**CURRICULUM VITAE**

**Dr. Samuel Schmidt (Ph.D.)**

Kavli Institute at Cornell for Nanoscale Science and Department of Chemical and Biomolecular Engineering, Cornell University, Ithaca, NY, USA

[ss3867@cornell.edu](mailto:ss3867@cornell.edu), <http://www.glycosearch.com/>

**EDUCATION**

**KIC Fellow Postdoctoral Associate** (as of 2018), Kavli Institute at Cornell for Nanoscale Science, Department of Chemical and Biomolecular Engineering, Cornell University, Ithaca, NY, USA

**Roche Fellow Postdoctoral Associate** (2013-2018), Radboud University Medical Center, Nijmegen, The Netherlands and F. Hoffmann-La Roche Ltd, Basel, Switzerland

**Ph.D.**, Glyco-Cellbiology (2017), Radboud University Medical Center, Nijmegen, The Netherlands

**M.Sc.**, Medical Biochemistry (2007), University Leipzig, Saxony, Germany

**PROFESSIONAL EXPERIENCE**

**Roche Fellow Postdoctoral Associate** (2013-2018), Department of Biochemistry, Biochemistry of Integrated Systems (BIS), Radboud University Medical Center, Nijmegen, The Netherlands

**HONORS AND AWARDS**

2018 Google Summer of Code (GSC), 2 projects in the category “R projects for statistical computing“, (1) “Firedata - Implementing Web Functionalities for Shiny and OpenCPU”, (2) “Firedata - Enabling Easy Cloud Stats through Cloud Firestore” (together with Kohze, R.), <http://bit.ly/2vLnUZq>, <http://bit.ly/2HunR5y>

2017 Google Summer of Code (GSC), Web-App: Firedata: “Connecting R to Google Firebase” (together with Kohze, R.), <http://bit.ly/2uMehYB>

2017 KIC Postdoctoral Fellowship, Kavli Institute at Cornell for Nanoscale Science, Cornell University, Ithaca, NY, USA, <http://bit.ly/2gTqaGv>

2016 Google Summer of Code (GSC), Web-App: Discovr: “Streamlining Statistical Data Analysis” (together with Kohze, R.), <http://bit.ly/2uLGVZU>

2014 Radboud University Internationalization Travel Grant, Conference on Matrix Biology

2013 RPF Fellowship, F. Hoffmann-La Roche Ltd, Basel, Switzerland

2010 NCDG Researcher of the Month, Nijmegen Center for Disorders of Glycosylation

**PUBLICATIONS**

1. **Schmidt, S.,** and Friedl, P. (2010) Interstitial cell migration: integrin-dependent and alternative adhesion mechanisms, *Cell Tissue Res* 339, 83-92.
2. Dommerholt, J.\*, **Schmidt, S.\***, Temming, R., Hendriks, L. J. A., Rutjes, F. P. J. T., van Hest, J. C. M., Lefeber, D. J., Friedl, P., and van Delft, F. L. (2010) Readily Accessible Bicyclononynes for Bioorthogonal Labeling and Three-Dimensional Imaging of Living Cells, *Angew. Chem Int Ed* 49, 9422-9425. *(\*shared 1st authors)* **Cited 361 times and highlighted in:**
   1. Faculty of 1000 Evaluations: <http://f1000.com/prime/6000958>
   2. Peter Gölitz, Deputy Editors: Neville Compton, Haymo Ross, “Hot Paper”, *Angewandte Chemie International Edition* (2010)
   3. “News”, *Faculty of Science*, Nov. 10. (2010)
   4. Founded company: Synaffix (<http://www.synaffix.com)>
3. **Schmidt, S.**, Adjobo-Hermans, M. J., Wallbrecher, R., Verdurmen, W. P., Bovee-Geurts, P. H., van Oostrum, J., Milletti, F., Enderle, T., and Brock, R. (2015) Detecting Cytosolic Peptide Delivery with the GFP Complementation Assay in the Low Micromolar Range, *Angew Chem Int Ed*
4. **Schmidt, S.**, Wallbrecher, R., van Kuppevelt, T. H., and Brock, R. (2015) Methods to Study the Role of the Glycocalyx in the Uptake of Cell-Penetrating Peptides, *Methods Mol Biol* 1324, 123-131.
5. **Schmidt, S.**, Adjobo-Hermans, M.J.W., Kohze, R., Enderle, T., Brock, R., Milletti, F. Identification of short hydrophobic CPPs for cytosolic peptide delivery by rational design, Bioconj Chemistry (2016)
6. Mohamed, M., Ashikov, A., Guillard, M., Robben, J. H., **Schmidt, S.**, van den Heuvel, B., de Brouwer, A. P., Gerardy-Schahn, R., Deen, P. M., Wevers, R. A., Lefeber, D. J., and Morava, E. (2013) Intellectual disability and bleeding diathesis due to deficient CMP-sialic acid transport, *Neurology*.
7. Verdurmen, W. P., Wallbrecher, R., **Schmidt, S.**, Eilander, J., Bovee-Geurts, P., Fanghanel, S., Burck, J., Wadhwani, P., Ulrich, A. S., and Brock, R. (2013) Cell surface clustering of heparan sulfate proteoglycans by amphipathic cell-penetrating peptides does not contribute to uptake, *Journal of controlled release: Official Journal of the Controlled Release Society*.
8. Wallbrecher, R., Verdurmen, W. P., **Schmidt, S.**, Bovee-Geurts, P. H., Broecker, F., Reinhardt, A., van Kuppevelt, T. H., Seeberger, P. H., and Brock, R. (2013) The stoichiometry of peptide-heparan sulfate binding as a determinant of uptake efficiency of cell-penetrating peptides, *Cell Mol Life Sci.*
9. Vallen, M. J., **Schmidt, S.**, Oosterhof, A., Bulten, J., Massuger, L. F., and van Kuppevelt, T. H. (2014) Primary ovarian carcinomas and abdominal metastasis contain 4,6-disulfated chondroitin sulfate rich regions, which provide adhesive properties to tumour cells, *PLoS One* 9, e111806.
10. Favretto, M. E., Wallbrecher, R., **Schmidt, S.**, van de Putte, R., and Brock, R. (2014) Glycosaminoglycans in the cellular uptake of drug delivery vectors - Bystanders or active players?, *Journal of controlled release : official journal of the Controlled Release Society.*
11. Klein, M.J., **Schmidt, S.**, Wadhwani, P., Bürck, J., Reichert, J., Afonin, S., Berditsch, M., Schober, T., Brock, R., Kansy, M. and Ulrich, A.S. (2017) Lactam-Stapled Cell-Penetrating Peptides: Cell Uptake and Membrane Binding Properties, Journal of Medicinal Chemistry. J. Med. Chem. 2017, 60, 8071−8082

**LAST AUTHOR PUBLICATION**

1. Kohze, R., Dieteren, C., Koopman, W.J., Brock, R., **Schmidt, S.,** (2017) Frapbot: an open-source application for fluorescence recovery after photobleaching data. *Cytometry A*.

**PUBLICATIONS (SUBMITTED)**

1. **Schmidt, S.**, Weigelin, B., te Riet, J., Daryab, N., te-Lindert, M., Lelli, B., Rognoni, L., Krause-Vortmeyer, M., Gottschalk, K.E., Kissler, S., Fransen, J., Humphries, M.J., Friedl, P., Glycocalyx-mediated Cell Adhesion and Migration, Cell

**PUBLICATIONS (IN PREPARATION)**

1. **Schmidt, S.**, Friedl, P., Quantitative removal of multiple glycan species from live cells.
2. Zuconelli, C., **Schmidt, S.**, Adjobo-Hermans, Manipulation of Orai1 by cationic peptides mediates their direct cytosolic uptake*.*
3. **Schmidt, S.,** Kohze, R., Brock, R., Endocytic uptake of L- but not D-amino acid cationic cell-penetrating peptides induces a softening of the actin cytoskeleton.
4. Kohze, R., **Schmidt, S.,** Brock, R.,A conceptional structural understanding of the interaction of arginine-rich cell-penetrating peptides with glycosaminoglycans.

**INVITED SEMINARS**

1. **Schmidt S**., “Mechanisms of integrin-independent amoeboid modes of cell migration - role of glycocalyx and physical mechanisms.” 38th Annual Scientific Meeting of the Matrix Biology Society of Australia and New Zealand, Queenscliff, Australia (2014)
2. **Schmidt S**., “Glycocalyx-mediated Integrin-independent amoeboid cell migration” Gordon Research Conference / Seminar for Glycobiology, Lucca (Barga), Italy (2014)
3. **Schmidt S**., “Bioorganic Chemistry 2.0 – Presenting new toolboxes for Biology” Technical Forum Evening, Radboudumc, Nijmegen, The Netherlands (2014)
4. **Schmidt S.,** “GFP complementation to detect cytosolic delivery.” 6th RPF Symposium, Copenhagen, Denmark (2015)
5. **Schmidt S**. & Kohze R., “Frapbot – A new open source FRAP application”, Courses and Workshops, Radboudumc, Nijmegen, The Netherlands (2016)
6. **Schmidt S**., “Impact of Cell Surface Glycosylation on Tumor Cell Migration: The glycocalyx as multivalent and universal adhesion scaffold.”, Kavli Institute at Cornell for Nanoscale Science, Ithaca, USA (2017)

**TEACHING ACTIVITIES**

1. Radboudumc, RIMLS Molecular Mechanisms of Disease Masterclass, Moleculaire Levenswetenschappen (MLW) and Hogeschool van Arnhem en Nijmegen (HAN), **Practical Mentor,** “Microscopic Imaging” (2008 – 2018)
2. Moleculaire Levenswetenschappen (MLW), **Project Supervisor** (2015 – 2017)
3. Biomedische Wetenschappen (BW), **Project Supervisor** (2013 – 2014)
4. Hogeschool van Arnhem en Nijmegen (HAN), **Project Supervisor** (2010-2012)
5. Institute for Molecules and Materials, Synthetic Organic Chemistry, **Project Supervisor** (2009-2010)

**SERVICE – UNIVERSITY**

1. Radboudumc, RIMLS Molecular Mechanisms of Disease Masterclass, **Mentor** (2012)
2. Radboudumc, **Technical Forum Advisor** (2010)

**SERVICE - MANUSCRIPT REVIEW**

1. Journal of Cell Science, Current Medicinal Chemistry

**ACTIVITIES**

* Vaionex Corporation– Datascience and biotech startup ([Vaionex](http://www.vaionex.com/)), **Co-founder**

(2016 – Present)

* R codes– Marketplace for R tutorials and software solutions ([R.codes](https://r-codes.com/)), **Co-founder**

(2016 – Present)

* Respora– Social Network, Increase the communication between Scientists within the Institute, Beta-Phase ([Respora](http://www.respora.com/)), **Co-founder** (2016 – 2018)
* **Electronic Musician** – Sounddesign, Electronic music production (Myspace: <http://bit.ly/1Qm1cZF>, Soundcloud: <http://bit.ly/1oHUrXs)> (2003 – Present); NoZoo (Youtube: <http://bit.ly/2r1YFfI> , The Music Site: <http://bit.ly/2FjfyHK> , Spotify: <http://bit.ly/NozooHittaVarandra>, Soundcloud: <http://bit.ly/2r2En6s>), **Band member** (2018 – Present)
* International Youth Symphony Partner Orchestra Germany – **Greece**, **Mentor:** Woodwind register (2002)
* Conservatorium Georg-Philipp-Telemann – **Bachelor of Arts (BA),** Advanced studies: Flauto traverso (1st instrument), music history, music notation, Youth symphony orchestra (1999 – 2003)