

Highlights of 2016 publications of Institute for Superconducting & Electronic Materials (ISEM):

- ISEM published 273 papers in 2016, increased by 76 % compared to 155 papers in 2010.
- Average journal impact factor of ISEM 2016 publications is 6.19 and increased by 137% compared to 2.61 for 2010 publications.
- 47 papers have impact factor greater than 10, 18% of total publications.
- 7 papers published in Nature series and Science series in 2016.
- ISEM contributed 27.4 % of self-exclusive citations to UOW over the past three years.
- The number of self-exclusive citations per academic staff of ISEM is more than 10 times that of average UOW academic staff members. Most of universities ranking schemes use the number of publications and citations per faculty members rather than total numbers.
- 2 of 3 highly cited researchers of UOW are from ISEM (Hua Kun Liu and Yusuke Yamauchi) in 2016.
- ISEM contributed 46% of weighted fraction article counts (WFC=8.66) to UOW (18.82) in 2016 on Nature Index ranking.
- 89% publications are in collaboration more than 50 institutions around the world, including many eminent scientists, resulting in a strong impact on our publications and ISEM/UOW academic reputation. This multi-dimensional and multi-level intensive network is one of the most valuable assets ISEM has acquired over the past 23 years.
- These publications have generated enormous publicities through newspaper, academic and technological newsletters, and all the media channels which have raised ISEM/UOW international profile.
- ISEM 2016 publications reflect broad research themes including energy storage materials, superconductors, spintronic/topological materials, electro/photo-catalysts, optics/photonics, biomaterials, piezo-electrical, ferroelectric/multiferroic, magnetic and thermoelectric materials and nano-materials/porous materials for applications. This is the result of our longstanding strategy based on Lao Zi's philosophy that is "to let nature take its own course". ISEM has naturally evolved from a single superconductor theme to more than 10 themes in the past 23 years. More importantly, a number of theme leaders have grown out of this natural selection and evolution process, and established their research themes and their leadership on their own right.

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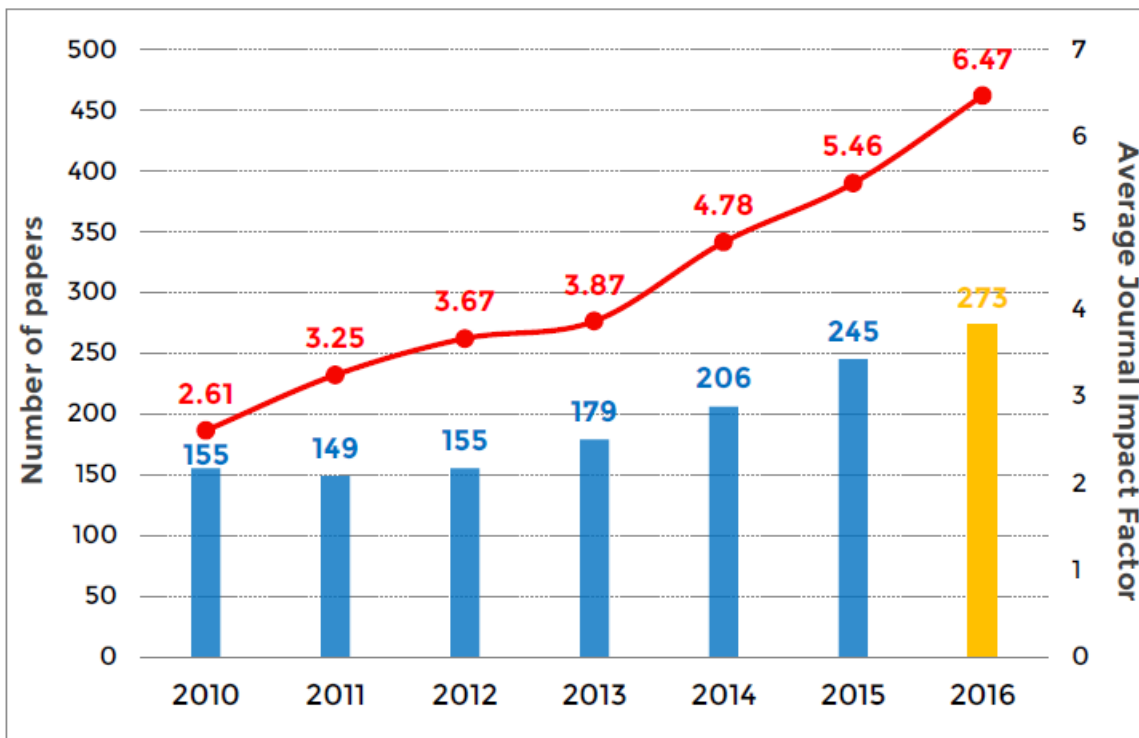
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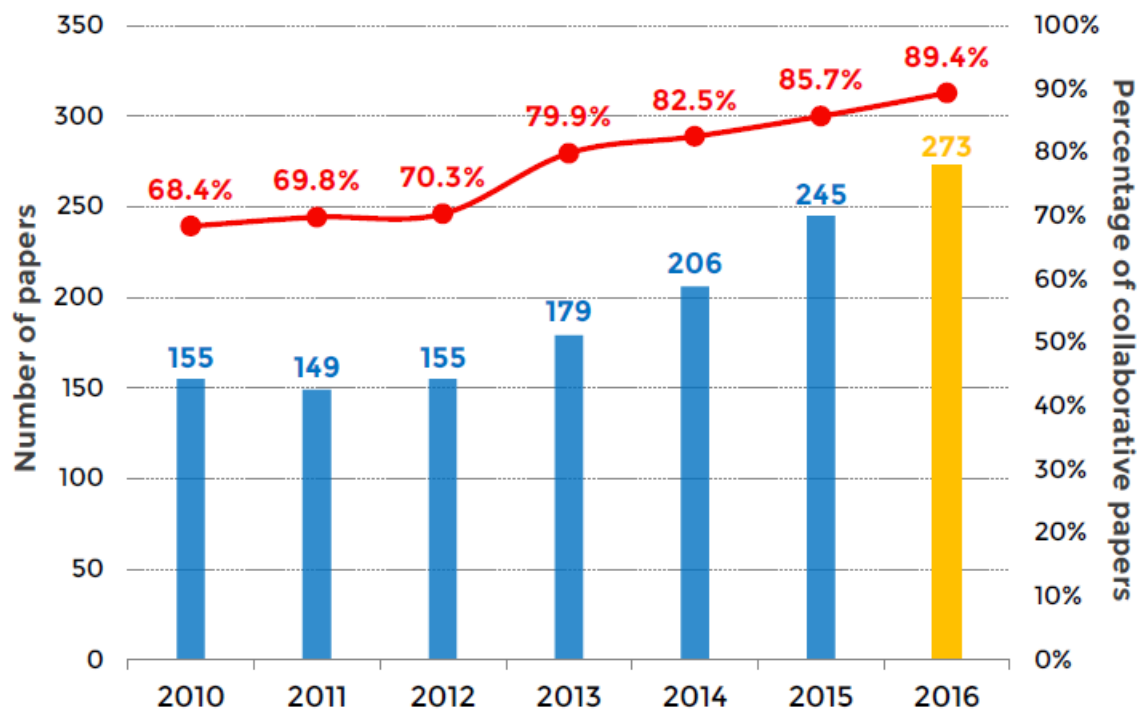
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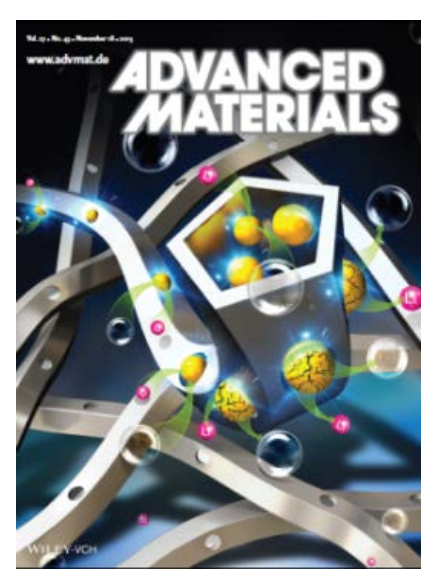
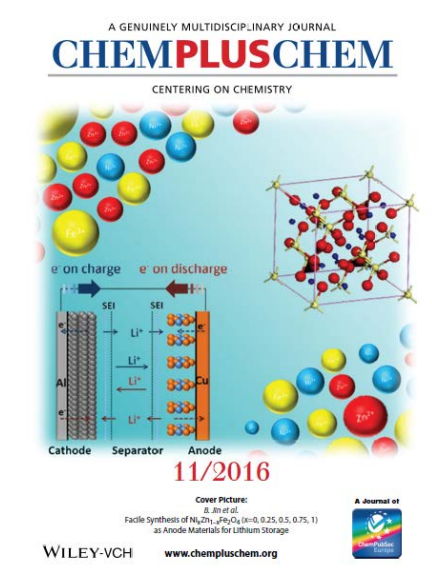
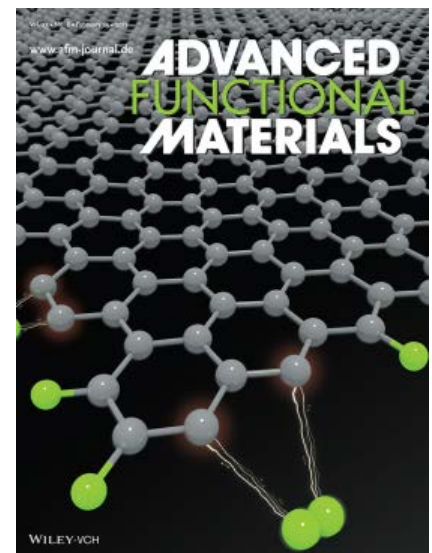
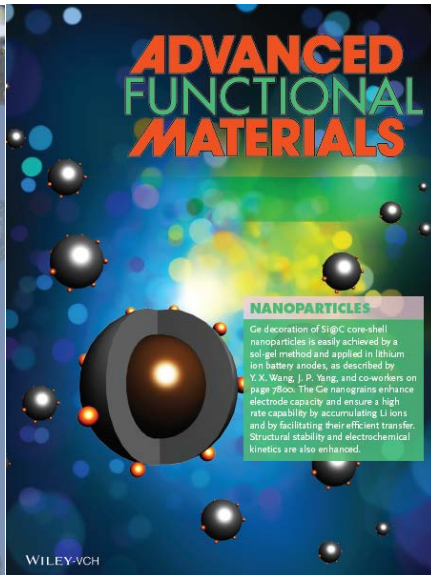
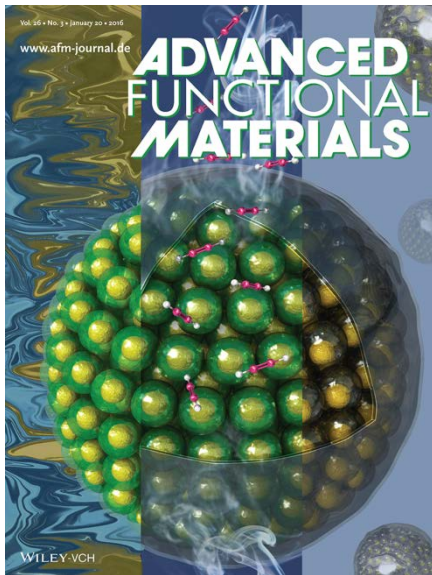
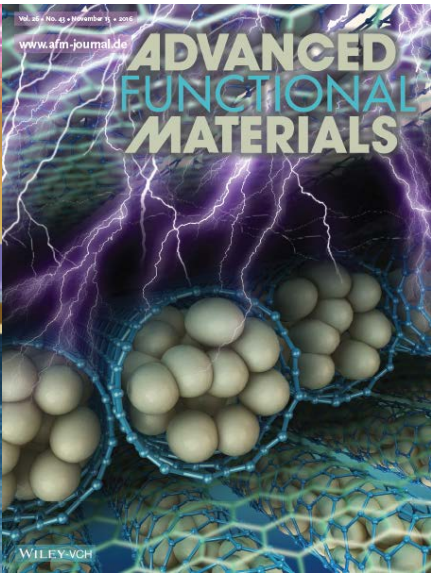
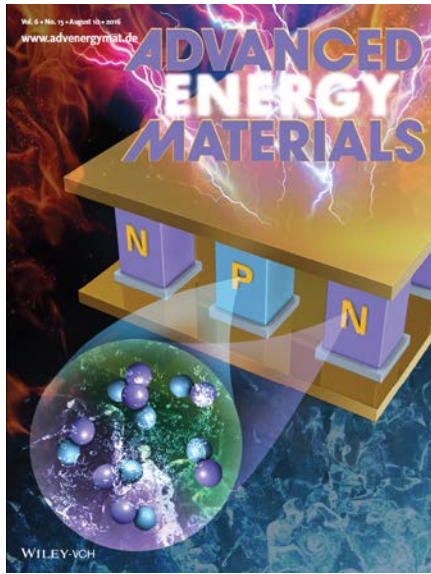
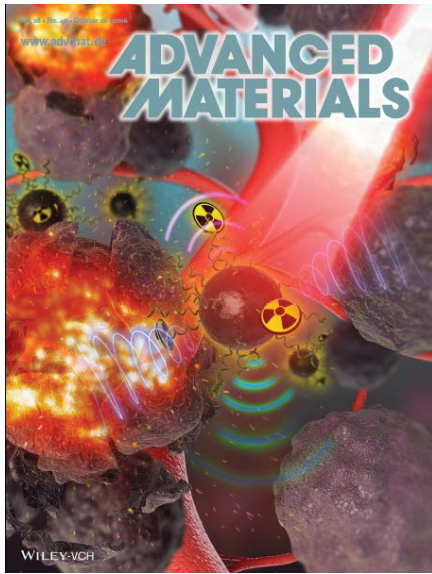
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Average impact factor of publication journals and number of publications of ISEM from 2010 to 2016



The percentage of ISEM publications in collaboration with other institutions versus years from 2010 to 2016



Selected Journal Articles

1. Y. H. Dou, D. L. Tian, Z. Q. Sun, Q. N. Liu, N. Zhang, J. H. Kim, L. Jiang, and S. X. Dou, "Fish Gill Inspired Crossflow for Efficient and Continuous Collection of Spilled Oil", *ACS Nano* 11, 2477-2485 (2017); [IF 13.334]
2. S. Kalluri, M. Yoon, M. Jo, S. Park, S. Myeong, J. Kim, S. X. Dou, Z. P. Guo, and J. Cho, "Surface Engineering Strategies of Layered LiCoO₂ Cathode Material to Realize High-Energy and High-Voltage Li-Ion Cells", *Advanced Energy Materials* 7, (2017); [IF 15.23]
3. T. Liao, Z. Q. Sun, J. H. Kim, and S. X. Dou, "Theoretically designed metal-welded carbon nanotubes: Extraordinary electronic properties and promoted catalytic performance", *Nano Energy* 32, 209-215 (2017); [IF 11.553]
4. W. B. Luo, T. V. Pham, H. P. Guo, H. K. Liu, and S. X. Dou, "Three-Dimensional Array of TiN@Pt₃Cu Nanowires as an Efficient Porous Electrode for the Lithium-Oxygen Battery", *ACS Nano* 11, 1747-1754 (2017); [IF 13.334]
5. Y. D. Pan, Y. H. Zhou, Q. Zhao, Y. H. Dou, S. L. Chou, F. Y. Cheng, J. Chen, H. K. Liu, L. Jiang, and S. X. Dou, "Introducing ion-transport-regulating nanochannels to lithium-sulfur batteries", *Nano Energy* 33, 205-212 (2017); [IF 11.553]
6. R. Rajagopalan, B. Chen, Z. C. Zhang, X. L. Wu, Y. H. Du, Y. Huang, B. Li, Y. Zong, J. Wang, G. H. Nam, M. Sindoro, S. X. Dou, H. K. Liu, and H. Zhang, "Improved Reversibility of Fe³⁺/Fe⁴⁺ Redox Couple in Sodium Super Ion Conductor Type Na₃Fe₂(PO₄)₃ for Sodium-Ion Batteries", *Advanced Materials* 29, 1605694 (2017); [IF 18.96]
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9. S. Aminorroaya-Yamini, T. Li, D. R. G. Mitchell, and J. M. Cairney, "Elemental distributions within multiphase quaternary Pb chalcogenide thermoelectric materials determined through three-dimensional atom probe tomography", *Nano Energy* 26, 157 (2016); [IF: 11.553]
10. C. J. Chen, W. K. Pang, T. Mori, V. K. Peterson, N. Sharma, P. H. Lee, S. H. Wu, C. C. Wang, Y. F. Song, and R. S. Liu, "The Origin of capacity fade in the Li₂MnO₃ center dot LiMO₂ (M = Li, Ni, Co, Mn) microsphere positive electrode: An operando neutron diffraction and transmission X-ray microscopy study", *Journal of the American Chemical Society* 138, 8824 (2016); [IF: 13.038]
11. C. J. Chen, H. H. Xu, T. F. Zhou, Z. P. Guo, L. N. Chen, M. Y. Yan, L. Q. Mai, P. Hu, S. J. Cheng, Y. H. Huang, and J. Xie, "Integrated intercalation-based and interfacial sodium storage in graphene-wrapped porous Li₄Ti₅O₁₂ nanofibers composite aerogel", *Advanced Energy Materials* 6, 1600322 (2016); [IF: 15.230]
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