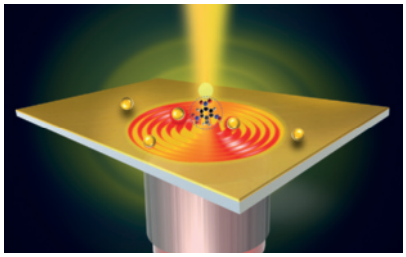
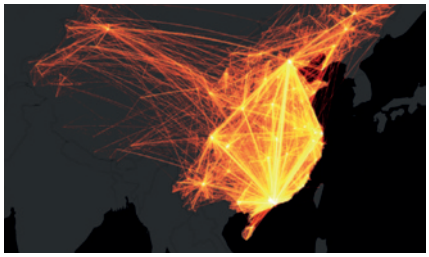




Shenzhen University

A rising star in south China

Shenzhen University (SZU) is a comprehensive research university with state-of-the-art facilities, high-calibre faculty members and a highly professional administration body. Together with the city of Shenzhen — China's most successful Special Economic Zone — the university has been undergoing rapid growth since its foundation in 1983.

In 2015, SZU received 600 million CNY for research grants and won 205 project grants from the National Natural Science Foundation of China (NSFC). Thomson Reuters' Essential Science Indicators ranks SZU as among the top 1 per cent of institutions in the world for the field of engineering. In 2014, 869 research papers from SZU were published in Science Citation Index journals, including 8 in Nature and its sister journals. Some of SZU's recent research is highlighted below.

Progress in optoelectronics and photonics

Various groups at SZU are conducting groundbreaking research in the areas of optoelectronics and photonics. A group led by Hanben Niu, an academician of the Chinese Academy of Engineering (CAE), made significant contributions to the development of multimode and super-resolution optical imaging. The group developed new form of photodynamic therapy and a non-z-scanning multimolecule fluorescence tracking system with nanometre resolution. These imaging methods have been applied for immunological tracking, three-dimensional DNA imaging and disease diagnosis and therapy and have shed light on life science and clinical research.

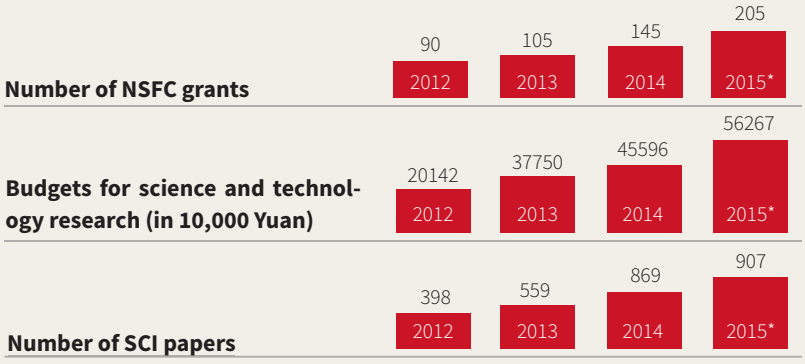
A team at the Nanophotonics Research Centre (NRC) led by Xiaocong Yuan has determined how to manipulate arbitrary focused plasmonic fields to achieve polarization-controlled directional coupling of surface plasmon polaritons. The researchers further proposed and verified focused plasmonic tweezers that can trap and rotate metallic particles or nanowires. Yuan's group has succeeded in manipulating optical vortices in free-space optical communication, achieving high communication capacities. Their research is crucial for the development of next-generation optical communication and interconnection technologies.

Well-aligned, single-chirality, single-walled carbon nanotubes have been used by a team led by Shuangchen Ruan at Shenzhen Key Laboratory of Laser Engineering to manipulate short-pulsed laser states. Being polarization sensitive, these well-aligned nanotubes are ideal saturable absorber materials for the switching of high-power, short-pulsed fibre lasers.

Headed by Dianyuan Fan, a CAE academician, the Collaborative Innovation Centre for Optoelectronics Science and Technology is focusing on developing optoelectronic technologies using new advanced materials. Fan's research has contributed greatly to the development of laser-induced fusion in China. A team led by Han Zhang are exploring a new two-dimensional layered material, black phosphorus quantum dots, which are promising for clinical applications. Another team, led by Wenjing Zhang, has reassembled isolated atomically layered two-dimensional materials into hybrid heterostructures, creating new artificial

systems with rich functionalities and novel optical properties.

A team led by Yiping Wang, recipient of the National Science Fund for Distinguished Young Scholars of China, is devoted to the design and fabrication of sensing devices in optical fibres to develop all-optical micro total analysis systems. Aiming to create an optical fibre that can act as all-in-one lab, or a 'lab-in-fibre', the researchers are working on microfabrication technology, in-fibre microstructures and novel functional materials.



* By the end of October, 2015

Researching engineering and materials

A team led by Qingquan Li, president of Shenzhen University, and Renzhong Guo, a CAE academician, is researching multisource geoinformation acquisition and services. The team has pioneered new techniques to dynamically acquire spatial data and apply them to geoenvironmental monitoring. The researchers are also exploring new methods for large-scale vehicle and individual trajectory data analysis as well as data mining of social networks. The team won second prize for the National Technology Invention Award of China for their outstanding work on road checking and measurement.

Guoliang Chen, a Chinese Academy of Science (CAS) academician, and his team at the Guangdong Province Key Laboratory of Popular High Performance Computers (PHPCs) have been striving to build high-reliability, low-cost and easy to use PHPCs. They have built KD- and SD-series PHPCs based on the China-made Loongson CPUs. The team has also designed a parallel computing framework that consists of universal representation, partitioning and parallel computing of big data, simultaneously addressing the challenges of volume, velocity and large variety of big data.

A team supervised by Feng Xing developed a service-life design theory of marine structures, involving studies on the failure mechanism for material and structure and the development of novel materials. The team won second prize in the State Technological Innovation Awards as well as two ministerial and provincial-level awards of China.

A group led by Florian Stadler is investigating soft-matter physics and chemistry with a special focus on the rheology of multistimuli polymers and polymer gels. Research on zwitterionic polymer solutions unveiled the influence of ions and zwitterion content on their properties. Polymer blends of dendrimers and polystyrene were found to challenge the foundations of several theories on the phase structures of immiscible polymers.

Exploring medicine and life science

The functions and mechanisms of selenium and icariin in resisting Alzheimer's disease have been uncovered by a research team led by Jiazuan Ni, an academician of CAS. The researchers have also made remarkable progress in screening biomarkers for early diagnosis of Alzheimer's disease.

A group led by Hong Li is exploring how emotional stimuli affect executive cognitive processing. The group have established that the changes in functional connectivity dynamics are associated with vigilance network, shedding light on the relationship between the dynamics of functional brain networks and individual behaviours by distinct cortical processes.

Yuejia Luo and his team are exploring a broad area of social cognitive neuroscience. They combine brain imaging methods, autonomic measures and behavioural observation methods to investigate mood disorders and understand their neural mechanisms. The research has great clinical implications for mental disorders and brain diseases.

Functional connectivity among critical language regions in the human brain is being investigated by a team led by Lihai Tan. They have found cross-language differences in the brain networks serving speech and reading, lending support to the culture-specific theory of cortical organization of language.

Xiongzhong Ruan and his group are focusing on lipid-mediated chronic kidney diseases. They have identified a 'wiring diagram' of lipid trafficking under inflammatory stress, demonstrating the mechanism by which inflammatory stress modifies lipid homeostasis. Their study updates the conventional understanding of the pathogenesis of lipid-mediated tissue injury and has important clinical implications.

A research team led by Deming Gou has developed a simple, sensitive and specific method for detecting circulating miRNAs, providing a promising tool for clinically diagnosing diseases based on miRNA biomarkers. They have also identified a group of miRNAs associated with pulmonary arterial hypertension.

Recruitment of talented researchers

SZU is seeking talented researchers and warmly welcomes outstanding scholars from around the world. We offer excellent compensation packages with large start-up funds and a free intellectual environment. SZU strives to be an open, globally recognized leading university.

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