INFORMATION OF THE DOCTORAL THESIS

Research title: **TO STUDY AND DEVELOP AN ENTERAL FEEDING PRODUCT AND EVALUATE THE DIGESTIBILITY AND INTOLERANCE OF THIS PRODUCT IN BOTH *IN VITRO* AND *IN VIVO***

Major: **FOOD TECHNOLOGY**

Major code: **62.54.02.01**

PhD candidate: **NGUYEN THI QUYNH HOA**

Scientific advisors: **Prof. Dr. ĐONG THI ANH ĐAO**
Dr. LUU NGAN TAM

University: **HCMC University of Technology**
Vietnam National University Ho Chi Minh City

The thesis summary:

The objective of the thesis is to research and process an enteral feeding product fed via nasogastric tube from natural agricultural products available in Vietnam and can be applied in daily clinical practice to help improve nutrition status for hospitalized patients.

The new contributions of this thesis:

• Created and developed a formulas and technological processes for processing a standard enteral feeding product using existing local foods to increase patient's tolerance.

• Clarify the theory for establishing nutritionous diet for enteral feeding product in the form of fluid suspension which is energy and nutrient composition balance.

• Elucidate the theory of correlation between molecular size distribution, particle size, viscosity and flow rate of the mixture of components (protein, glucid

and pectin) after hydrolysis in optimum conditions in order to optimize the digestive ability of patients recovering from surgery.

• Clarify the theory of the high similarity between *in vitro* and *in vivo* assays on digestibility of hydrolyzed protein and human tolerance of the product.

• Practical research has been conducted on producing a standard tube feeding food for medical use in patients who need to feed through a nasogastric tube with the characteristics of nutritional balance, standard formula, from existing local food sources. The product is available at an appropriate cost, ensures food hygiene and safety, is tested for quality according to nutritional recommendations, and the effectiveness of the product is assessed through standard steps *in vitro*, *in vivo* and clinical trials suitable for the digestive system of Vietnamese patients, contributing to strengthening treatment support for patients, increasing patient tolerance from the first Vietnamese feeding product in Viet Nam.

• A high practicality is the ability to use fresh, locally available sources of produce to process entarel feeding foods fed through catheter, applying the optimal hydrolysis conditions of the nutritional components to result in a mixed solution after hydration. The food meets the nutritional standards as well as the uniformity requirement, does not cause sedimentation and has a viscosity that ensures its passage through the nasogastric tube for a limited period of time.

Advisors		**PhD candidate**
Prof. Dr. ĐONG THI ANH ĐAO	**Dr. LUU NGAN TAM**	**NGUYEN THI QUYNH HOA**