Emre Çörek

Ph.D., M.Sc. Toxicologist

Toxicologist by education with a strong research background in Pharmaceutical Sciences (Ph.D.). Always motivated to grow and learn with interdisciplinary experiences and teaching/leading skills. Ambitious, curious, self-motivated, adaptable, creative, and analytical.

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upon request

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www.emrecoerek.com

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TECHNICAL SKILLS

MS Office	Word, Excel, Powerpoint, Outlook, OneNote.
Web	HTML, Content Management Systems (CMS), R programming.
Imaging	Brightfield and confocal microscopy, micro-CT, synchrotron, (cryo)(T)EM.
Graphical	Photoshop, Illustrator, Acrobat.
Planning	Analysis, brainstorming, decision-making, task management, prioritization, delegation, scheduling, risk management.
Lab skills	Histology, cytotoxicity, pharmacokinetics, cell culture, labeling, nanoparticle synthesis, nanoparticle characterization, theranostics.

SOFT SKILLS

Critical thinking · Willingness to learn · Problem-solving · Leadership · Integrity · Teamwork · Presenting · Effective communication · Attention to detail · Resilience · Adaptability · Eagerness to grow

LANGUAGES

German	Turkish	English	French
Native or Bilingual Proficiency	*Native or Bilingual Proficiency*	*Full Professional Proficiency*	*Elementary Proficiency*

WORK EXPERIENCE

Ph.D. candidate Pharmaceutical Sciences

University of Basel

06/2016 – 05/2020 *Basel, Switzerland*

Department of Pharmaceutical Technology, Area: Drug delivery and Nanotoxicology

Achievements/Tasks

- Developed new nanoparticles for drug delivery and imaging with own synthesis method which are now established in the laboratory and can be used as a toolbox to create all kinds of differently modified nanoparticles.
- Used the zebrafish embryo in parallel with various cell lines to test own nanoparticles and developed a new experimental setup to make assumptions about nanotoxicology, pharmacokinetics and extrapolation.
- Imaged own nanoparticles for theranostics in zebrafish embroys with various methods including synchrotron hard X-ray computed tomography in two Swiss institutes (PSI and ESRF). Discovered new results which are published in the journal "Small" (Impact factor 2019: 10.17).
- Made nanotoxicological research and worked together with various international regulatory authorities like EMPA, SCAHT, BfR, and FDA as a part of the NanoReg 2 project which was funded with 10 M € from the EU Horizon 2020 research and innovation programme. Published a new hazard evaluation strategy for nanomedicines as an outcome in the journal "Nanotoxicology" (Impact factor 2019: 6.31, cited already more than 10 times).
- Lead and teached a large group of bachelor's students of pharmacy for eight weeks every year in a practical training with multiple topics in pharmaceutical sciences and prepared them for their final pharmacy exams and further master's studies.
- Joined various international research and regulatory meetings in Thessaloniki, Geneva, Venice, Basel, Zurich, Neuchatel, and Istanbul and presented results and hold talks about various topics i.e. "in vitro toxicology" or "zebrafish embryo vertebrate model" and increased my network with various new professional partners from all over the world.

WORK EXPERIENCE

Master's thesis student Preclinical safety
Novartis Institutes for BioMedical Research

08/2014 – 05/2015 *Basel, Switzerland*

Department of Preclinical safety, Area: In-situ hybridization/nephrotoxicology

Achievements/Tasks

- Analyzed pharmacokinetic results of nephrotoxic animal study with 750+ rats with softwares R and Python. Successfully selected most relevant rats by large data analysis based on biomarker and blood value results for further experiments.
- Invented new method by histopathological analysis of rat kidneys by using the kidney biomarker "Kidney Injury Molecule 1" with the methods in situ hybridization and immunohistochemistry. Discovered differences in injury patterns between nephrotoxic compounds which was not shown before and the whole method was called the "fingerprint approach".
- Developed the approach further as an automated analysis method for kidney anatomy and injury determination, kidney segmentation, and automated injury determination per kidney region. Implemented this new method in the department for gathering statistical results for easy comparison. Helped to save enormous amounts of time, cost, and increased the time/result ratio highly. This method was also applicable to many other topics and was used further on in the laboratories.

Contact: Dr. Pierre Moulin – E-Mail: pierre.moulin@novartis.com

Bachelor's thesis student Cancer Biology
University Hospital of Wuerzburg

01/2012 – 06/2012 *Wuerzburg, Germany*

Laboratories for Radiation therapy

Achievements/Tasks

- Irradiated various breast cancer cell lines with Novartis radiosensitizing compound "Dactolisib (NVP-BEZ235)" under normoxia and hypoxia and successfully proved the efficacy which was shown the first time and published in the journal "Breast Cancer: Basic and Clinical Research" (Impact factor 2019: 2.87, cited already more than 40 times).

Contact: Prof. Dr. Tcholpon Djuzenova – E-Mail: djuzenova_t@ukw.de

EDUCATION

Ph.D. Pharmaceutical Sciences
University of Basel

06/2016 – 05/2020 *Basel, Switzerland*

Courses

- Thesis: "Superparamagnetic iron oxide nanoparticles for imaging and drug delivery".
- Courses: LTK Module 1 and 20 (FELASA accredited course F027/08).

M.Sc. Toxicology
University of Basel

09/2013 – 07/2015 *Basel, Switzerland*

Courses

- Thesis: "Spatial and temporal patterns of KIM-1 induction in toxic injury in rats".
- Association: "Gremium für Unterrichtsfragen".
- Courses: All courses which are approved from the EUROTOX to become an EUROPEAN REGISTERED TOXICOLOGIST (ERT).
- Course: "Scientific Writing".

B.Sc. Biology
Julius-Maximilians-University of Wuerzburg

10/2009 – 08/2013 *Wuerzburg, Germany*

Courses

- Thesis: "Modulation der Strahlenempfindlichkeit humaner Mammakarzinom-Zelllinien mittels des neuartigen dualen PI3K- und mTOR-Inhibitors NVP-BEZ235. Enfluss von Hypoxie.".
- Course: Working under Good Manufacturing Practice (GMP).
- Courses: Interdisciplinary skills for scientist.
- Course: Ethics in natural sciences.

INTERESTS

Swimming | Biking | Basketball | Reading | Travelling | Volunteering

PUBLICATIONS

Full paper

Shedding Light on Metal-Based Nanoparticles in Zebrafish by Computed Tomography with Micrometer Resolution

Author(s)

Emre Cörek, Griffin Rodgers, Stefan Siegrist, Sandro Sieber, Pascal Fluder, Georg Schulz, Harald Unterweger, Christoph Alexiou, Bert Müller, Maxim Puchkov, Jörg Huwyler

June 2020

Small, Online early view

Review

Preclinical Hazard Evaluation Strategy for Nanomedicines

Author(s)

Emre Cörek, Stefan Siegrist, Pascal Detampel, Jenny Sandström, Peter Wick, Jörg Huwyler

February 2019

Nanotoxicology, Volume 13, 2019 - Issue 1, Pages 73-99

shared first author

Full paper

Novel PI3K and mTOR Inhibitor NVP-BEZ235 Radiosensitizes Breast Cancer Cell Lines Under Normoxic and Hypoxic Conditions

Author(s)

Sebastian Kuger, Emre Cörek, Bülent Polat, Ulrike Kämmerer, Michael Flentje, Cholpon S Djuzenova

March 2014

Breast Cancer: Basic and Clinical Research, Volume 8, Pages 39-49

Communication

Removing ring artefacts from synchrotron radiation-based hard x-ray tomography data

Author(s)

Christos Bikis, Georg Schulz, Pierre Paleo, Alessandro Mirone, Alexander Rack, Bert Müller, Peter Thalmann Stefan Siegrist, Emre Cörek, Jörg Huwyler

August 2017

SPIE Conference on Opticsand Photonics

REFERENCES

Prof. Dr. Jörg Huwyler, Head of Pharmaceutical Technology, University of Basel, Switzerland

"Supervisor of my Ph.D. thesis"

Contact: E-Mail: joerg.huwyler@unibas.ch – Phone: +41 61 207 15 13

Prof. Dr. Alex Odermatt, Head of Molecular- and Systems Toxicology, University of Basel, Switzerland

"Co-Supervisor of my Ph.D. thesis"

Contact: E-Mail: alex.odermatt@unibas.ch – Phone: +41 61 207 15 30

Prof. Dr. Martin F. Wilks, Director of Swiss Centre for Applied Human Toxicology (SCAHT), Basel, Switzerland

"Worked closely together during my time as a Ph.D. candidate"

Contact: E-Mail: martin.wilks@unibas.ch – Phone: +41 61 207 19 55