

# SONG CHEN

Spin-Ion Technologies & Université Paris Saclay  
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## EDUCATION

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- **UNIVERSITÉ PARIS SACLAY, SCHOOL ELECTRICAL, OPTICAL, BIO: PHYSICS AND ENGINEERING** Palaiseau, France  
*Ph.D. Candidate*  
*Thesis Advisor:* Dr. Dafiné Ravelosona (Director of CNRS, CTO of Spin-Ion Technologies), Dr. Noël Montblanco (Spin-Ion Technologies)  
*Research Interest:* E-field controlled of magnetism, Ion-material Simulation, Neuromorphic Computing, Machine Learning  
*Jun. 2021 – Present*
- **RHEINISH-WESTFÄLISCHE TECHNISCHE HOCHSCHULE AACHEN (RWTH-AACHEN)** Aachen, Germany  
*Master of Science – Materials Science*  
*Thesis Advisor:* Prof. Dr -Ing Vescan Andrei, Prof. Dr. Andreas Offenhäuser, Dr. Dirk Mayer  
*Thesis Title:* Flexible Micro-electrode Arrays for Biosensor Application  
*Jun. 2017 – Aug. 2020*
- **NANJING UNIVERSITY, SCHOOL OF FOREIGN STUDIES** Nanjing, China  
*Certificate of Training - German*  
*Feb. 2012 – Jan. 2013*
- **NANJING TECH UNIVERSITY, COLLEGE OF MATERIALS SCIENCE AND ENGINEERING** Nanjing, China  
*Bachelor of Engineering – Materials Science and Engineering*  
*Jun. 2009 – Jul. 2013*

## EXPERIENCE

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- **SPIN-ION TECHNOLOGIES** Palaiseau, France  
*Ph.D. Candidate*  
◦ Boosting Magneto-ionic Effect using Ion Irradiation and Implantation  
*Jun. 2021 – Jun. 2024*
- **CNR-IMM, INSTITUTE FOR MICROELECTRONICS AND MICROSYSTEMS** Milan, Italy  
*Visiting Student*  
◦ Structure characterization  
*Jun. 2023*
- **AALTO UNIVERSITY, DEPARTMENT OF APPLIED PHYSICS** Aalto, Finland  
*Visiting Student*  
◦ E-field Control of Spin-wave Propagation  
*Jun. 2022, Dec. 2022*
- **FORSCHUNGSZENTRUM JÜLICH, BIOELECTRONIC IBI-3 & HELMHOLTZ NANO ELECTRONIC FACILITY** Jülich, Germany  
*Research Assistant*  
◦ Microfabrication of flexible micro-electrodes for biosensor applications  
*Jan. 2019 – Jun. 2020*
- **PENROSE (TEAM FOR E-COMMERCE SERVICE AGENCY)** Aachen, Germany  
*Software Engineer, Team Leader*  
◦ Web Design and ERP Software Development  
*Jun. 2018 – Jun. 2021*

## PROJECTS

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- **MARIE SKŁODOWSKA-CURIE INNOVATIVE TRAINING NETWORKS 2020 – BEMAGIC**  
◦ To study the effect of ion irradiation and ion implantation (He<sup>+</sup>, Ga<sup>+</sup>, O<sub>2</sub>-...) on the resulting structural and magnetic properties  
◦ Magnetic control of the effective magnetic anisotropy.
- **I-VMS (I-V MEASUREMENT SYSTEM)**  
◦ Developed an automated software to apply the E-field for the voltage-controlled magnetic anisotropy effect (VCMA effect)
- **AHEMS (ANOMALOUS HALL EFFECT MEASUREMENT SYSTEM)**  
◦ Developed an automated software to perform the Anomalous Hall Effect Measurement System
- **AUTOVA (AUTOMATED VCMA & ANOMALOUS HALL EFFECT MEASUREMENT SYSTEM)**  
◦ Developed software capable of automating the application of E-field and conducting Anomalous Hall Effect Measurements in a sequential manner.

## PUBLICATIONS & TALKS

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- **CO-AUTHOR PAPER: MULTI-TARGET ELECTROCHEMICAL MALARIA APTASENSOR ON FLEXIBLE MULTIELECTRODE ARRAYS FOR DETECTION IN MALARIA PARASITE BLOOD SAMPLES:** Gabriela Figueroa-Miranda, **Song Chen**, Marc Neis, Lei Zhou, Yuting Zhang, Young Lo, Julian Alexander Tanner, Andrea Kreidenweiss, Andreas Offenhäuser, Dirk Mayer, Sensors and Actuators B Chemical
- **CO-AUTHOR PAPER: MAGNETO-IONICS IN ANNEALED W/COFEB/HFO<sub>2</sub> THIN FILMS:** Rohit Pachat, Djoudi Ourdani, Maria-andromachi Syskaki, Alessio Lamperti, Subhajit Roy, **Song Chen**, Adriano Di Pietro, Ludovic Largeau, Roméo Juge, Maryam Massouras, Cristina Balan, Johannes Wilhelmus van der Jagt, Guillaume Agnus, Yves Roussigné, Mihai Gabor, Salim Mourad Chérif, Gianfranco Durin, Shimpei Ono, Jürgen Langer, Damien Querlioz, Dafiné Ravelosona, Mohamed Belmeuguenai, Liza Herrera Diez, Advanced Materials

Interface

- **CO-AUTHOR PAPER: FLEXIBLE MULTIELECTRODE ARRAYS BASED ELECTROCHEMICAL APTASENSOR FOR GLYCATED HUMAN SERUM ALBUMIN DETECTION:** Lei Zhou, Gabriela Figueroa-Miranda, **Song Chen**, Marc Neis, Ziheng Hu, Ruifeng Zhu, Yaqi Li, Michael Prömpers, Andreas Offenhäusser, Dirk Mayer, Sensors and Actuators B Chemical
- **POSTER PRESENTATION: REVERSIBLE AND NON-VOLATILE MAGNETO-IONIC EFFECT IN W-COFEB-MGO-HFO<sub>2</sub> ULTRA-THIN FILMS WITH PERPENDICULAR MAGNETIC ANISOTROPY:** **Song Chen**, Elmer Montebancho, Rohit Pachat, Liza Herrera Diez, Dafiné Ravelosona, Advanced Materials Interface

## SKILLS SUMMARY

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- **PROGRAMMING:** Python, Rust, JavaScript, HTML, CSS
- **LANGUAGES:** Mandarin, English, German

