Curriculum vitae

Date of birth:	14. September 1971, Zuzwil SG
Affiliation:	Empa, Swiss Federal Laboratories for Material Testing and research Laboratory for Materials – Biology Interactions
Current Position:	Co-Head of the Laboratory for Materials – Biology Interactions
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Education:

Since 2005	Education in toxicology
1998 - 2002	PhD at the University of Fribourg, CH (Focus: molecular and cell biology)
1993 - 1997	Study of biology at University of Fribourg, CH

Scientific Vita:

Since 2010	Co-Head of Laboratory for Materials – Biology Interactions, Empa St. Gallen
2009 - 2010	Group leader in the Laboratory for Materials – Biology Interactions, Empa St. Gallen
2007 – 2008	Deputy of the Group Leader Nanointercell in the Laboratory for Materials – Biology Interactions, Empa St. Gallen
2002 - 2007	Scientific collaborator in the Laboratory for Biocompatible Materials, Deputy of the Group leader MaTisMed, Empa St. Gallen
1998 - 2002	Dipl. Assistant at the Faculty of Science of the University of Fribourg, CH

Peer-reviewed publications:

Moreno-Villaneuva M, Eltze T, Drellser D, Bernhardt J, Hirsch C, **Wick P**, von Scheren G, Lex K, Bürkle A (2011) The automated FADU – assay, a potential high throughput in vitro method for early screening of DNA breakage Altex 28:4/11:295-303

Clift MJD, Foster EJ, Studer D, **Wick P**, Gehr P, Rothen-Rutihauser, Weder C (2011) Human lung cell study shows cellulose nanofibres to be a safe alternative to carbon nanotubes Biomacromolecules, 12, 3666-3673

Wick P, Clift MJD, Rösslein M, Rothen-Ruthishauser B, (2011) A brief summary of carbon nanotubes science and technology: a health and safety perspective ChemSusChem 18;4(7):905-11 Review

Hirsch C, Roesslein M, Krug HF, and **Wick P** (2011) Nanomaterial cell interactions: Are current in vitro tests reliable? Nanomedicine 6(5):837-47 Review

Kaiser JP, Rösslein M, Bürki-Thurnherr T, **Wick P** (2011) Carbon nanotubes – curse or blessing Journal of Current Medicinal Chemistry 18(14):2115-28 Review

Som C, **Wick P**, Krug HF, Nowack B (2011) Environmental and health effects of nanomaterials in nanotextiles and façade coatings Environ Int 37(6):1131-42 Review

Roebben GG, Ramirez-Garcia S, Hackley VA, Roesslein M, Klaessig F, Kestens V, Lynch I, Garner CM, Rawle A, Elder A, Colvin V, Kreyling W, Krug HF, Lewicka Z, McNeil S, Nel A, Patri A, **Wick P**, Wiesner M, Xia T, Oberdörster G, Dawson KA (2011) Interlaboratory reproducibility of size and surface charge measurements on nanoparticles prior to biological impact assessment J Nanoparticle Research 13:2675-2687

Lischer S, Körner E, Balazs DJ, Shen D, **Wick P**, Grieder K, Haas D, Heuberger H, Hegemann D Silver-nano-composite coatings with incipient antibacterial effect and subsequent cytocompatibility J R Soc Interface 6;8(60):1019-30.

Rottmar M, Ackerknecht S, Lehmann E, **Wick P**, Maniura-Weber K A high throughput system for long term application of intermittent cyclic hydrostatic pressure on cells in culture (in press Biomechanical engineering)

Krug HF, **Wick P** Nanotoxikologie – eine interdisziplinäre Herausforderung, Review (in press Angewandte Chemie)

Krug HF, **Wick P** Nanotoxicology: An Interdisciplinary Challenge, Review (in press Angewandte Chemie)

Thurnherr T, Brandenberger C, Fischer K, Diener L, Manser P, Maeder-Althaus X, Kaiser JP, Krug HF, Rothen-Rutishauser B, **Wick** P (2011) A comparison of acute and long-term effects of industrial multiwalled carbon nanotubes on human lung and immune cells in vitro. Toxicol Lett 200;176-186

Gasser M, Rothen-Rutishauser B, Krug HF, Gehr P, Nelle M, Yan B, **Wick P** (2010) Lipids of the pulmonary surfactant and functional groups on multi-walled carbon nanotubes influence blood plasma proteins adsorption differently. JNanobiotech, 8:31

Wick P, Malek A, Manser P, Meili D, Maeder-Althaus X, Diener L, Diener PA, Zisch A, Krug HF, von Mandach U (2010) Barrier capacity of human placenta for nanosized materials. Environ Heath Persp 118(3)432-436

Müller LL, Riediker M, **Wick P**, Mohr M, Gehr P, Rothen-Rutishauser B (2010) Oxidative stress and inflammation reaction upon nanoparticle exposure: differences between human lung cell mono-cultures and an advanced 3D model of the human epithelial airway. J.R.Soc. Interface 6:7 Suppl 1S:27-40

Thurnherr T, Su D, Diener L, Weinberg G, Manser P, Pfänder N, Arrigo R, Schuster ME, **Wick P**, Krug HF (2009) Comprehensive evaluation of in vitro toxicity of three large-scale produced carbon nanotubes on human Jurkat T cells and a comparison to crocidolite asbestos. Nanotoxicology 3(4) 319-338

Belyanskaya L, Weigel S, Hirsch C, Tobler U, Krug H, Bruinink A, **Wick P** (2009) Effect of carbon nanotubes on primary neuronal and glial cells. Neurotoxicology (30) 702-11

Spohn P, Hirsch C, Halser F, Bruinink A, Krug HF, **Wick P** (2009) C60 fullerene: a powerful antioxidant or a damaging nanonoxe? The importance of an in-depth material characterization prior to toxicity assays. Environ Pollut (157) 1134-39

Kaiser JP, Krug HF, **Wick P** (2009) Nanomaterial cell interactions: how carbon nanotubes affect cell physiology Nanomedicine 4(1) 57-63 Review

Helland A, **Wick P**, Koehler A, Schmid K, Som C (2008) Reviewing the environmental and human health knowledge base of carbon nanotubes. CIENCIA & SAUDE COLETIVA 13(2) 441-452

Helfenstein M, Miragoli M, Rohr S, Müller L, **Wick P**, Mohr M, Gehr P, Rothen-Rutishauser B (2008) Effects of combustion-derived ultrafine particles and manufactured nanoparticles on heart cells in vitro. Toxicology (253) 70-78

Kaiser JP, **Wick P**, Manser, Spohn P, Bruinink A (2008) Single walled carbon nanotubes (SWCNT) affect cell physiology and cell architecture. J Mater Sci: Mater Med, 19(4) 1523-27

Belyanskaya L, Manser P, Spohn P, Bruinink A, **Wick P** (2007) The reliability and limits of the MTT conversion test for carbon nanotubes – cell interaction. Carbon (45) 2643-48

Helland A, **Wick P**, Köhler A, Schmid K, Som C (2007) Risk assessment of carbon nanotubes: An insight into the scientific literature & discussion. Environ Health Perspect 115(8) 1125-31 Review

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

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. Toxicol Lett (168) 121-131

Wick P, Manser P, Spohn P, Bruinink A (2006) In vitro evaluation of possible adverse effect of nanosized materials. Physica Status Solidi b 243(13) 3556-60

Brunner TJ, **Wick P**, Manser P, Spohn P, Grass RN, Limbach LK, Bruinink A, Stark WJ (2006) In vitro cytotoxicity of oxide nanoparticles: comparison to asbestos, silica and the effect of particle solubility. Environ Sci Technol 40(14) 4374-81

Wick P, Gansel X, Oulevey C, Page V, Studer I, Durst M, Sticher L (2003) The expression of the t-SNARE AtSNAP33 is induced by pathogens and mechanical stimulation. Plant Physiol. 132(1) 343-51

Wick P (2002) Intracellular vesicle transport in Arabidopsis thaliana: Functional characterization of the t-SNARE homologue AtSNAP33. Dissertation Universität Fribourg

Heese M, Gansel X, Sticher L, **Wick P**, Grebe M, Bouchez D, Jürgens G (2001) Functional characterization of the KNOLLE-interacting t-SNARE AtSNAP33 and its role in plant cytokinesis. J Cell Biol. 155(2) 239-49

Book / Book chapters

Colognato R, Park M, **Wick P**, De Jong WH, Book chapter ‘Interaction with the human body’ in Adverse Effects of Engineered Nanomaterials: Exposure, Toxicology and Impact on Human Health, edited by Fadeel B, Pietroiusti A, Shvedova A 2011 (in press)

Awards:

2011	Best Poster Award, 3rd NanoImpactNet Conference Building a bridge from NanoImpactNet to nanomedical research, Lausanne, CH Gasser M, **Wick P**, Gehr P, Krug HF, Clift MJD, Rothen-Rutishauser B, Investigating the lipid and protein coatings of different functionalized multi-walled carbon nanotubes - can these affect their potential adverse effects?
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
2010	Best Poster Award, 2nd NanoImpactNet Conference for a healthy environment in a future with nanotechnology, Lausanne CH Thurnherr T, Brandenberger C, Kaiser JP, Manser P, Diener L, Krug HF, Rothen-Rutishauser B, **Wick P** (2010), Long-term accumulation of multi-walled carbon nanotubes has no major effects on human lung cell survival and functionality in vitro
2008	Environmental Science and Technology Award for the best paper 2007 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
2007	Best Poster Award, NanoEurope, St. Gallen CH Körner E, Balaz D, **Wick P**, Lischer S, Fortunato G, Hegemann D (2007) Nanocomposite coatings combine antimicrobial activity with cytocompatiblitiy.