

## Postdoctoral Positions (Southern University of Science and Technology)

**Two postdoctoral positions with Prof. Zhaojun Yang in the department of finance, SUSTech, Shenzhen, China**

### PROFILE OF PROFESSOR YANG

Dr Zhaojun Yang is an associate professor for finance of the Department of Finance at the Southern University of Science and Technology (SUSTech), an appointment he has held since April 2016. Prior to this he was a full Professor at Hunan University (listed in 42 world-class universities, Project 985 and 211 universities in China) since 2002. He visited the University of Leeds from July 2005 to July 2006, Columbia Business School at Columbia University from September to October 2010 and from February to August 2014, and the university of Macau from October to November 2015. His research focuses on finance theory and financial engineering, including optimal portfolio choice, capital asset pricing, pricing of derivative securities, credit risk, loan guarantees, financial innovation and FinTech. He was the Principal Investigator of many research grants, including one (2006) supported by National Social Science Foundation, and three (2009, 2011, 2013) by National Natural Science Foundation of China (NSFC). Currently, he is the Principal Investigator of a Key Program, ***the design of asset securitization financing mode for micro-, small- and medium-sized enterprises based on blockchain technology***, supported by the NSFC starting from 2021 to 2025 with the Chinese government grant being 2.52 million CHY.

He has published more than 160 peer-reviewed papers in economics, finance, management and mathematics journals. For more details, please refer to [Zhaojun Yang - Faculty Profiles - SUSTech](#)

**The abstract of the Key Program of NSFC**, the design of asset securitization financing mode for micro-, small- and medium-sized enterprises based on blockchain technology: The average life span of micro-, small- and medium-sized enterprises in China is only three years, mainly due to the lack of external financing, especially external equity financing. This project utilizes blockchain technology to record cash flow reliably, verifiably with a timestamp, and distribute wealth intelligently based on the cash flow generated according to contracts signed in advance. We propose the "twice securitizations" financing mode: We design the cashflow-backed corporate securities of a single enterprise, which are sold to originators; An issuer collects corporate securities to form an asset pool, and designs asset-backed securities from the pool, which are sold to outside investors. We develop a series of models to explore the methods of designing incentive compatible corporate securities and asset-backed securities. We propose the performance-sensitive equity design and bond design to reduce the moral hazard of borrowers. We optimally divide the assets in the pool to maximize the total cash flow value of the asset pool. For credit enhancement and increasing the value of securitization products, we consider the optimal ratio of risk assets held by the originator and introduce credit guarantees. Conducting computer simulations, empirical tests and case analysis, we carefully coin the 'twice securitizations' financing mode and



develop a practical demonstration platform. This project overcomes the shortcoming of common asset securitizations that underlying assets must generate stable cash flows and hopefully, the project will make small businesses access external financing like a public-listed company. The project conducts a pioneering study with a focus on the cutting-edge research in blockchain finance using the state-of-the-art techniques, which has been attracting a lot of researchers.

## DUTIES

The candidate will undertake research activities pertaining to the NSFC project including but not limited to the following activities:

- Participate in publications as author or co-author,
- May participate in the system design and realizations for the project,
- May assist in preparation of research proposals,
- Develop, adapt, and implement new research techniques and methods,
- Participate in group meetings, scientific seminars, and conferences,
- Provide technical guidance and leadership for students, and
- Meet other requirements imposed by the university and school.

## QUALIFICATIONS

### **The candidate must:**

- be legally eligible to work in China,
- hold a PhD degree in a relevant Economics, Finance, Operation Research, Management, Mathematics or Computer discipline from a university of recognized standing. Must have completed your PhD Degree within 24 months of joining our Post Doc Program or are currently enrolled in a program that will lead to the acquisition of your PhD within six (6) months of applying to our Post Doc Program,
- have practical skills/experience working with financial engineering modelling or blockchain financing technique, and
- have demonstrated the ability to publish his/her research results as a lead author in peer-reviewed scientific literature.

### **The following will be considered as valuable assets:**

- previous post-doctoral experience in a field relevant to financial modelling or security design,
- experience and practical skills with the ICO, STO financing or blockchain programming,
- substantial knowledge in the areas of mathematical modelling and software design,
- effective verbal and communication skills to present results of research to both scientific and lay audience, and
- have published paper in leading journals in the relevant area.



## SALARY and FRINGE BENEFITS

Salary will be highly competitive, commensurate with qualifications and experience. SUSTech offers an annual pre-tax salary of 330,000+ CHY and a fringe benefit package as follows:

(1) The postdocs are employed for two years with an annual salary of 330,000 CHY, including 150,000 CHY of living allowance in Guangdong Province and 60,000 CHY of living allowance in Shenzhen. In addition, the university will buy social insurance and pay housing accumulation fund for postdocs in accordance with the relevant regulations of Shenzhen. If postdocs do not want to pay the fund, their salary will be accordingly increased. Moreover, the university will provide postdocs other benefits for postdocs by reference to the standard of the faculty.

(2) The distinguished candidates can apply for the president's excellent postdocs, with an annual salary of more than 500,000 yuan.

(3) Postdocs can rely on the school to apply for public rental housing in Shenzhen. Postdocs who do not do so can get a housing subsidy of 2,800 CHY per month before tax for two years.

(4) Postdocs will be given a total of 25,000 CHY academic exchange funds for two years during their stay at the station.

(5) The research group assists qualified postdocs to apply for "Guangdong Overseas Talent Support Project". That is, after being awarded a doctorate degree from the top 200 universities in the world (excluding those in China, which are ranked according to the world university rankings of Times, USNEWS, QS and Shanghai Jiaotong University in the previous year), each successful applicant (the success in applying seems to be sure since at present, it seems that the government just checks if the applicant meets the requirements and there is no competition), who also must promise to work in the station more than 2 years, will be provided a living subsidy of 600,000 CHY minus the above-mentioned 150,000 CHY of living allowance in Guangdong Province and conditionally minus the above-mentioned 60,000 CHY living allowance of Shenzhen City); for postdocs who have obtained the project support, signed a work agreement or labor contract with an enterprise or institution of Guangdong Province after leaving the station, and promised to work in Guangdong for more than 3 years continuously, the provincial finance will give a housing allowance of 400,000 CHY per person.

(6) Postdocs who choose to stay in Shenzhen to engage in scientific research work and sign labor (employment) contracts with enterprises and institutions in Shenzhen for more than 3 years can apply for Shenzhen postdoctoral research support in Shenzhen. The Shenzhen municipal government will provide scientific research support of 100,000 yuan per person per year for a total of 3 years (subject to the latest application requirements of Shenzhen).

## APPLICATION PROCEDURE

- Application letter with a full up-to-date C.V. should be sent to the department of finance, Southern University of Science and Technology, 1088 Xueyuan Avenue, Nanshan District, Shenzhen 518055, China by email: [yangzj@sustech.edu.cn](mailto:yangzj@sustech.edu.cn)
- Review of applications will start immediately and continue until the positions are filled. We would thank applicants for the application and the candidates being shortlisted will be notified for campus interviews or interviewing online.

