



FOOD RESEARCH AGENDA

**NATIONAL RESEARCH COUNCIL OF THE
PHILIPPINES**

Department of Science and Technology

Presentation of Dr. Napoleon P. Hernandez, Executive Director, National Research Council of the Philippines for the 48th PAFT Annual Convention, Sept. 22, 2009, Heritage Hotel, Roxas Boulevard, Pasay City, Philippines.

INTRODUCTION

NRCP is an attached agency of the Department of Science and Technology, with a mandate to do **fundamental and basic research**.

- Created under Act 4120 on December 8, 1933

- Collegial body composed of 3,100 member scientists, technologists, researchers and S&T administrators of the country

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NIBRA?

- specifies the areas of priority that will be the focus of basic research
- evolving document that has to be continually revised and updated to respond to the changing times and needs of society

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NIBRA?

- CLUSTER I (Governmental, Educational, and International Policies, Social Sciences, and Humanities)**
- CLUSTER II (Mathematical Sciences, Engineering and Industrial Research, Physics, and Earth and Space Sciences)**
- CLUSTER III (Medical Sciences, Pharmaceutical Sciences, and Chemical Sciences)**
- CLUSTER IV (Biological Sciences, Agriculture and Forestry, Veterinary Medicine)**

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NIBRA?

- roadmap for basic research
- guide in identifying priority research areas
- focus the country's limited resources for R and D on significant and relevant basic research
- enable synergy and coordination of research initiatives among research institutions and agencies
- a platform for advocacy for national and international funding and collaboration

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Basic Research Criteria

- 1. seeks to understand the nature, structure and scope of its subject, guided mainly by the conceptual structure of the subject**
- 2. aims to acquire new discovery and/or confirmatory knowledge about concepts, structures, compositions, functions, and interrelationships of various systems**
- 3. includes pioneering research in cases where the basic structure of the knowledge is not yet available**

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Basic Research Criteria

4. seeks fundamental knowledge for its own sake and its outcomes may have potential application in the future

5. main benefits of its results are the advancement of frontiers in the discipline itself

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NRCP and Food Research

- contributes to rebuild the trust of the consumers in the food supply,
- strengthens the food safety system,
- and ensures the consumers protection.

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NRCP concerns on Food Research:

- impact of climate change to agricultural practices and biodiversity,
- globalization of trade that is vulnerable to exposure to contaminated foods,

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NRCPC concerns on Food Research:

-innovations in food science and technology that need scientific assessments of new technologies that may have impact on health and the environment,

-social and cultural dimensions of the consumers behavior in changing lifestyle to different food consumption pattern and characterization and communication of the emerging risks.

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Food

1: material consisting essentially of protein, carbohydrate, and fat used in the body of an organism to sustain growth, repair, and vital processes and to furnish energy; also : such food together with supplementary substances (as minerals, vitamins, and condiments)

2: nutriment in solid form

3: something that nourishes, sustains, or supplies

Source: Merriam-Webster Online Dictionary. 2009.

Merriam-Webster Online. 15 August 2009

<<http://www.merriam-webster.com/dictionary/food>

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NRCP Food Research Agenda

1. Method development for assessment of food safety problems, verifying the hazards in the food supply chain

- handling and processing of food**
- use of antibiotics in animal feed**
- GMO foods/Novel foods**
- irradiated foods**
- undercooked foods**

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2. Human metabolic studies as a basis for setting nutritional requirements and dietary standards

- selection of proper nutritional requirements**
- metabolic differences**
- interactions between nutrients and drugs**

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3. Scientific studies to substantiate the health claims of food supplements, including chemical/physical/toxicological studies

- vitamins, minerals, fiber, fatty acids, amino acids

- a. health-claim requirements**
- b. qualified health claims**
- c. nutrient-content claims**
- d. structure/function claims**

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4. Food Science and Technology

- a. Identification of the basic research gaps in the current needs of various sectors in food production.**
- b. Improvement of the existing methods and development of new detection method for food pathogens.**
- c. Validation of basic research outputs in collaboration with other food sectors.**

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4. Food Science and Technology

d. Funding of research on risk assessments on food additives and ingredients.

e. Basic research on specialty foods.

f. Basic research on naturally and man-made toxicants

g. Social, education and communication aspects of basic research for reshaping the food industry.

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COMPLETED FOOD RESEARCH PROJECTS

- 1. Formation of Acrylamide in Local Asparagine-Containing Bakery Products**
- 2. Efficacy of Sea Water, Lime Vinegar and Citric Acid on the Removal of Testa, Discoloration and Other Postharvest Qualities of Cashew Nut Kernel**
- 3. Survey and Identification of Edible Wild Mushrooms in Various Ecosystems of the Cordillera Administrative Region**

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COMPLETED FOOD RESEARCH PROJECTS

**4. Status and Prospects of Food Security in the
Province of Antique**

**5. Bioactive Constituents from *Carmona retusa* Masam
Leaves**

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ON-GOING FOOD RESEARCH PROJECTS

- 1. Synthesis of Molecularly Imprinted Polymer for Solid Phase Extraction of Histamine in Foods**
- 2. Processing and Utilization: Development and Quality Assessment of Novel and High Value Fishery Products**
- 3. Resource Survey, Inventory, and Phytochemical Studies on *Taxus sumatrana* (Miq.) de Laub.**
- 4. Studies on the Structures and biological Activity of the phytochemicals from the Philippine Medicinal Tress "Ipil", "Handalamay", and "Lipang Aso"**

PIPELINE FOOD RESEARCH PROJECTS

- 1. Biogenic Amines in Commercially Available Fermented Sausages in the Philippines**
- 2. Domestication and Evaluation of the Culture Potential of Native Caridean prawn *Macrobacterium lar***
- 3. Xanthine Oxidase Inhibitors from Selected Philippine Plants**
- 4. Profiling of Unexploited Fruit Crops for Sustainable Fruit Production, Landcare and Promotion of Health and Wellness**

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Conclusion

The food industry in the Philippines is a testimony of the developments and milestones of science and technology. However, technological developments continuously give rise to new PROBLEMS/QUESTIONS.....

A NEED FOR BASIC RESEARCHES ON FOOD

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Thank you!

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