of hydrogels for biomolecule-responsive local drug delivery. *Polymers for Advanced Technologies* 25:1234-1241, 2014.

27. U. Taylor, W. Garrels, A. Barchanski, **S. Petersen**, L. Sajti, A. Lukas-Hahn, L. Gamrad, U. Baulain, S. Klein, W. Kues, S. Barcikowski, D. Rath. Injection of ligand-free gold and silver nanoparticles into murine embryos does not impact preimplantation development. *Beilstein Journal of Nanotechnology* 5:677-688, 2014.
28. R. Busch, A. Strohbach, S. Walz, S. Rethfeldt, M. Busch, **S. Petersen**, S.B. Felix, K. Sternberg. New stent surface materials: the impact of polymer-dependent interactions of human endothelial cells, smooth muscle cells and platelets. *Acta Biomaterialia* 10:688-700, 2014.
29. **S. Petersen**, I. Minrath, S. Kaule, J. Köcher, K.-P. Schmitz, K. Sternberg. Development and *in vitro* characterization of photochemically crosslinked polyvinylpyrrolidone coatings for drug-coated balloons. *Coatings* 3:253-267, 2013.
30. A. Seidlitz, N. Kotzan, S. Nagel, T. Reske, N. Grabow, C. Harder, **S. Petersen**, K. Sternberg, W. Weitschies. *In vitro* determination of drug transfer from drug-coated balloons. *PLOS One* doi: 10.1371/journal.pone.0083992, 2013.
31. U. Taylor, A. Barchanski, **S. Petersen**, W.A. Kues, U. Baulain, L. Gamrad, L. Sajti, S. Barcikowski, D. Rath. Gold nanoparticles interfere with sperm functionality by membrane adsorption without penetration. *Nanotoxicology*, 1:118-127, 2013.
32. **S. Petersen**, K. Wulf, S. Schünemann, M. Teske, K.-P. Schmitz, K. Sternberg. Biofunctionalization of Polymer Implant Surfaces: From Drug Delivery to Stable Surface Functionality. *Biomedizinische Technik (Berl)* 58(S1) doi: 10.1515/bmt-2013-4052, 2013.
33. A. Bohl, T. Eickner, **S. Petersen**, K.-P. Schmitz, K. Sternberg. Specific Surface Modification Of Cochlear Implant Electrode Carriers For Enhancement Of Spiral Ganglion Cell Growth. *Biomedizinische Technik (Berl)* 58(S1) doi: 10.1515/bmt-2013-410, 2013.
34. S. Kaule, **S. Petersen**, I. Minrath, K.-P. Schmitz, K. Sternberg. Establishment of an *in vitro* evaluation system for drug-coated balloons. *Biomedizinische Technik (Berl)* 58(S1) doi: 10.1515/bmt-2013-4083, 2013.
35. I. Minrath, **S. Petersen**, K.-P. Schmitz, K. Sternberg. Continuative Studies for Inserting Stimulus-Responsive Functions in Hydrogels for Local Drug Delivery. *Biomedizinische Technik (Berl)* 58(S1) doi: 10.1515/bmt-2013-4080, 2013.
36. R. Busch, A. Strohbach, **S. Petersen**, K. Sternberg, S.B. Felix. Parameters of Endothelial Function are Dependent on Polymeric Surface Material. *Biomedizinische Technik (Berl)* 58(S1) doi: 10.1515/bmt-2013-4053, 2013.
37. K. Wulf, **S. Petersen**, S. Schünemann, S. Knödler, K.-P. Schmitz, K. Sternberg. Development Of A Tunable Drug Delivery System From Biodegradable Scaffolds Via Layer By Layer Deposition. *Biomedizinische Technik (Berl)* 58(S1) doi: 10.1515/bmt-2013-4079, 2013.
38. J. Matena, M. Gieseke, A. Kampmann, **S. Petersen**, H. Murua Escobar, K. Sternberg, H. Haferkamp, N.C. Gellrich, I. Nolte. Characterisation of Cell Growth on Titanium Scaffolds Made by Selective Laser Melting for Tissue Engineering. *Biomedizinische Technik (Berl)* 58(S1) doi: 10.1515/bmt-2013-4047, 2013.
39. J. Bandomir, A. Schulz, S. Taguchi, **S. Petersen**, U. Kragl, H. Ohno, K. Sternberg. Poly-Ionic Liquids as New Hydrogel Materials: Synthesis, Characterization and Application. *Biomedizinische Technik (Berl)* 58(S1) doi: 10.1515/bmt-2013-4204, 2013.
40. M. Cornelsen, **S. Petersen**, K. Dietsch, A. Rudolph, K.-P. Schmitz, K. Sternberg, H. Seitz. Infiltration of 3D printed tricalciumphosphate scaffolds with biodegradable polymers and biomolecules for local drug delivery. *Biomedizinische Technik (Berl)* 58(S1) doi: 10.1515/bmt-2013-4090, 2013.
41. **S. Petersen**, J. Hussner, T. Reske, N. Grabow, V. Senz, R. Begunk, D. Arbeiter, H. K. Kroemer, K.-P. Schmitz, H. Meyer zu Schwabedissen, K. Sternberg. *In vitro* study of dual

- drug-eluting stents with locally focused sirolimus and atorvastatin release. *Journal of Materials Science: Materials in Medicine* 24:2589-2600, 2013.
42. K. Sternberg, **S. Petersen**, N. Grabow, V. Senz, H. Meyer zu Schwabedissen, H. K. Kroemer, K.-P. Schmitz. Implant-associated local drug delivery systems based on biodegradable polymers – customized designs for different medical applications. *Biomedizinische Technik (Berl)* 58:417-427, 2013.
 43. **S. Petersen**, A. Strohbach, R. Busch, K.-P. Schmitz, K. Sternberg. Site-selective immobilization of anti-CD34 antibodies to poly(L-lactide) for endovascular implant surfaces. *Journal of Biomedical Materials Research Part B* 102:345-355, 2013.
 44. **S. Petersen**, S. Kaule, F. Stein, I. Minrath, K.-P. Schmitz, U. Kragl, K. Sternberg. Novel paclitaxel-coated angioplasty balloon catheter based on cetylpyridinium salicylate: Preparation, characterization and simulated use in an *in vitro* vessel model. *Materials Science and Engineering C* 33:4244-4250, 2013.
 45. **S. Petersen**, S. Kaule, M. Teske, I. Minrath, K.-P. Schmitz, K. Sternberg. Development and *in vitro* characterization of hyaluronic acid-based coatings for implant-associated local drug delivery systems. *Journal of Chemistry* doi: 10.1155/2013/587875, 2013.
 46. K. Sternberg, N. Grabow, **S. Petersen**, W. Weitschies, C. Harder, H. Ince, H. K. Kroemer, K.-P. Schmitz. Advances in Coronary Stent Technology - Active Drug-Loaded Stent Surfaces for Prevention of Restenosis and Improvement of Biocompatibility. *Current Pharmaceutical Biotechnology* 14:76-90, 2013.
 47. A. Barchanski, N. Hashimoto, **S. Petersen**, C. Sajti, S. Barcikowski. Impact of Spacer and Strand Length on Oligonucleotide Conjugation to the Surface of Ligand-Free Laser-Generated Gold Nanoparticles. *Bioconjugate Chemistry* 23:908–915, 2012.
 48. K. Sternberg, **S. Petersen**, N. Grabow, F. Luderer, A. Bohl, T. Reske, S. Siewert, I. Minrath, A. Seidlitz, W. Weitschies, H. Meyer zu Schwabedissen, H.K. Kroemer, K.-P. Schmitz. Implant-associated local drug delivery systems for different medical applications. *Biomedizinische Technik (Berl)* 57(S1):393-396, 2012.
 49. I. Minrath, **S. Petersen**, K.-P. Schmitz, K. Sternberg. Drug permeation studies of hydrogels usable for stimulus-induced local drug delivery systems. *Biomedizinische Technik (Berl)* 57(S1):569-571, 2012.
 50. A. Seidlitz, S. Nagel, B. Semmling, **S. Petersen**, T. Reske, W. Schmidt, N. Grabow, K. Sternberg, W. Weitschies. *In vitro* estimation of drug loss during the implantation procedure of drug-eluting stents. *Biomedizinische Technik (Berl)* 57(S1):403-406, 2012.
 51. M. Vehse, M. Gieseke, S. Fiedler, **S. Petersen**, R. Irsig, V. Senz, M. Löbler, M. Hustedt, S. Kaierle, H. Haferkamp, K. Sternberg, K.-P. Schmitz, S. Lochbrunner, K.H. Meiwes-Broer, H. Seitz. Loading method for discrete drug depots on implant surfaces. *Biomedizinische Technik (Berl)* 57(S1):1089-1092, 2012.
 52. **S. Petersen**, A. Barchanski, U. Taylor, S. Klein, D. Rath, S. Barcikowski. Penetratin-Conjugated Gold Nanoparticles – Design of Cell-Penetrating Nanomarkers by Femtosecond Laser Ablation. *Journal of Physical Chemistry C* 115:5152-5159, 2011.
 53. A. Barchanski, C. L. Sajti, C. Sehring, **S. Petersen**, S. Barcikowski. Design of Bi-functional Bioconjugated Gold Nanoparticles by Pulsed Laser Ablation with Minimized Degradation. *Journal of Laser Micro Nanoengineering* 6:124-130, 2011.
 54. A. Barchanski, U. Taylor, S. Klein, **S. Petersen**, D. Rath, S. Barcikowski. Golden perspective: Application of laser-generated gold nanoparticle conjugates in reproductive biology. *Reproduction in Domestic Animals* 46:42-52, 2011.
 55. L. Sajti, **S. Petersen**, A. Menendez-Manjon, S. Barcikowski. In situ bioconjugation in stationary liquid and in liquid flow. *Applied Physics A – Materials Science & Processing* 101:259-264, 2010.

56. S. Klein, **S. Petersen**, U. Taylor, D. Rath, S. Barcikowski. Quantitative visualization of colloidal and intracellular gold nanoparticles by confocal microscopy. *Journal of Biomedical Optics* 15:036015, 2010.
57. J. Jakobi, **S. Petersen**, A. Menéndez-Manjón, P. Wagener, S. Barcikowski. Magnetic alloy nanoparticles form laser ablation in cyclopentanone and their embedding into a photoresist. *Langmuir* 26:6892-6897, 2010.
58. J. G. Walter, **S. Petersen**, F. Stahl, T. Scheper, S. Barcikowski. Laser ablation-based one-step generation and bio-functionalization of gold nanoparticles conjugated with aptamers. *Journal of Nanobiotechnology* 8:21, 2010.
59. A. Schnoor, **S. Petersen**, S. Barcikowski. Laserfragmentierung von anorganischen und organischen Mikropartikel-Suspensionen zu Nanopartikel-Kolloiden. *Chemie Ingenieur Technik* 82:317-326, 2010.
60. U. Taylor, S. Klein, **S. Petersen**, W. Kues, S. Barcikowski, D. Rath. Nonendosomal cellular uptake of ligand-free, positively charged gold nanoparticles. *Cytometry Part A* 77A:439-446, 2010.
61. **S. Petersen**, J. T. Soller, S. Wagner, A. Richter, J. Bullerdiek, I. Nolte, S. Barcikowski, H. Murua Escobar. Co-transfection of plasmid DNA and laser-generated gold nanoparticles does not disturb the bioactivity of GFP-HMGB fusion protein. *Journal of Nanobiotechnology* 7:6, 2009.
62. **S. Petersen**, S. Barcikowski. Conjugation efficiency of laser-based bioconjugation of gold nanoparticles with nucleic acids. *Journal of Physical Chemistry* 113:19830-19835, 2009.
63. **S. Petersen**, S. Barcikowski. In situ bioconjugation - single step approach to tailored nanoparticle bioconjugates by ultrashort pulsed laser ablation. *Advanced Functional Materials* 19:1167–1172, 2009.
64. **S. Petersen**, J. Jakobi, and S. Barcikowski. In situ bioconjugation - novel laser based approach to pure nanoparticle conjugates. *Applied Surface Science* 255:5435–5438, 2009.
65. **S. Petersen**, J. Jakobi, A. Hörtinger, and S. Barcikowski. In situ conjugation - tailored nanoparticle conjugates by laser ablation in liquids. *Journal of Laser Micro/Nanoengineering* 4:71–74, 2009.
66. **S. Petersen**, J. M. Alonso, A. Specht, P. Duodu, M. Goeldner, A. del Campo. Phototriggering cell adhesion by caged cyclic RGD peptides. *Angewandte Chemie International Edition* 47:3192-3195, 2008.

BUCHBEITRAG

1. K. Sternberg, R. Busch, **S. Petersen**. Polymers in cardiology. In *Advanced Polymers in Medicine*, F. Puoci (Ed.), Springer International Publishing, 433–480, 2015.

KONFERENZEN MIT ABSTRACT

1. E. Berghaus, S. Feddersen, **S. Petersen**, Design of bioactive resin-based dental direct filling materials – Influence of the incorporation of the antimicrobial agents chlorhexidine diacetate and octinidine (di)hydrochloride on polymerization, drug release and material properties. BioMat, 2021
2. **S. Petersen**, Konzepte zum nachhaltigen Umgang mit Kunststoffen. Materials Day, Osnabrück, 2020.
3. D. Haberland, **S. Petersen**. Oberflächenmodifikation von Polyetheretherketon zur Aufbringung eines biodegradierbaren Wirkstofffreisetzungssystems für den Einsatz im Dentalbereich. Materials Day, Osnabrück 2016.

4. **S. Petersen.** Oberflächenfunktionalisierte Polymermaterialien – Von der Herstellung zur Anwendung. Niedersächsisches Forum Kunststofftechnik, Göttingen 2015.
5. **S. Petersen.** Oberflächenfunktionalisierte Polymermaterialien. Fortschritte in der Kunststofftechnik – Theorie und Praxis, Osnabrück, 2015.
6. I. Minrath, S. Schünemann, K-P. Schmitz, K. Sternberg, **S. Petersen.** Untersuchung der Schichtdicke unterschiedlicher Hydrogeldomänen auf Modellsubstraten für die Entwicklung eines stimulusinduzierten Local Drug Delivery Systems. DGBM, Dresden, *Bionanomaterials* 15(S1):P076, 2014.
7. K. Wulf, A. Bohl, S. Schünemann, K-P. Schmitz, K. Sternberg, **S. Petersen.** Entwicklung einer polymerbasierten Wirkstofffreisetzungsbeschichtung für Cochlea-Implantate auf Basis des Layer by Layer Verfahrens. DGBM, Dresden, *Bionanomaterials* 15(S1):P088, 2014.
8. M. Teske, K. Wulf, K-P. Schmitz, **S. Petersen**, K. Sternberg. Biofunktionalisierung von Poly(3-hydroxybuttersäure). DGBM, Dresden, *Bionanomaterials* 15(S1):P088, 2014.
9. **S. Petersen.** Polymere als Biomaterialien und Möglichkeiten zu deren Modifizierung mit dem Ziel der Steuerung der Zelle-Implantat Interaktion. BMT, Hannover, 2014.
10. **S. Petersen**, K.-P. Schmitz K. Sternberg. Design, surface modification and processing of biodegradable polymeric drug delivery systems and their implications for drug delivery. PAT, Berlin, *Polymers for Advanced Technologies* 24:156, 2013.
11. M. Vehse, **S. Petersen**, K. Sternberg, H. Seitz. Drug delivery from photo polymerized poly(ethylene glycol) diacrylate scaffolds. PAT, Berlin, *Polymers for Advanced Technologies* 24:156, 2013.
12. M. Vehse, **S. Petersen**, P. Oldorf, R. Peters, F. Bendig, S. Fiedler, C. Schuster, C. Merschjann, S. Lochbrunner, K.-H. Meiwes-Broer, K. Sternberg, K.-P. Schmitz, H. Seitz. Drug delivery from laser drilled discrete drug depots. DGBM, Erlangen, *BioNanoMaterials* 14:36(V35), 2013.
13. U. Kragl, F. Stein, **S. Petersen**, S. Kaule, K. Sternberg. On the hunt: ionic liquids for biomedical coatings. COIL, Marina de Vilamoura, 2013.
14. J. Bandomir, F. Stein, **S. Petersen**, K. Sternberg, U. Kragl. Cetylpyridinium salicylate for coating of implants: synthesis, characterization and application. COIL, Marina de Vilamoura, 2013.
15. J. Matena, M. Gieseke, A. Kampmann, H. Murua Escobar, **S. Petersen**, K. Sternberg, H. Haferkamp, N.-C. Gellrich, I. Nolte Verbesserte Oberflächenstrukturierung zum Einwachsen von Osteoblasten. 9. ThGOT Thementagen Grenz und Oberflächentechnik, Heiligenstadt, 2013.
16. I. Minrath, **S. Petersen**, K.-P. Schmitz, K. Sternberg. Untersuchung der Wirkstoffpermeabilität von Hydrogelen für die Entwicklung eines stimulus-induzierten Local Drug Delivery Systems. DGBM, Hamburg, *Bionanomaterials* 13:82(P12), 2012.
17. **S. Petersen**, T. Reske, N. Grabow, K.-P. Schmitz, K. Sternberg. Novel designs of vascular implant-associated local drug delivery systems. Biointerface, Dublin, 2012.
18. **S. Petersen**, G. Kurtbay, M. Boeck, H. K. Kroemer, K.-P. Schmitz, H. Meyer zu Schwabedissen, K.Sternberg. Tailored design of implant surfaces by modification with elastin-like proteins. BMT, Jena, *Biomedizinische Technik (Berl)* 57(S1):397, 2012.
19. G. Kurtbay, M. Boeck, S. Beyer, T. Schweder, E. Hammer, F. Schmidt, K. Sternberg, U. Bornscheuer, H.K. Kroemer, **S. Petersen**, H. Meyer zu Schwabedissen. Engineering of modified elastin-like proteins to enhance reendothelialization of coronary stents. 78. Jahrestagung der Deutschen Gesellschaft für Experimentelle und Klinische Pharmakologie und Toxikologie e. V. (DGPT), Dresden, 2012.

20. **S. Petersen**, K. Wulf, K.-P. Schmitz, K. Sternberg. Strategies for the oriented immobilization of antibodies– Novel approach to polymeric implant surfaces with improved endothelialization. BMT, Freiburg, *Biomedizinische Technik (Berl)* doi: 10.1515/BMT.2011.257, 2011.
21. N. Grabow, D. Bajer, **S. Petersen**, V. Senz, C. Schultze, W. Schmidt, K. Sternberg, K.-P. Schmitz. Process development and quality assessment for optimized longitudinal coating uniformity in spray-coated drug-eluting stents. BMT, Freiburg, *Biomedizinische Technik (Berl)* doi: 10.1515/BMT.2011.595, 2011.
22. A. Barchanski, C. L. Sajti, **S. Petersen**, S. Barcikowski, B.N. Chichkov. Bio-functionalization of laser-generated gold nanoparticles: synthesis of novel nano-scaled labeling agents and drug delivery vehicles from the lab-scale to industrial scale. BMT, Freiburg, *Biomedizinische Technik (Berl)* doi: 10.1515/BMT.2011.269, 2011.
23. R. Begunk, J. Hußner, A. Riefenstahl, **S. Petersen**, K. Sternberg, K. Koeck, S. Bien, K.-P. Schmitz, H.K. Kroemer, H. Meyer zu Schwabedissen. Influence of statins on Human Coronary Artery Smooth Muscle Cell proliferation. 77. Jahrestagung der Deutschen Gesellschaft für Experimentelle und Klinische Pharmakologie und Toxikologie e. V. (DGPT), Frankfurt, 2011.
24. A. Barchanski, U. Taylor, **S. Petersen**, A. Mittag, D Rath, S Barcikowski. Laser-generated ligand-free or bioconjugated gold nanoparticles and their impact on sperm vitality parameters. 7th International Conference on Biomedical Applications of Nanotechnology, Berlin, 2010.
25. U. Taylor, **S. Petersen**, A. Barchanski, W Garrels, S. Klein, W. Kues, S. Barcikowski, D. Rath. Toxicity of gold nanoparticles produced by laser ablation in liquids on somatic cells, spermatozoa and embryos. EOS Conference on Laser Ablation and Nanoparticle Generation in Liquids, Engelberg, Schweiz, 2010.
26. N. Hashimoto, A. Barchanski, **S. Petersen**, S. Barcikowski. Impact of spacer length on laser-generated gold nanomarker design. EOS Conference on Laser Ablation and Nanoparticle Generation in Liquids, Engelberg, Schweiz, 2010.
27. **S. Petersen**, S. Barcikowski. Gold nanoparticle bioconjugates by laser ablation - a novel method aiming at pure nanomarkers for biomedical applications. Photonics West, San Francisco, USA, 2010.
28. S. Klein, **S. Petersen**, U. Taylor, D. Rath, S. Barcikowski. Quantification of colloidal and intracellular gold nanomarkers down to the single particle level using confocal microscopy. SPIE 7573 Biomedical Applications of Light Scattering IV, San Jose, Kalifornien, 7573:75730L-75730L-6, 2010.
29. **S. Petersen**, S. Barcikowski. Gold-nanomarker design mittels Laserstrahlabtragen in bioaktiven Flüssigkeiten. DGBMT, Rostock, 2010.
30. U. Taylor, W. Garrels, **S. Petersen**, S. Barcikowski, S. Klein, W. Kues, A. Lucas-Hahn, H. Niemann, and D. Rath. Development of murine embryos after injection of uncoated gold and silver nanoparticles. 6th Annual Conference of the International Embryo Transfer Society, Cordoba, Argentinien, 2010.
31. **S. Petersen**, S. Barcikowski. Bioconjugation of nanoparticles during femtosecond laser ablation in bioactive media. 10th annual Conference on Laser Ablation (COLA), Singapur, 2009.
32. S. Barcikowski, **S. Petersen**. Bioconjugation of Nanoparticles during Femtosecond Laser Ablation in Bioactive Media. 26th International Conference on Applications of Lasers and Electro-Optics, ICALEO Nanomanufacturing conference. Orlando, Florida, 2009.
33. **S. Petersen**, S. Barcikowski. Optimizing parameters for the in-situ bioconjugation of laser generated gold nanoparticles. 10th International Symposium on Laser Precision Microfabrication, Kobe, Japan, 2009.

34. **S. Petersen**, S. Barcikowski. Nanoparticle bioconjugates by laser ablation - a novel method aiming at pure drug and gene delivery. 7th International Nanotechnology Symposium - New Ideas for Industry, Dresden, 2009.
35. U. Taylor, **S. Petersen**, S. Barcikowski, D. Rath, S. Klein. Verification of gold nanoparticle uptake by bovine immortalised cells using laser scanning confocal microscopy. 14th Leipziger Workshop / 7th International Workshop on Slide Based Cytometry, Leipzig, *Cytometry Part A*, 75A:714, 2009.
36. **S. Petersen**, S. Barcikowski. Nanoparticle bioconjugates by laser ablation - a novel method aiming at pure drug and gene delivery. 6th International Conference on Biomedical Applications of Nanotechnology, Berlin, 2009.
37. S. Barcikowski, J. Jakobi, A. Hahn, J. Walter, **S. Petersen**. Laser generated pure nanoparticulate reference material for risk assessment studies. 6th International Conference on Biomedical Application of Nanotechnology, Berlin 2009.
38. **S. Petersen**, J. Jakobi, J. Soller, H. Murua Escobar, S. Barcikowski. Size and functionality control of laser generated nanoparticle-(bio)conjugates. Chemical Nanotechnology Talks IX, Frankfurt am Main, 2008.
39. **S. Petersen**, J. Jakobi, S. Barcikowski. In-situ bioconjugation of nanoparticles - Novel laser based approach to pure nanoparticle-conjugates. Annual meeting of European Materials Research Society, Strasburg, Frankreich, 2008.
40. **S. Petersen**, A. Hahn, S. Barcikowski. Design of bioactive nanomaterials with ultrapure nanoparticles generated by femtosecond laser ablation in solution. Nanotransfer, Paris, Frankreich, 2007.
41. S. Barcikowski, J. Jakobi, **S. Petersen**, A. Hahn, N. Baersch, B. N. Chichkov. Adding functionality to metal nanoparticles during femtosecond laser ablation in liquids. 24nd International Conference on Applications of Lasers and Electro-Optics ICALEO, Orlando, Florida, 2007.
42. **S. Petersen**, J. Jakobi, S. Barcikowski. Coating of metal nanoparticles using in-situ functionalization during femtosecond laser ablation in solution - a novel method aiming at ultra-pure drug and gene delivery. DGBM, Hannover, *Biomaterialien* 8(3):155-156, 2007.

PATENTANMELDUNGEN

1. J. Koecher, K. Sternberg, K.-P. Schmitz, **S. Petersen**. Arzneimittelbeschichtetes medizinisches Gerät und Verfahren zu dessen Herstellung, Schutzrecht: PCT/EP2012/073711, WO2013079476 A1, 2013.
2. S. Barcikowski, **S. Petersen**. Verfahren und Vorrichtung zur Herstellung metallhaltiger organischer Verbindungen. Schutzrecht: EP2300191-B1, PCT/EP2009/059116, WO2010/007117, 2012.
3. S. Barcikowski, **S. Petersen**. Method and device for producing organic compounds containing metal. Schutzrecht: PCT/EP2009/059116, WO2010/007117-A1, 2009.
4. S. Barcikowski, **S. Petersen**. Verfahren zur Herstellung eines Detektionskonjugates. Schutzrecht: DE102008064667-A1, 2008.
5. S. Barcikowski, **S. Petersen**, U. Taylor, D. Rath, W. Kues. Verfahren zur Zellidentifikation und Zellsortierung. Schutzrecht: DE102008033570-B4, 2008.