



Four Post-Doctoral Positions in Food Science and Nutrition

School of Food Science and Biotechnology, Zhejiang Gongshang University

Zhejiang Gongshang University (ZGU) is one of the earliest established higher education institutions in China, located in the beautiful city of Hangzhou on the east coast of the country. The university has 23 colleges and schools offering degree courses across academic disciplines of social sciences, natural sciences and engineering. Currently over 26,000 full-time students, including over 1,000 international students, are studying degree courses at bachelor, master, and doctoral levels at the university.

The School of Food Science and Biotechnology at Zhejiang Gongshang University is a leading food science school in the country and is highly regarded for its high quality research and student training. The school has over 120 academic and supporting staff, including 26 professors and 33 associate professors. Over 1,300 full-time students are currently studying degree courses in subject areas of *Food Science and Engineering*, *Food Quality and Safety*, *Bioengineering*, and *Applied Chemistry* at undergraduate and postgraduate levels.

The School has been recently awarded with a major government funding for an expansion of its research capacities, including research infrastructure and staff. As a part of this strategic



expansion, the school is now seeking to appoint four post-doctoral research fellows. These new appointments will be either based in newly established research laboratory of food oral processing under supervision of Prof. Jianshe Chen or will be in collaboration with some external bodies.

- 1. Manipulating oral behaviour of food emulsions by using different food emulsifiers (A joint project with the University of Leeds, UK).** This project will investigate the oral behaviour of food emulsions made with protein and starch emulsifiers. By examining the emulsifier-saliva interactions, the project will establish destabilisation mechanisms of food emulsions under oral conditions and seek techniques of optimizing emulsifier monolayer for desirable oral experience. Computer simulation will be applied to guide the choice of emulsifiers and to establish the possible route of oral degradation of food emulsions. Modification of starch emulsifier will also be sought at some stage of the project. The project will be jointly supervised by Prof. Jianshe Chen at Zhejiang Gongshang University and Dr. Rammile Ettelaie of the University of Leeds. Successful candidate will have a PhD degree and research experience in food science, physics, chemistry, material science, or other relevant disciplines. Some experience in computer modelling will be an advantage.
- 2. Sensation and controlling mechanisms of mouthfeel and aftertaste of food.** Mouthfeel and aftertaste are complicated sensory features used commonly by consumers to refer to sensory perception both during and after the consumption of a food. While these sensory terms are widely used by consumers as well as in scientific literatures, their physical meanings and sensation mechanisms are still little known. This project will make novel design of experimental methodologies both in vivo and in vitro to clarify attributes of both sensory features, associated physical parameters, and controlling mechanisms of sensation. Successful candidate will have a PhD degree in food science, physics, chemistry, material science, sensory science, or other relevant disciplines.
- 3. Physico-chemical studies on the textural and functional basis of natural hydrocolloidal mucilages (under joint supervision with Prof. Christos Ritzoulis, ATEI of Thessaloniki, Greece).** This project will study the physico-chemical bulk and surface properties of food polysaccharides in the presence of oral and intestinal components. The aim is to describe aspects of sensory perception and of food functionality in terms of the interactions between food polysaccharides and oral/intestinal macromolecules. Mucosal interactions and epithelial attachment in the mouth or in the intestine will be the focus of the project. The experimental part is to include, among others, light scattering, rheological, interfacial and chromatographic techniques. A successful candidate will have a PhD degree in food science, physics, chemistry, material science, or other relevant disciplines.



4. Protein alternative source and functional ingredients from edible insects (A joint project with Tel Hai College, Israel). The project main goal is to develop new protocols to mass production of edible insects and to explore food applications of insect-sourced proteins. The overall research has several parts – from the rearing part under different types of feeding material of two types of insects, honeybee pupae and locust to exploring the nutritional composition, sensory evaluation and developing methods to create mass production of rich protein insect based powder. The offered project will evaluate eating (sensory) quality for the food made from such insect sources and examine possible potentials of using the protein powder for functional purposes such as gelling, emulsifying and foaming in food applications. The project is jointly funded by Zhejiang Gongshang University in China and Tel Hai College in Israel. The post-doc is expected to spend two years of research in Tel Hai college and one year at Zhejiang Gongshang University, jointly supervised by Dr. Ofir Benjamin at Tel Hai and Prof. Jianshe Chen at Zhejiang Gongshang University. Successful candidate will have a PhD degree in food science, agriculture, chemistry, material science, or other relevant disciplines. Experiences in food sensory, volatile compounds analysis, rheology, food functionality, protein purification and characterisation and etc are highly desirable.

All candidates should have good English skills – both in communicating and writing, and a good track record in peer-reviewed publications. Candidates should also be self-motivated, independent thinking, and have good social skills to work in a team. Candidates of non-Chinese speakers are strongly encouraged to apply. Knowledge of Chinese language is an asset, but not essential. Courses of Chinese language are available at the campus at a subsidised cost. Duties of post-doctoral fellows will include designing and conducting experimental works, research communications, laboratory managing, health and safety, supervision of undergraduate and postgraduate students, supervision of PhD research projects, and etc. Undergraduate and postgraduate teaching are also expected but to a limited amount. A highly competitive payment package is available to successful candidates, which includes an annual salary, health insurance, and subsidised university accommodation.

All positions are expected to start September 2016 or as early as it can be possible and will be fixed for three years. For further information about these positions, interested candidates can contact Prof. Jianshe Chen (jschen@zigsu.edu.cn) (School of Food Science and Bioengineering, Zhejiang Gongshang University, 18 Xuezheng Street, Xiasha Higher Education Zone, Hangzhou, Zhejiang 310018, China). To apply, candidates should send a CV, a cover letter, and two references and specify specifically which project you are applying for. For general information about Zhejiang Gongshang University, please visit <http://www.zigsu.edu.cn/index.html> and about the city of Hangzhou, please visit <http://eng.hangzhou.gov.cn/>.

Closing date: 22nd May 2016.