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## New lab for blockchain, cryptocurrency research

*The Centre will be co-directed by Asst Prof Saxeena (right) and Assoc Prof Carter*

NUS Computing announced on 20 September the establishment of the [CRYSTAL \(Cryptocurrency Strategy, Techniques, and Algorithms\) Centre](#), an academic research laboratory and think tank targeting to be at the forefront of blockchain research globally. The Centre will be co-directed by Dean's Chair Assistant Professor Prateek Saxena and Associate Professor Keith Barrett Carter from the Department of Computer Science and Department of Information Systems and Analytics respectively.

As a start, the Centre will comprise between five and 10 faculty members and several scholars who are experts in various research areas, including Assistant Professor Aquinas Adam Hobor and Assistant Professor Ilya Sergey in program language design and verification, Dean's Chair Associate Professor Yu Haifeng in distributed computing algorithms, Assistant Professor Kang Min Suk and Asst Prof Saxena in security, and Assoc Prof Carter in market economics.

Located at NUS Computing, the Centre will conduct research on scalable consensus protocols; verification and testing techniques; privacy-preserving computation; safe programming language design; blockchain applications; fundamentals of trading cryptocurrency; analysis of cryptocurrency economics; and highly available peer-to-peer network designs — areas that touch on challenges currently faced by the blockchain and cryptocurrency space.

Said Asst Prof Saxena, "We hope to make debates in the community more scientifically grounded. The goal is improve interaction between those armed with intuition and those with scientific rigour. We also hope to draw attention to unforeseen scientific challenges, both near-term and long-term."

Earlier research from the Centre's founding members has led to the creation of leading blockchain and cryptocurrency companies — including high throughput blockchain platform [Zilliqa](#), on-chain liquidity protocol [Kyber Network](#), enterprise blockchain company [Anquan](#) and the scalability solution for smart contracts called [TrueBit](#).

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an's Chair Asst Prof Prateek Saxena, NUS Computer Science

The CRYSTAL Centre aims to foster an open technical community of thought leaders and experts in blockchain collaborating to further blockchain research globally, and has formed strategic partnerships with Dekrypt Capital, Blockchain at Berkeley and Blockchain at NTU.

It will work closely with the industry to draw up new research problems and propose solutions. There are plans to host a series of events to facilitate interaction with the wider community, including an annual workshop with three tracks — technical research, business and entrepreneurship.

The Centre is funded through research gifts towards public and open research on blockchains and cryptocurrency.