PROF. DR. DI WEI

MEASA/FEurASc/FNAI/FRSC/FIMMM

Nationality: British
Email: dw344@cam.ac.uk
Webpage: http://www.iontronics.group/en/
Life Senior Member of Wolfson College, Cambridge University
Research Fellow at Center for Photonic Devices and Sensors, Cambridge University
Head of Iontronics Laboratory, Beijing Institute of Nanoenergy and Nanosystems

In the area of **nanoengineering for energy and sensors**, WEI has published **120+** papers in *Nature Energy, Nature Commun., Science Adv., PNAS, Joule, Matter, Adv. Mater., Angew. Chem. Int. Ed., J. Am. Chem. Soc., Energ. Environ. Sci., Chem. Soc. Rev.*, *Sci. Bulletin,* etc. as first/corresponding author; **200+** patent applications (including PCT), among which **100+** patents have been granted; and **6** books (Wiley, Springer Nature, Cambridge University Press etc.). Research work has been featured by *Cell Press, MIT Technology Review, DeepTech,* and *phys.org* (APS), etc.

EDUCATION

Ph.D. with Hons (Chemical Engineering), Åbo Akademi University, Finland 2007
M.Sc. with Hons (Chemical Engineering), Åbo Akademi University, Finland 2003
B.Sc. with Hons (Applied Chemistry), University of Sci. and Tech. of China, China 2002

EXCHANGE PROGRAMMES

Leibniz Institut für Festkürper und Werkstoffforschung (IFW, Leibniz institute for solid state and materials research), Dresden, Germany *(DAAD Grant)* 2006
Aarhus University c/o Copenhagen University, training on microsensor analysis in environmental science in Denmark (*Nordforsk* Grant) 2006
FMF (Materials research centre) of Albert-Ludwigs Universität Freiburg, Germany *(DAAD Grant)* 2004

HONORS AND AWARDS

2025 Fellow of the European Academy of Sciences (***FEurASc***), EU.
2025 Member of the European Academy of Sciences and Arts (***MEASA***), EU.
2025 Nanoenergy Advances Award
2024 Fellow of National Academy of Inventors **(*FNAI*)**, USA.
2024 Fellow of Institute of Materials, Minerals & Mining (***FIMMM***), UK.
2024 Biennial **Brian Conway Prize** in Physical Electrochemistry from the International Society of Electrochemistry (***ISE***), awarded to only one researcher globally for excellence in the field.
2019 Fellow of Royal Society of Chemistry (***FRSC***), UK.
2015 One of the four **advisory board members** in FennoFlake, Finnish Academy of Sciences.
2010 Royal Society of Chemistry (***RSC***)-CSCST Young Researcher Award.
2009 Life Senior Member, Wolfson College, Cambridge University, UK
2009 1st Prize in Nokia global R&D innovation, most prestigious ***Nokia's Global Innovation and Excellence Award (NIEA)*** presented by CEO of Nokia.
2008 ***Electrochimica Acta Travel Award for Young Electrochemists*** from ***ISE***. (1 of the 2 recipients selected by ISE globally in 2008).

CAREER POSITIONS

Cambridge University, UK - 2024 TO NOW
Research Fellow, Center for Photonic Devices and Sensors (CPDS)
Beijing Institute of Nanoenergy and Nanosystems, China – 2021 TO NOW
Principal Investigator/Head of Iontronics Laboratory

- Established Iontronics Laboratory from scratch, focused on printable iontronic sensor and power sources, and published results in *Nat. Energy, Nat.Commun. Sci.Adv.* etc.
- Set up cooperations with Stanford University, EPFL, Jishuitan Hospital, BOE, FOSUN Group and Baotailong Co., Ltd., etc.
- Serve as a session chair or keynote speaker at over 100 international conferences, including the EU Graphene Flagship Summit, ISE Annual Conferences, etc.

Innoviva Ltd., 2019 TO NOW
Founder and Executive Director

- Established Innoviva based on the combination of hydrophobic nanomaterials and novel design of Veturi jet to enable portable equipment to generate high concentration of ozonated water on demands.
- Innoviva Ltd. attained recognition as a National High-Tech Company and received investments from seed funds with evaluation of *50 million CNY*.

Beijing Graphene Institute (BGI), China – 2017 TO 2021

Deputy Director

- Co-found BGI Co. Ltd. (registered capital of *320 million CNY)*. Fostered UK-China collaboration, appointing Nobel Laureate Prof. Novoselov as BGI's Honorary Dean and coordinating visits by University of Manchester President Prof. Nancy Rothwell.
- Founded and led the G-device Division, advancing graphene-based R&D for applications including conformable pressure sensors, transparent RFID antennas, and printable graphene heaters, supplied for the 2022 Winter Olympics.

Åbo Akademi University, Finland – 2014 TO NOW

Docent (Adjunct Professor)

Wolfson College, Cambridge University, UK - 2009 TO NOW

Life Senior Member

- Mentored Wolfson's students and supervised two MPhil students annually (2009-2016) in Nanotechnology and Enterprise, guiding their development in physics, physical chemistry, and nanotechnology commercialization.

Nokia Technologies Cambridge/Bell Labs, UK - 2010 TO 2016

Principal Researcher

- Principal Investigator to lead two key collaborative projects between Nokia and Cambridge University, focusing on nanomaterial applications in sensing and energy.
- As Nokia's representative, played a key role in launching the **EU Graphene Flagship** (2011-2013) and led the Flexible Energy work package since 2013, driving graphene battery benchmarking and standardization in the €1 billion program.
- Developed patents enabling prototypes and deliverables, including sensor platforms, healthcare biosensors, battery technologies, and electronic skin (e-skin) solutions.
- Facilitated collaboration between Nokia and **Google Life Verily** using my patents on printable power sources and sensors.
- Reviewed grants for **EPSRC (UK)**, **EU Horizon 2020**, **Israel Science Foundation**, and **COST (Switzerland)**; served on the International Advisory Board (one of four board members) for Academy of Finland's **FennoFlake** project.
- Licensed my patents to **Lyten** Inc., a 2022 NAATBatt top 10 company, which secured over *$410 million* in funding by 2024.
- Collaborated with 50+ industry and academic partners, securing and managing over *£1.5 million* in research grants as PI, while fostering strong ties with top universities and research institutes.

Cambridge University, UK - 2010 TO 2010

Certificate on Management of Technology and Innovation (MoTI)

- Trained in macro/micro-economics, finance, accounting and high-tech marketing at ***Judge Business School***, *Cambridge University.*

Nokia Technologies Cambridge, UK - 2008 TO 2010

Senior Researcher

- Authored two chapters on sensors and energy devices in book of "*Nanotechnologies for Future Mobile Devices*" published by Cambridge University Press, which was highlightened and reviewed in *Science*.
- Receipt of the 1st Prize of Nokia's Global Innovation and Excellence Award, the highest honor bestowed by the Nokia CEO in Helsinki.

Cambridge University, UK - 2007 TO 2008

Research Associate (Postdoc Fellow)

- Principal investigator in applying nano-structured materials in dye-sensitized solar cells and developing organic electronics (transistors etc.).

Memberships:

Fellow of the European Academy of Sciences (**FEurASc**), Member of the European Academy of Sciences and Arts (**EASA**), Fellow of National Academy of Inventors (**FNAI**), Fellow of Royal Society of Chemistry (**FRSC**) and Fellow of Institute of Materials, Minerals and Mining (**FIMMM**), Member of American Association for the Advancement of Science(**AAAS**) and International Society of Electrochemistry (**ISE**)

Editorial Board Members of *Advanced Device and Instruments (AAAS/Science), Acta Physico-Chimica Sinica, Science Bulletin,* and *Nanomaterials, etc.*

SELECTED PUBLICATIONS (RECENT 5 YEARS)

1. "*Multi-receptor skin with highly sensitive tele-perception somatosensory*", Yan Du, Penghui Shen, Houfang Liu, Yuyang Zhang, Luyao Jia, Xiong Pu, Feiyao Yang, Tianling Ren*, Daping Chu*, Zhonglin Wang*, Di Wei*, ***Sci. Adv.*** 10, eadp8681 (2024).

2. "*Vertical iontronic energy storage based on osmotic effects and electrode redox reactions*", Feiyao Yang, Puguang Peng, Zhao-Yi Yan, Hongzhao Fan, Xiang Li, Shaoxin Li, Houfang Liu, Tian-Ling Ren, Yanguang Zhou, Zhong Lin Wang*, Di Wei*, ***Nat. Energy*** 9, 263–271(2024)。

3. "*Triboiontronics with temporal control of electrical double layer formation*", Xiang Li, Roujuan Li, Shaoxin Li, Zhong Lin Wang*, Di Wei*, ***Nat. Commun.*** 15, 6182 (2024).

4. "*Flexible iontronics based on 2D nanofluidic material*", Di Wei*, Feiyao Yang, Zhuoheng Jiang, Zhonglin Wang*, ***Nat. Commun.*** 13, 4965 (2022).

5. "*A moisture-enabled fully printable power source inspired by electric eels*", Lu Yang, Feiyao Yang, Xu Liu, Ke Li, Yaning Zhou, Yangjian Wang, Tianhao Yu, Mengjuan Zhong, Xiaobing Xu, Lijuan Zhang, Wei Shen, Di Wei*, ***PNAS*** 118, e2023164118 (2021).

SELECTED BOOK AND BOOK CHAPTERS

1. Di Wei, author for two Chapters of 'Energy and Power' and 'Human interface and sensing the world' in Tapani Ryhänen et al. ed. '*Nanotechnologies for Future Mobile Devices*' Cambridge University Press, Cambridge, UK, 2010.
   ISBN: 978-0-521-11216-1 Book was reviewed in *Science*: *http://www.sciencemag.org/content/329/5998/1470.1.summary*
2. Di Wei, author for the first Chapter in C.J. Dixon*et al.* ed. '*Nanotechnology: Nanofabrication, Patterning, and Self Assembly.*' Nova Science Publishers, New York, USA, 2010. ISBN: 978-1-60692-162-3.
3. Di Wei, editor for book '*Electrochemical Nanofabrication: Principles and Applications*' CRC Press & Pan Stanford Publishing Pte. Ltd., Singapore.
   1st edition: 2011, ISBN: 978-981-4303-73-6 (Hardcover). 2nd edition: 2016, ISBN: 978-981-4613-86-6 (Hardcover), 978-981-4613-87-3 (eBook).
4. Di Wei, author for one Chapter on 'Graphene' in Wen Lu et al. ed. '*Carbon Nanomaterials for Advanced Energy Systems*,' Wiley, 2015, ISBN: 9781118580783
5. Di Wei, editor for book '*Contact Electrification and Triboelectricity*' CRC Press & Jenny Stanford Publishing Pte. Ltd., 2025 In Press.
6. Di Wei, author, 'Contact Electrification of Matter', Springer Nature Press, 2025. ISBN: 978-3-031-88504-4