

Jiajun Wang

Male 1990.08

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Bremen, Germany

Key word: Electrophysiology, Automatic patching, Antibiotic, Bionanotechnology, Electronic Engineering

Summary: Being very versatile in getting inspiring ideas. Being active in group collaboration with independent research ability. Cultivated under both academic and industry to be **Knowledge Industrialization** focused.

Education Background

09/2014-05/2017	Ph.D Biochemical Engineering	Jacobs University in Bremen, DE
	Founded by Marie Curie Initial Training Networks (PITN-GA-2013-607694-Translocation)	
Supervisor:	Dr. Niels Fertig/Prof. Dr. Mathias Winterhalter	
Thesis title:	A Facilitated Method to Characterize Rapidly Substrate Binding to Membrane Channels	
09/2012-12/2013	M.Sc Bionanotechnology	University of Southampton, UK
Supervisor:	Prof. Dr. Maurits de Planque	
Thesis title:	Resistive Pulse Sensing with a Biological Nanopore	
Main Topic:	characterisation of a-HL physicochemical properties with different weight of polymers (PEGs)	
09/2008-07/2012	B.Eng Electronic and Control Engineering	Liverpool John Moores University, UK
Core Modules:	<u>Manufacturing and environment; Control system; Project Management; Quality system; FPGA; Industrial automation</u>	
09/2008-07/2012	B.Eng Electronic and Electrical Engineering	University of Shanghai for Science and Technology
Core Modules:	<u>Analogue/digital electronic; DSP; ARM; 8086</u>	

Career Development

- 06/2017-12/2017 **Postdoctoral Fellow** Jacobs University gGmbH, DE
- Life Science & Chemistry
- AG Winterhalter Group
 - Granted by Innovative Medicines Initiative (IMI)
 - Miniaturization of electrophysiology setups
- 06/2014-05/2017 **PhD student/Application Scientist** Nanon Technologies GmbH, DE
- Electrophysiology Department
- Fully command on the automatic patch clamp system
 - Comprehensive knowledge on free standing artificial lipid bilayer
 - Chinese potential lead demo and customer support
 - System R&D
- 10/2013-06/2014 **Teaching Assistant** Sino-British College, USST, CHN
- Engineering Department
- Supervising on Yr4 final year project students.
 - Tutor of Yr2 courses (circuit principle, digital system design, etc.)
 - Report writing and study performance analysing (marker's report etc.)
- 11/2011-02/2012 **Full-time Intern.** DTZ Debenham Tie Leung Shanghai Ltd. CHN
- Human Resource Department
- Working experience in a company with 500+ staff.
 - Import database (e.g. annual leave, recruitment, enrolment etc.)
 - Balanced the time between internship and schooling.

Publication:

Bodrenko, I., Wang, J., Salis, S., Winterhalter, M., & Ceccarelli, M. (2017). Sensing single molecule penetration into nanopores: pushing the time resolution to the diffusion limit. *ACS sensors*.

Weichbrodt, C., Wang, J., Kreir, M., Beckler, M., Obergrussberger, A., Rinke, I., ... & Fertig, N. (2017). Precise Control of Temperature in Artificial Planar Lipid Bilayers to Modulate Different TRP Channels. *Biophysical Journal*, 112(3), 250a.

Wang, J., Masi, M., Bajaj, H., Kreir, M., Winterhalter, M., & Fertig, N. (2016). Molecular Bases Basis of Antibiotic Translocation Across Outer Membrane Porins of *Enterobacter Aerogenes*. *Biophysical Journal*, 110(3), 544a.

Kováčsová, G., Gustavsson, E., Wang, J., Kreir, M., Peuker, S., & Westenhoff, S. (2015). Cell-free expression of a functional pore-only sodium channel. *Protein expression and purification*, 111, 42-47.

Weichbrodt, C., Bajaj, H., Baaken, G., Wang, J., Guinot, S., Kreir, M., ... & Fertig, N. (2015). Antibiotic translocation through porins studied in planar lipid bilayers using parallel platforms. *Analyst*, 140(14), 4874-4881.

Project Experience

06/2013-09/2013

Project Student CHB lab¹, University of Southampton, UK

Supervisor: Dr. Maurits de Planque

Topic: Resistive Pulse Sensing with a Biological Nanopore

- Collaborated with post-doc from other country.
- Being part of research group of long life-time lipid bilayer formation (patent).
- Deep understanding on structure of lipid molecules, ion channel (staphylococcus aureus α -hemolysin) and mechanism of protein-lipid interaction.
- Working out critical values of the sensing devices and single molecule sensing mass spectrometry.

10/2009-05/2012

Project Leader National Undergraduate Innovative Program, CHN

Guided by Prof. Jingjie Chen

Sponsor: University of Shanghai for Science and Technology

Topic: Hybrid leg-wheel mobile robot (No. 091025217)

- Fully responsible to the whole project in terms of techniques, finance and group management.
- To fulfil the step-climbing motion with deep understanding on the control of actuators (stepper motor and servo-motor etc.).
- DSP TMS320X281X, ARM
- Skilled circuit design with Multisim[®]

Society Experience

10/2012-10/2013

Committee Member ECS Entrepreneur Society, University of Southampton

- Taking responsible to advertising the newly-established society and to seek the sponsors for the society
- Successfully involved holding two talks (critical factors to become an entrepreneur) and one competition.

01/2012-07/2012

Founder & Leader Science and Technology Society, USST

- Fully responsible to the daily routing of the society (e.g. recruitment, seeking sponsor, weekly meeting etc.).
- Able to organize various activities and assign projects to team members effectively.
- Being the 1st official science and technology society in the college.

¹ Center of Hybrid Biodevices, Nano Research Group, University of Southampton.
<http://www.nano.ecs.soton.ac.uk/node/44>

Awards and Honours

2016	Invited SBC alumni speaker
2014	Marie Curie PhD scholarship
2013	University of Southampton, Bionanotechnology Course Representative
2012	University of Shanghai for Science and Technology, Excellent Society Leader
2011	University of Shanghai for Science and Technology, Social Contribution Scholarship
2009-2011	University of Shanghai for Science and Technology, Academic Scholarship

Professional Skills

Bio- & Nano- Technology

- Miniaturization design of Point-of-care devices (Electrophysiology setup)
- Automatic/Manual patch clamp
- Protein ion channel formation and lipid membrane
- 2nd, 3rd generation glucose biosensor
- ELISA(Enzyme-linked immunosorbent assay)
- Clean room working experience
- Micro-contact printing (μ CP)
- Raman spectrometry enhancement (Klarite chip)
- Good laboratory practise (Risk assessment, COSHH (control of substances hazardous for health) of various chemicals)

Language

- Mandarin (native speaker)
- English (Professional working level)
- German (Limited knowledge)

Other Skills

- Proposal and grant application
- University teaching
- Professional user on Microsoft® Office software (Word, Power Point, Excel, Project, Outlook, OneNote)
- Circuitry design (Multisim, PSpice, LTSpice)
- Solidworks
- Programming language: C++
- MATLAB GUI