

# NANO KOREA 2020

## July 1~3, KINTEX, Korea

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#### EDUCATION

University of Wollongong, Australia	Ph.D	Materials Engineering	2010
Nankai University, China	MS	Chemistry	2007
Nankai University, China	BS	Chemistry	2003

#### PROFESSIONAL ACTIVITIES

- Professor, ISEM, UOW, 12.2019 – Now
- Associate Professor, ISEM, UOW, 1. 2018 – 12.2019
- Senior Research Fellow, ISEM, UOW, 1. 2015 – 12.2017
- Research Fellow, ISEM, UOW, 2. 2014 – 12. 2014
- Australian Postdoctoral Fellow, ISEM, UOW, 2. 2011 – 2. 2014
- Associate Research Fellow, ISEM, UOW, 6. 2010 – 2. 2011

#### AWARD AND HONORS

- 2014 Scopus Young Researcher Awards - Winner for Engineering & Technology
- 2018 Clarivate Analytics (ESI) Highly cited researcher
- 2019 Clarivate Analytics (ESI) Highly cited researcher

#### MAIN SCIENTIFIC PUBLICATION

- W.L. Lai, Y.X. Wang, Y. Wang, M.H. Wu, J.Z. Wang, H.K. Liu, S.L. Chou, J. Chen, S. X. Dou Morphology tuning of inorganic nanomaterials grown by precipitation through control of electrolytic dissociation and supersaturation", *Nature Chemistry*, 2019, Accepted online DOI:NCHEM-18051094C
- Z. Yan, J. Xiao, W. Lai, L. Wang, F. Gebert, Y. Wang, Q. Gu, H. Liu, **S. L. Chou**, H. Liu, and S. Dou, Nickel sulfide nanocrystals on nitrogen-doped porous carbon nanotubes with high-efficiency electrocatalysis for room-temperature sodium-sulfur batteries, *Nature Communications*, 2019, *Accepted on 4<sup>th</sup> July 2019*. (IF: 11.47)
- Y.X. Wang, J.P. Yang, **S.L. Chou**, H. K. Liu, W.X. Zhang, D.Y. Zhao, S. X. Dou, "Uniform yolk-shell FeS@C nanospheres for superior sodium/iron sulphide batteries with ultrahigh energy density" *Nature Communications*, 2015 6, 8689. (IF: 11.47)
- B.W. Zhang, T. Sheng, Y.D. Liu, Y.X. Wang, L. Zhang, W.H. Lai, L. Wang, J. Yang, Q.F. Gu, **S. L. Chou**, H.K. Liu, and S.X. Dou, Atomic cobalt as an efficient electrocatalyst in sulfur cathodes for superior room-temperature sodium-sulfur batteries. *Nature Communications* 9, (2018) 4082. (IF: 11.47)
- M. Chen, W. Hua, J. Xiao, D. Cortie, W. Chen, E. Wang, Z. Hu, Q. Gu, X. Wang, S. Indris, **S.L. Chou**,

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- S. Dou, NASICON-type air-stable and all-temperature cathode for sodium-ion batteries with low cost and high-power density, 2019, *Nature Communications*, Volume 10, Issue 1, Article number 1480. (IF: 11.47)
- Y. X. Wang, J. Yang, W. Lai, **S.L. Chou**<sup>✉</sup>, Q. F. Gu, H. K. Liu, D. Zhao, S. X. Dou, Achieving High-Performance Room-Temperature Sodium-Sulfur Batteries With S@Interconnected Mesoporous Carbon Hollow Nanospheres. *J. Am. Chem. Soc.* **2016**, *138* (51), 16576-16579. (IF: 13.038)
  - S.J. Peng, Feng Gong, L.L. Li<sup>✉</sup>, D.S. Yu, D. Ji, T.R. Zhang, Z. Hu, Z.Q. Zhang, **S. L. Chou**<sup>✉</sup>, Y.H. Du, S. Ramakrishna, Necklace-Like Multi-Shelled Hollow Spinel Oxides with Oxygen Vacancies for Efficient Water Electrolysis, *J. Am. Chem. Soc.*, 2018, 140(42), pp. 13644-13653
  - Q. Zhang, Y.Y. Lu, L.C. Miao, Q. Zhao, K.X. Xia, J. Liang,<sup>✉</sup> **S. L. Chou**<sup>✉</sup>, J. Chen, An Alternative to Lithium Metal Anodes: Non-dendritic and Highly Reversible Sodium Metal Anodes for Li-Na Hybrid Batteries, *Angew. Chem. Int. Ed.* 2018, *57*(45), 14796-14800
  - Y. Wang, W. Lai, Y. Wang, Y. Cao, X. Ai, **S. Chou**<sup>✉</sup> H. Yang, and Y. Cao.<sup>✉</sup> Sulfur-based electrodes via multi-electron reactions for room-temperature sodium-ion storage. *Angew. Chem. Int. Ed.* 2019, *58*, 2-16
  - Z. Yan, L. Tang, Y. Huang, W. Hua, Y. Wang, R. Liu, Q.F. Gu, S. Indris, **S. L. Chou**<sup>✉</sup>, Y. H. Huang, M.H. Wu, S.X. Dou, A Hydrostable Cathode Material Based on the Layered P2@P3 Composite that Shows Redox Behavior for Copper in High-Rate and Long-Cycling Sodium-Ion Batteries. *Angew. Chem. Int. Ed.* **58**, 1412-1416 (2019).
  - W.H. Lai, L. Zhang, W. Hua, S. Indris, Z. Yan, Z. Hu, B. Zhang, Y. Liu, L. Wang, M. Liu, Y. Wang, J. Wang, Z. Hu, H. Liu, **S. L. Chou**<sup>✉</sup>, S. Dou, General  $\pi$ -electron-assisted strategy for constructing transition metal single-atom electrocatalysts with bi-functional active sites toward highly efficient water splitting" *Angew. Chem. Int. Ed.* online 07 June 2019 <https://doi.org/10.1002/anie.201904614>.
  - Q.B. Xia, Z. Lin, W. Lai, C. Ma, Z. Yan, Q. Gu, W. Wei, J. Wang, H. K. Liu, S. X. Dou, and **S.L. Chou**<sup>✉</sup>, 2D Titania-Carbon Superlattices Vertically Encapsulated in 3D Hollow Carbon Nanospheres Embedded with 0D TiO<sub>2</sub> Quantum Dots for Exceptional Sodium-Ion Storage, *Angew. Chem. Int. Ed.* Accepted online 05 June 2019.
  - M.Z. Chen, L. Chen, Z. Hu, Q.N. Liu, B.Z. Zhang, Y.X. Hu, Q.F. Gu, J.L. Wang, L.Z. Wang, X.D. Guo, <sup>✉</sup> **S.L. Chou**<sup>✉</sup>, S.X. Dou, "Carbon Coated Na<sub>3.32</sub>Fe<sub>2.34</sub>(P<sub>2</sub>O<sub>7</sub>)<sub>2</sub> Cathode Material for High-rate and Long-life Sodium-ion Batteries" *Adv. Mater.* 2017, *29*(21), 1605535. (IF:18.960)
  - Z.X. Tai, C. M. Subram, **S.L. Chou**<sup>✉</sup>, L.N. Chen, H.K. Liu, S. X. Dou, "Few-atom layers lithium cathode materials to achieve ultra-high rate capability" *Adv. Mater.* 2017, *29*(34), 1700605. (IF:18.960)
  - Z. Hu, Q.N. Liu, **S.L. Chou**<sup>✉</sup>, S. X. Dou, "Advances and Challenges in Metal Sulfides/Selenides for next generation rechargeable sodium-ion batteries", *Adv. Mater.* 2017, *29*(48), 1700606. (Cited times:2) (IF:18.960)
  - • W.J. Li<sup>§</sup>, **S.L. Chou**<sup>✉</sup>, J. Z. Wang, J. H. Kim, H.K. Liu, S.X. Dou, "Sn<sub>4+x</sub>P<sub>3</sub> @ amorphous Sn-P composite as anode for sodium-ion batteries with low cost, high capacity, long life, and superior rate capability" *Adv. Mater.* **2014**, *26*, 4037-4042. (IF: 17.493) (Cited times:50)

### RESEARCH INTERESTS

- Energy storage systems and high energy batteries
- Novel nanostructured and composite materials.