Curriculum Vitae

Peter Wick
Dr. rer. nat. Dipl. Biologist
Head Particles-Biology Interactions
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Date of birth: 14. September 1971

Birthplace Zuzwil SG, Switzerland

Nationality: Swiss

Civil Status: married, 2 children Florian (2007) and Timo (2010)

Education:

2016	SMP Management (4 days)
since 2009	Empa internal leadership trainings (Modul 1 – 4)
2005 - 2010	Education in Toxicology
1998 - 2002	PhD Thesis, University of Fribourg Prof Dr JP Métraux (focus on cellular- and molecular biology)
1993 - 1997	Biology study at University of Fribourg
1986 - 1992	High School Schwyz
1978 - 1986	Primary- und Secondary school Brunnen

Work Experience:

Since 2018	Lecturer D-HEST, ETHZ Nanostructured materials safety
since 2018	Head of National Contact Point Nano.CH
2017 - 2019	Coordinator H2020 Prosafe 'GoNanoBioMat'
2014 - 2019	Coordinator CCMX Materials Challenge ‚NanoScreen'
since 2014	Head Particles - Biology Interactions Laboratory
2013 – 2019	Lecture D-BAUG, ETHZ Air Quality and Human Health
2010 - 2014	Co-Head Materials – Biology Interactions Laboratory
2009 - 2010	Group leader Nanointercell
2007 - 2009	Deputy Group leader Nanointercell of Materials – Biology Interactions Laboratory, Empa St. Gallen
2002 - 2007	Scientific Collaborator Laboratory for Biocompatible Materials, Deputy Group leader MaTisMed, Empa St. Gallen
1998 - 2002	Dipl. Assistant at the Faculty of Natural Science University of Fribourg

Military:

2007 - 2013	Reservist
2001 - 2007	NBC Adviser, Captain
1992 - 1993	Officer training

Languages:

German	native language
English	fluent in spoken and written
French	fluent in spoken and good knowledge written (bilingual study)

Approved Research Grants:

2019	Empa PostDoc Cofound	Co-Gesuchsteller (80 kCHF)
	H2020 SpearHead Safegraph	Co-Gesuchsteller (1 M€ / 0.3 M€)
2018	SFBI Contactpointnano.ch	Hauptgesuchsteller (640 kCHF)
	BAFU BMBF DaNa Support	Hauptgesuchsteller (20kCHF)
	H2020 Nanorigo	Co-Gesuchsteller (4.5 M€ / 165 k€
2017	SNF DynamicX	Co-Gesuchsteller (550 kCHF / 200 kCHF)
	H2020 ProSafe GoNanoBioMat	Hauptgesuchsteller (1.3 M€ / 388 k€)
	Industrie Kooperation (confid.)	Hauptgesuchsteller (16 kCHF)
	Industrie Kooperation (confid.)	Hauptgesuchsteller (35 kCHF)
	H2020 REFINE	Co-Gesuchsteller (4.8 M€ / 470 k€)
2016	SNF Graphene at lung	Hauptgesuchsteller (525 kCHF)
	Industrie Kooperation (confid)	Hauptgesuchsteller (290 k€)
2015	KTI 4DLifeTec SCGE	Hauptgesuchsteller (640 kCHF)
	KTI Flamschutzmittel	Co-Gesuchsteller (800 kCHF / 28 kCHF)
	H2020 EU-NCL Infrastructure	Co-Gesuchsteller (5 M€ / 720 k€)
2014	BMBF-Antrag NanoUmwelt	Co-Gesuchsteller (1.8 M€ / 180 k€)
	CCMX Challenge NanoScreen	Hauptgesuchsteller (2.0 MCHF / 1.4 MCHF)
	7th F&E Wound dressing	Co-Gesuchsteller (350 kCHF / 80 kCHF)
2013	SNF NFP64 CNT Abrasion (Verl.)	Co-Gesuchsteller (92 kCH / 24 kCH)
	7th FP EU NanoReg	Co-Gesuchsteller (5 M€ / 120 kCHF)
	BMBF DaNa II	Co-Gesuchsteller (3 M€ / 344 k€)
	7th FP EU Flagship Graphene	Co-Gesuchsteller (1000 M€ / 730 k€)
2012	SNF NRP64 NanoCupper	Hauptgesuchsteller (350 kCHF)
	SNF NRP64 FoodN'Immunity	Co-Gesuchsteller (350 kCHF / 150 kCHF)
	7th FP EU NANOSOLUTIONS	Mitgesuchsteller (10 M€ / 290 k€)
	Industrie Kooperation (confid.)	Hauptgesuchsteller (350 kCHF)
2011	FAG Basel NP Uptake	Co-Gesuchsteller (75 kCHF / 35 kCHF)
	CH-Südkorea bilateral Programm	Hauptgesuchsteller (50 kCHF)
	Störfall-Bericht für BAfU	Mitgesuchsteller (60 kCHF / 27 kCHF)
2010	SNF NFP64 Plazenta Perfusion	Hauptgesuchsteller (350 kCHF)
	SNF NFP64 CNT Abrasion	Co-Gesuchsteller (400 kCHF / 150 kCHF)
	7th FP EU MARINA	Mitgesuchsteller (12 M€ / 165 k€)
	IRTG NeuroNanotox (DFG)	Mitgesuchsteller (900 k€ / 85 k€)
2009	CCMX VIGO	Mitgesuchsteller (675 kCHF)
	7th FP EU NanoHouse	Mitgesuchsteller (2.4 M€ / 70 k€)
2007	6th F&E Protein-CNT Interaction (Network UniBe NCCR Basel)	Hauptgesuchsteller (100 kCHF)
	7th FP NanoImpactNet	Mitgesuchsteller (2 M€ / 15 k€)
bis 2006	6th FP EU CANAPE	Unterstützung (2.5 M€ / 270 k€)
	BAG / BAFU / KTI NanoRisk	Unterstützung (320 kCHF)
	5th F&E NeuroCNTox	Hauptgesuchsteller (100 kCHF)

Supervision of young researchers

PhD Theses (*= co-supervision)

2019 -2021 Daina Romeo (Empa & ETHZ)
2017 - *2020* Neda Iranpour Anaraki (Empa & UniBern) *
2017 - *2020* Daria Korejwo (Empa & AMI Uni Fribourg)
2017 - *2020* Woranan Nethueakul (Empa & ETHZ) *
2016 - *2019* Claudia Hempt (Empa & ETHZ)
2015 - 2018 Sarah May (Empa & Uni Konstanz)
2014 - 2018 Leonie Aengenheister (Empa & ETHZ)
2012 - 2016 Carina Muoth (Empa & ETHZ)
2012 - 2016 Chiara Civardi (Empa & ETHZ)
2011 - 2014 Stefanie Grafmüller (Empa & Uni Bern)
2008 - 2012 Michael Gasser (Empa & Uni Bern) *

Teaching activities:

2013 - 2019 Lecturer D-BAUG, ETHZ, Air Quality and Human Health
2010 - 2013 Lecturer University of Berne, Climate, Environment and Human Health
2009 - 2013 Lecturer University of Applied Science Winterthur, Biomaterials
2009 - 2013 Lecturer University of Applied Science Vorarlberg, Micro- and Nanotechnology

Synergistic activities

since 2018 Member of EDQM working group of Non Biological Complexes (NBC)
since 2015 Associated Editor NanoImpact journal
2013 Co-Guest Editor of BioNanoMaterial Special Issue NANOSAFETY – Progress in (eco)toxicology, understanding of mechanisms of action and risk assessment towards a reliable and sustainable use of nanotechnology
since 2011 Editorial Board Member Nanotoxicology journal
since 2009 Member of the accompanying group of the Swiss Action plan for Synthetic Nanomaterials
since 2008 Member of the supporting group of the Swiss Precautionary Matrix for Synthetic Nanomaterials

Memberships

since 2017 BioNanoNet
since 2016 European Technology Platform Nanomedicine
since 2008 International Society for Aerosols in Medicine ISAM
since 2006 Swiss Society of Biomaterials and Regenerative Medicine
since 2000 Life Sciences Switzerland – LS2

Conference Organization

2021 Chair and Organizer of the 15th NanoMedEurope, St. Gallen, CH
2020 CCMX Winterschool, Kandersteg CH
2019 Session chair and responsible person SST 2019, Basel, CH
SwissNanoconvention 2019, EPFL Lausanne, CH
2018 Scientific board and Session Chair; 9th International Nanotoxicology Conference, Neuss, DE
2017 Scientific committee; SwissNanoconvention, Fribourg, CH
2016 Scientific committee: NanoMat2016 2D Nanomaterials, Empa, Dübendorf, CH
2013 Scientific committee; Technologie Briefing: Nanomaterialien in Fassaden-beschichtungen, Empa, Dübendorf, CH
Scientific and organization committee;
Current Challenges Facing Inorganic Nanoparticle in Medicine and Industry, Insel Hospital Berne, CH
Scientific and organization committee:
In vitro Barrier Models: How Reliable and Clinically Relevant are these Systems? Empa, St. Gallen, CH

2012 Scientific committee and Session Chair; NanoFormulation, Barcelona ES
Scientific committee and Session Chair
NanoImpactNet QNano Joined Conference 'From theory to practice – development, training and enabling nanosafety and health research'
2011 Scientific committee; 3rd NanoImpactNet Conference 'Building a bridge from NanoImpactNet to nanomedical research', Lausanne, CH
2009 Scientific committee; 1st NanoImpactNet Conference for a healthy environment in a future with nanotechnology, Lausanne, CH
2008 Scientific committee; NanoRisk2008 Determining occupational, environmental and health impacts, Paris, F
2008 Organization committee; 2nd International Nanotoxicology Conference, Zürich, CH

Awards

2010 **Certificate of Recognition** one of Elsevier's Top 10 cited articles on Scopus 2007-08
Wick P, Manser P, Limbach LK, Dettlaff-Weglikowska U, Krumeich F, Roth S, Stark WJ, Bruinink A (2007) The degree and kind of agglomeration affect carbon nanotube cytotoxicity. Toxicology Letters (168) 121-131

2008 **Award for the best paper 2007** of Environmental Science and Technology
Limbach L, Wick P, Manser P, Grass RN, Bruinink A, Stark WJ (2007) Exposure of engineered nanoparticles to human lung epithelial cells: Influence of chemical composition and catalytic activity on oxidative stress. Environ Sci Technol 41 (11) 4158-63

Major scientific achievements

My scientific work has been focused on the understanding and steering of the interactions of engineered nanomaterials (ENM) with human barrier tissues *in vitro* and *ex vivo* with the purpose to obtain detailed mechanistic information about their uptake, accumulation, transport and effects on different types of cells or entire tissue [1-2]. In order to correlate the physical-chemical properties of ENM with their biological responses, we investigated into the comprehensive material characterization. Chemical composition [3], potential contaminants including endotoxins [4,5], size and size distribution including their agglomeration in relevant biological media, and surface charge are the minimal requirements in particular. For these endpoints we have improved the methodology and customized them mainly for each single particle type [6-8]. To assess the acute biological responses different human advanced *in vitro* co-culture systems were used, depending on the potential exposure route [9-10]. These models have to be as complex as needed but also kept as standardized as possible in order to provide clinical relevant outcomes. The standard assays for cytotoxicity assessment are not always valid for ENM and therefore have to be verified e.g. for interferences. Here we developed new approaches to identify potential assay interference and developed approaches to overcome them [11]. Since ENM provide a huge surface the solid – liquid interface plays an important role in the ENM – cell interactions. Particles in biological environment such as cell culture medium or body fluids will be covered immediately by biomolecules: the so called 'Corona'. The study of this highly dynamic layer is very challenging. In recent studies we investigated into the understanding of the role of adsorbed lung surfactant phospholipids on carbon nanotubes and their influence in cell response [12,13]. Currently, we are exploring how far the use of SAXS analysis can elucidate the early events in this corona formation.
Over the last decade we assessed over 100 different metal, metal oxide, polymers and carbonaceous materials such as carbon nanotubes as well as graphene related materials. This expertise is implemented in different consultant activities for the Swiss authorities or the National Contact Point for Safe Handling, Regulation and Transfer of ENM as well as teaching.

Simultaneously, a second branch of my research is focused on the ENM – human placenta barrier interaction. The safety assessment of ENM was so far only focused on cells and tissue where ENM get in direct contact. The placenta is not only relevant for organ toxicity studies, but is also a key organ for reproduction toxicology and fetus development. There are epidemiological evidences that exposure to high air pollution (including high level of PMs) lead to adverse effects on the lung function of the newborns. Using the dual perfused human placenta ex vivo model we wereinitially able to show the size dependent translocation of engineered polystyrene beads [14]. Further investigation revealed that the not only size, but also the surface functionalization and chemistry have a significant influence on the

translocation rate and that the transport of ENM might be an active transport [15]. In order to verify these observations further *in vitro* studies are ongoing using 3D co-culture model systems or placental explants [16].

The use of nanotechnology for medical purposes leads to an emerging research field in nanomedicine. The requirements in characterization and safety are mainly the same if not more demanding in order to get approved for clinical studies or application to patients [10]. Therefore we started to develop new concepts and approaches to transfer our expertise to nanomedical relevant nanomaterials and safety assessment strategies e.g. in the recent established European Nanomedicine Characterization Laboratory (EU-NCL).

[1] Krug HF, Wick P (2011) Angew Chem Int Ed 50:1260-1278
[2] Som C, H.F. Krug, Nowack B, Wick P (2013) Account of Chemical Research 46(3):863-72
[3] Wick P, et al (2007) Toxicol Lett (168) 121-131
[4] Smulders S, Wick P, et al (2012) Particle and Fibre Toxicology 9:41
[5] Mukherjee SP, Wick P, et al (2016) PlosOne 23;11(11):e166816
[6] Roebben GG, Wick P, et al (2011) J Nanoparticle Research 13:2675-2687
[7] Hole P, Wick P et al (2013) J Nanopart Res15:2101:1-12
[8] Mehn D, Wick P, et al (2017) RSC Advances 7:27747-27754
[9] Kucki M, Wick P et al (2016) Nanoscale (8) 8749-8760
[10] Obarzanek-Fojt M, Wick P et al (2016) Europ J Pharma Biopharma 107:180-190
[11] Elliott JT, Wick P et al (2017) ALTEX 34(2):201-208
[12] Gasser M, Wick P et al (2010) JNanobiotech, 8:31
[13] Gasser M, Wick P et al (2012) Particle and Fibre Toxicology 9:17
[14] Wick P, et al (2010) Environ Heath Persp 118(3)432-436
[15] Grafmüller S, Wick P, (2015) Environ Health Persp 123(12)1280-1286
[16] Muoth C, Wick P, et al (2016) Nanoscale 8:17322-32

Peer-reviewed paper and reviews:

>9100 Zitate, 900 in 2019, h-index 42 (Quelle Google Scholar 11.02.2020)
>6500 Zitate, 680 in 2018, h-index 37 (Quelle Scopus 11.02.2020)

118) Romero D, Saleri B, Hischier R, Nowack B, Wick P, (2020) A potential integrated pathway for an early in vitro-based hazard assessment of nanoparticles Environ Intern 137;105505

117) Saleri B, Kaiser JP, Rösslein M, Hischier R, Nowack B, Wick P, (2020) Relative potency approach for using in vitro information for definition of effect factors of human toxicity in life cycle impact assessment Nanotoxicology 14:2, 275-286

116) Beyeler S, Steiner S, Wotzkow C, Tschanz SA, Sengal AA, Wick P, Haenni B, Alves MP, von Garnier C, Blank F, (2020) Multi-walled carbon nanotubes activate and shift polarization of pulmonary macrophages and dendritic cells in an in vivo model of chronic obstructive lung disease Nanotoxicol 14(1);77-96

115) Jesus S, Marques AP, Duarte A, Soares E, Costa JP, Colaco MA, Schmutz M, Som C, Borchard G, Wick P, Borges O (2020) Chitosan nanoparticles: shedding light on immunotoxicity and hemacompatibility, Front Bioeng Biotechnol 8;100

114) Cassano JC, Rösslein M, Kaufmann R, Lüthi T, Schicht O, Wick P, Hirsch C, (2020) A novel approach to increase robustness, precision and high-throughput capacity of single cell gel electrophoresis, ALTEX 37(1);95-109

113) Wick P, Franz P, Huber S, Hirsch C, (2019) Novel impulses and strategies for a reliable high-throughput genotoxicity assessment (Chem Res Toxicol in press)

112) Hesler M, Aengenheister L, Ellinger B, Drexel R, Straskraba S, Jost CC, Meier F, Buechel C, Wick P, Bürki-Thurnherr T, Kohl Y, (2019) Multi-endpoint toxicological assessment of polystyrene nano- and micro- particles in different biological models in vitro, Toxicol in Vitro 61,104610

111) Ghaemi B, Moshiri A, Herrmann IK, Hajipour MJ, Wick P, Amani A, Sharmin Kharrazi (2019) Supramolecular insights into domino effect of Ag@ZnO-induced oxidative stress in melanoma cancer cells, ACS Applied Materials & Interfaces 11 (50), 46408-46418

110) Warth B, Preindl K, Manser P, Wick P, Marko D, Buerki-Thurnherr T, (2019) Transfer and metabolism of the xenoestrogen zeralenone in human perfused placenta EHP 127 10,107004

109) Petersen EJ, Hirsch C, Elliot JT, Wick P, Krug HF, Aengenheister L, May S, Rösslein M, Cause and effect analysis: a new approach for developing robust nano-bio assays (in press Chem Res Toxicol)

108) Aengenheister L, Dugershaw BBB, Manser P, Wichser A, Schoenenberger R, Wick P, Hesler M, Kohl Y, Straskraba S, Suter MJF, Bürki-Thurnherr T, (2019) Investigating the accumulation and translocation of titanium dioxide nanoparticles with different surface modifications in static and dynamic human placental transfer models, Europ J Pharma Biopharma 142,488-497

106) Prina-Mello A, Schmid R, Wick P, Caputo F, Boisseau P, et al (2019) On the issue of transparency and reproducibility in nanomedicine, Nat Nanotech 14(7)629-631

105) Siegrist S, Cörek E, Detampel P, Sandström J, Wick P, Huwyler J, (2019) Preclinical Safety evaluation strategy for Nanomedicines, Nanotoxicology 13(1)73-99

104) Anthis AHC, Tsolaki E, Didierlaurent L, Staubli S, Zboray R, Neels A, Dietrich D, Manser P, Desbiolles LM, Leschka S, Wildermuth S, Lehner S, Chavatte-Palmer P, Jochum W, Wick P, Dommann A, Bürki-Thurnherr T, Fischer T, Hornung R, Bertazzo S, Herrmann IK (2019) Nano-analytical characterization of endogenous minerals in healthy placental tissue: mineral distribution, composition and ultrastructure, Analyst in press

103) Casalini T, Limongelli V, Schmutz M, Som C, Jordan O, Wick P, Borchard G, Perale G (2019) Molecular modeling for nanomaterials-biology interactiions: opportunities, challenges and perspectives, Front Bioeng Biotechnol 7,268

102) Jesus S, Schmutz M, Som C, Borchard G, Wick P, Borges O, (2019) Hazard assessment of polymeric nanobiomaterials for drug delivery: what can we learn from literature so far, Front Bioeng Biotechnol 7,261

101) Roman DL, Roman M, Som C, Schmutz M, Hernandez E, Wick P, Casaline T, Perale G, Ostafe V, Isvoran A, Computational assessment of the pharmacological profiles of degradation products of chitosan (2019) Front BioengBiotechnol 7,214

100) Civardi C, Grolimund D, Schubert M, Wick P, Schwarze FWMR, (2019) Micronized copper-treated wood: copper remobilization into spores from the copper-tolerant wood-destroying fungus Rhodonia placenta Environmental Science Nano 6(2),425-431

99) Maguire CM, Rösslein M, Wick P, Prina-Mello A, (2018) Characterisation of particles in solution–a perspective on light scattering and comparative technologies STAM 19(1)732-745

98) Aengenheister L, Dietrich D, Sadeghpour A, Manser P, Diener L, Wichser A, Karst U, Wick P, Bürki-Thurnherr T, Gold nanoparticle distribution in advanced in vitro and ex vivo human placental barrier models, J Nanobiotechnol 16(1)79

97) Bohmer N, May S, Rippl A, Roesslein M, Hea MB, Kwak MJ, Song NW, Wick P, Hirsch C, Interference of engineeried nanomatierals in flow cytometry: a case study Colloids and surfaces B: Biointerfaces 172,635-645

96) Fadeel B, Bussy C, Guijarro SM, Fernandez-Pacheco EV, Flahaut E, Maouchet F, Evariste L, Gauthier L, Koivisto J, Vogel U, Jimenez CM, Delogu L, Bürki-Thurnherr T, Wick P, Beloin-Saint-Pierre D, Hirschier R, Pelin M, Carniel FC, Tretiach M, Cesca F, Benfenati F, Scaini D, Ballerini L, Kostarelos K, Prato M, Bianco A, (2018) Disentangling structure-activity relationships for graphene-based materials ACS Nano 12 (11) 10582-10620

95) Drasler B, Kucki M, Delhaes F, Bürki-Thurnherr T, Vanhecke D, Korejwo D, Petri-Fink Alke, Rothen-Rutishauser B, Wick P, (2018) Single exposure to aerosolized graphene oxide and graphene nanoplatelets did not inititate an acute biological response in a 3D human lung model Carbon 137, 125-135

94) Notter T, Aengenheister L, Welber-Stadlbauer U, Naegeli H, Wick P, Meyer U, Buerki-Thurnherr B, (2018) Prenatal exposure to TiO2 nanoparticles in mice cause behavioral deficits relevant for autism spectrum disorder, Translational Psychiatry 8(1)193

93) May S, Hirsch C, Ripple A, Wichser A, Bohmer N, Bürkle A, Wick P, (2018) Transient DNA damage following exposure to gold nanoparticles Nanoscale 10,15723-15735

92) Bürki-Thurnherr T, Schäpper K, Aengenheister L, Wick P, (2018) Developmental toxicity of nanomaterials: Need for a better understanding of indirect effects, Chem Res Toxicol 31(8)641-642

91) Kucki M, Aengenheister L, Diener L Rippl AV, Vranic S, Newman L, Vazquez E, Kostarelos K, Wick P, Buerki-Thurnherr T (2018) Impact of graphene oxide on human placental trophoblast viability, functionality and barrier integrity 2D Materials 5(3):035014

90) Aengenheister L, Kucki M, Keevend K, Muoth C, Schönenberger R, Diener L, Wick P, Bürki-Thurnherr T, (2018) An Advanced human in vitro co-culture model for translocation studies across the human placenta barrier Scientific Reports 8(1):5288

89) Beyeler S, Chortarea S, Rothen-Rutishauser B, Petri-Fink A, Wick P, Tschanz S, von Garnier C, Blank F, (2018) No acute effects of multi-walled carbon nanotubes in primary bronchial cells from healthy and COPD donors (in press Nanotoxicology)

88) Chortarea S, Barosova H, Clift MJD, Wick P, Petri-Fink A, Rothen-Rutishauser B (2017), Asthmatic lung cells are more susceptible to sub-chronic repeated exposures of aerosolized carbon nanotubes at occupational relevant doses, ACS Nano 11(8):7615-25

87) Maguire CM, Silence K, Roesslein M, Hannell C, Suarez G, Sauvain JJ, Capracotta S, Contal S, Cambier S, Yamani NE, Dusinska M, Dybowska A, Vennemann A, Cooke L, Haase A, Luch A, Wiemann M, Gutleb A, Korenstein R, Riediker M, Wick P, Hole P, Prina-Mello A, (2017) Benchmark of Nanoparticle Tracking Analysis on measuring nanoparticles sizing and concentration, J Micro- and Nano-Manufacturing 5(4)041002

86) Mehn D, Rösslein M, Calzolai L, Wick P, Caputo F, Gilliland D, Bigger or more? (2017) Nanoparticle characterization methods in dimer recognition, RSC Advances 7:27747-27754

85) Muoth C, Grossgarten M, Karst U, Ruiz J, Astruc D, Moya S, Diner L, Grieder K, Wichser A, Jochum W, Wick P, Buerki-Thurnherr T, (2017) Impact of particle size and surface modification on the localization and penetration of gold nanoparticles in human placental co-culture microtissues, Nanomedicine12:10:1119-1133

84) Winkler HC, Suter M, Wick P, von Moos L, Schraner E, Naegeli H (2017) Pro-interleukin-1B induction in resting dendritic cells exposed to a common nanostructured food additive, Particle & Fiber Toxicol14:21

83) Kucki M, Diener L, Bohmer N, Hirsch C, Krug HF, Palermo V, Wick P (2017) Uptake of graphene oxide by human intestinal cells in vitro is dependent on cell morphology and topography, J NanoBioTech 15:46

82) Hirsch C, Striegl B, Mathes S, Adlhart C, Edelmann M, Bono E, Gaan S, Salmeia KA, Hölting L, Krebs A, Nyffeler J, Pape R, Bürkle A, Leist M, Wick P, Schildknecht S (2017) Toxicity assessment of novel DOPO-derived organophosphorus flame retardants, Arch Toxicol 91:407-425

81) Rösslein M, Liptrott N, Owen A, Boisseau P, Wick P, Hermann IK (2017) Holistic understanding of particle interactions with biological systems is imperative to rational particle design for biomedical applications Nanotoxicol 11:2:147-149

80) Kaiser JP, Roesslein M, Diener L, Nowack B, Wick P, (2017) Cytotoxic effects of nanosilver are highly dependent from the chloride concentration and the carbon content (FCS) in the culture media J Nanobiotechnology 6:15(1):5

79) Elliott JT, Roesslein M, Song NW, Toman B, Kinsner-Ovaskainen A, Maniratanachote R, Salit ML, Sequeira F, Lee J, Kim SJ, Rossi F, Hirsch C, Krug HF, Suchaoin W, Wick P, (2017) Toward achieving harmonization in a nano-cytotoxicity assay measurement by interlaboratory comparisons study ALTEX 34(2):201-208

78) Civardi C, Schlagenhauf L, Kaiser JP, Hirsch C, Mucchino C, Wichser A, Wick P, Schwarze FWMR, (2016) Release of copper-amended particles from Micronized copper-treated wood during mechanical abrasion, J Nanobiotechnology 28;14(1):77

77) Muoth C, Wichser A, Monopoli M, Correia M, Ehrlich N, Köschner K, Gallud A, Kucki M, Diener L, Jochum W, Wick P, Bürki-Thurnherr T (2016) A 3D microtissue co-culture model of the human placenta for nanotoxicity assessment, Nanoscale 8:17322-32

76) Civardi C, Van den Bulcke J, Schubert M, Michel E, Butron EM, Van Aacker J, Wick P, Schwarze FWMR (2016) Penetration and effectiveness of micronized copper in easily treatable and refractory wood species Plos One 11(9)e0163124

75) Obarzanek-Fojt M, Curdy C, Loggia N, Di Lena F, Grieder K, Bitar M, Wick P (2016) Tracking immune-related cell responses to drug delivery microparticles in 3D dense collagen matrix, Europ J Pharma Biopharma 107:180-190

74) Ulrich S, Hirsch C, Diener L, Wick P, Rossi MR, Bannwarth MB, Boesel LF, (2016) A general method for the preparation of ellipsoid-shaped supraparticles with modular compositions RCS Advances 6 (92), 89028-89039

73) Muoth C, Rottmar M, Schipanski A, Gmünder C, Maniura-Weber K, Wick P, Bürki T, (2016) A micropatterning approach to study the influence of actin cytoskeletal organization on polystyrene nanoparticle uptake by BeWo cells RSC Advances 6 (76), 72827-72835

72) Mukherjee SP, Kucki M, Valdes NL, Vazquez E, Kostarelos K, Wick P, Fadeel (2016) Detection of endotoxin contamination of graphene oxide using TNF-alpha expression test (2016) PlosOne 23;11(11):e166816

71) Muoth C, Aengenheister L, Kucki M, Wick P, Buerki-Thurnherr T, (2016) Nanoparticle transport across the placental barrier: Pushing the field forward! Nanomedicine 11(8):941-57

70) Kucki M, Rupper P, Wichser A, Sarrieu C, Treossi E, Melucci M, Schwarz A, León V, Kraegeloh A, Flauhaut E, Vazquez E, Palermo V, Wick P, (2016) Interaction of graphene-related materials with human intestinal cells: an in vitro approach, Nanoscale (8) 8749-8760

69) Schöneberger A, Schipanski A, Malheiro V, Kucki M, Snedeker JG, Wick P, Maniura-Weber K, (2016) Macrophage polarization by titanium dioxide (TiO2) particles: size matters, ACS Biomater Sci Eng 2:908-919

68) Grafmüller S, Manser P, Diner L, Maurizi L, Diener PA, Hofmann H, Jochum W, Krug HF, Bürki-Thurnherr T, von Mandach U, Wick P, (2016) Challenges and common pitfalls in nanoparticle selection for transport studies across biological tissue barrier Sci Technol Adv Mater 16;1

67) Schlagenhauf L, Kianfar B, Buerki-Thurnherr T, Kuo YK, Wichser A, Nüesch F, Wick P, Wang J (2015) Weathering of a carbon nanotube / epoxy nanocomposite under UV light and in water bath: impact on abraded particles Nanoscale 7 18524-18536

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