

Made in INRA - Nantes

> They have recently defended their PhD thesis

Sébastien BONGARD : "Partitioning and release of aroma compounds in model emulsified and gelled dairy matrices of stirred yoghurt".

Batjargal BATDORJ : "Antimicrobial properties of lactic acid bacteria from fermented Mongolian dairy products: identification, purification, characterisation and application".

Agata ZYKWINSKA : "Pluridisciplinary study of pectin/cellulose interactions: towards a new primary cell wall model".

Nadir KADRI : "Tolerance induction by dendritic cells: diabetes prevention by dendritic cell transfer in the non-obese diabetic mouse".

Raphaël ORTIZ-ALVARADO : "Study of the role of the neurotransmitter serotonin on the development and innervation processes of mouse taste buds".

Benoît BIAIS : "Structural study and formation of amylose-ligand complexes. Influence on the trapping of aroma compounds in starch-based matrices".

A multidisciplinary centre

Pôle Nantais Alimentation et Nutrition (PONAN)



The "Pôle Nantais Alimentation et Nutrition" (PONAN) was recently created. PONAN brings together higher education and research establishments in Nantes, including the University of Nantes, ENITIAA (agriculture and food technology school), ENVN (veterinary school), Audencia (management school), Ecole des Mines (engineering school), and research organisations such as INRA (National Institute for Agronomic Research), IFREMER (Institute for Research and Exploitation of the Sea), INSERM (National Institute for Health and Medical Research) and the CNRS (National Centre for Scientific Research), as well as specialised laboratory groups such as the CRNH (Centre for Research in Human Nutrition), one of the four French centres in this field.

PONAN includes almost 400 researchers and teacher/researchers and awards degrees to more than 1,000 students per year. It offers a multidisciplinary range of research and higher education in all areas linked to food and nutrition. Its aim is to reinforce the potential of this research and training and to develop new inter-organisational liaisons. The Nantes centre is one of the very first French centres of interdisciplinary research in food and nutrition.

PONAN's research revolves around five main themes:

- Construction of the quality of food, raw materials (variability, selection, plant defence mechanisms,

etc.) and processed products, especially cereal-based ones.

- Food process engineering in order to optimise the processes that are used (cooking, extrusion, preserving, etc.), especially with cereals and products from the sea.

- Food safety by scientifically analysing the physicochemical and microbiological risks.

- Human nutrition: research is essentially being carried out within the CRNH. It is focused on the impact of nutrition on the risks of contracting diseases and cancer, mainly in the intestines of both adults and newborn babies.

- Economy, management, sociology and food law. The socio-economic and legal dimensions give rise to specific and multidisciplinary studies, mainly focusing on the questions of regulation linked to world trade. PONAN's laboratories have links with the doctoral schools of the University of Nantes and take part in European research programmes.

PONAN thus contributes to regional and national development and strives to confirm its reputation as a centre for international excellence.

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SARAF : an International Training Course

Exportation of French know-how in food safety

SARAF is a Continuous Education Programme of the National Veterinary School of Nantes, aimed at training engineers and technicians from developing countries in modern methods of analysis of residues and contaminants in food. This concept was developed in 2001 by the official European network of laboratories in charge of these measures and has been coordinated since its creation by LABERCA (National Reference Laboratory for the Analysis of Residues and Contaminants in Food).

Entirely conducted in English by the most renowned European experts of the day, the programme consists of theoretical and practical courses alike. It allows participants to acquire up-to-date knowledge about the very latest technologies used in the National Reference Laboratories. The SARAF programme was held for the seventh time from 11th to 23rd June 2006, at the specific request of the European Commission - DG-Trade. Twenty participants selected by the Commission from



17 countries were invited to participate in this training programme, which included the following topics: regulatory bases of control, methods of risk evaluation, strategy in terms of sample preparation, measurement of samples through physicochemical techniques (and in particular, mass spectrometry) and, finally, the validation of measurement methods according to the EC Commission decision 2002/657/EC, related to analytical methods and the interpretation of results. Some aspects of laboratory quality management were also covered. For additional information, please visit our website at: www.saraf-educ.org.

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Training

Through research

Finding a job in industry after obtaining a PhD is often thought to be a tough challenge, at least in France. The recent achievement of the CANAL-Salve project (Computer-Aided Design of Cellular Cereal Products, MRT 2002-2006), coordinated by INRA-Nantes, proves the contrary. Indeed, within the framework of this programme, and in partnership with other public laboratories (ENSIA-Massy, CEMAGREF-Rennes, GPM2-INP-Grenoble), a research group from our centre has supervised or contributed to three PhD theses:

- Nejlja LASSOUED, on "Thermo-rheological and sensory properties of doughs and baked products";

- Muriel WAGNER, on "Measurements and modelling of heat and mass transfers during baking";

- Perrine BABIN, on "Cellular structure processing and numerical modelling of mechanical properties".

These three young women rapidly found jobs after defending their PhD theses. Nejlja is now responsible for the food industry division of Air-Liquide Tunisia, Muriel is part of the creation of an R&D department at Brioches Pasquier, whereas Perrine joined Arkema R&D, as head of the imaging facility.

The research centre of INRA-Nantes is proud to have contributed to the success of these examples of training and integration in industry via scientific research, and wishes all three of them success in the future.

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