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SUMMARY

Creative and innovative consultant with proven record of bringing new food products to the marketplace. Recognized for pioneering research and technology transfer in food ingredient functionality and applications. Significant international experience in soy and dairy foods. Led interdisciplinary team involving planning, market and data analysis and new product development of functional foods. Author of numerous articles, white papers, contributor and advisor to several educational textbooks, highly regarded speaker and media spokesperson.

- **Product development and launch**
- **Scientific status of functional ingredients**
- **International experience**
- **Alternate protein sources**
- **Sourcing ingredients**
- **Weight management science**
- **Functional peptides**
- **Dairy and whey proteins experience**

PROFESSIONAL EXPERIENCE

Nutri+Food Business Consultants, Chapel Hill, NC is a consulting company specializing in food science 2000 to present

Provide consulting to food companies of diverse size in the areas of product development, line extensions, technology assessment and transfer, employee training, troubleshoot current product problems, reformulations for healthier products and provide technical input to marketing decisions.

Selected results:

- Helped a large fruit grower in North Carolina salvage fruits not suitable for fresh consumption by converting them into a fruit smoothies
- Developed functional yogurt drinks under the brand name Ibex
- Developed HACCP plans for two start up companies
- Provide the current scientific status of various ingredients and health conditions
- Develop prototype healthy beverages
- Identify novel ingredients and their suppliers
- Developed a strategic and technical plan for an ingredient company that will result in a substantial new revenue stream
- Developed aseptic soymilk and soy-fruit beverages that beat market leader's products in consumer tests
- Solved fruit ice production problems and increased profitability of client's products by 25%
- Developed HACCP Plan for entrepreneurial company's products
- Provided technical advice to frozen yogurt manufacturers
- Provided training on use of whey products in yogurt and yogurt beverages for Southeast Asian markets
- Trained personnel in ice cream manufacture and evaluated new equipment for ice cream retail dispensing
- Key clients include (a partial list) Nestle Ice Cream, Nestle Central Research, Deans Specialty Products, Kraft Foods, Syngenta, U.S. Dairy Export Council, National Starch and Chemical

Company, Grande Specialty Ingredients, Philly Swirl, SoyNatural Co., Moo Bella Inc., PepsiCo, Intrexon, General Mills, Frito Lay, Skyland Foods

MONSANTO COMPANY, Mt. Prospect, IL

1998 to 2000

Monsanto is an agribusiness leader with approximately \$6.5 billion annual sales

Director Protein Applications (Co-Leader)

Spearheaded a new research effort to understand how proteins function in foods. Results of research used in engineering more functional soybeans. Formed and articulated project goals, assembled and trained team, delineated individual roles and responsibilities and executed research plans. Developed unit dose delivery of bioactive components in foods defined and met milestones. Budgetary responsibility \$ 5 million per year. Ten people directly reported to this position. Selected results:

- Collaborated with biotechnologists to identify suitable vectors for engineering proteins in soybeans
- Met project goals 20% under budget and 6 mo. ahead of schedule
- Jump started stalled project due to lack of clear goals and definitions
- Partnered with marketing team to define consumer needs and preferences, developed prototype foods, obtained internal regulatory clearance to taste products, planned test article manufacture for human clinical trials and worked with QA and clinical teams to coordinate test article manufacture
- Key member of project management team that developed unit dose delivery of bioactives in food form. Decreased costs by 15% and reduced cycle time by 10%.
- Collaborated with human resources to organize and deliver a seminar that addressed dealing and coping with change and that motivated and aligned personnel to new projects and goals

INDEPENDENT CONSULTANT, State College, PA

1985 to 1998

As a professor the university allows for a consultation practice

Based on research teaching and outreach experiences, helped companies with product development activities, evaluate novel ingredient functionalities, demonstrate potential uses for new ingredients and processes resulting in expanding market and creating new markets. **Selected results:**

- Developed a low fat ice cream for Mattus Ice Cream Company, judged by Time Magazine as the Product of the Year
- Sourced raw materials, identify and implemented a copacker for product; worked with marketing to develop line extensions for Product of The Year
- Collaborated with Business and Marketing teams at York Barbell to develop high protein beverages, bars, cookies, isotonic beverages and shakes
- Organized the International Ice Cream Consortium, to exchange ideas for retention and growth of market share for member companies. Formulated an annual meeting and arranged for prominent speakers
- Coordinated and recruited an advisory panel for a family owned business that recommended ways to reorganize sales and technical functions resulting in 25% annual increase in sales for three years
- For Weight Watchers (div. of H J Heinz) reformulated health responsive ice cream products, scaled up process to commercial production. Products when introduced resulted in 200% increase in sales and an increase of 350% profits in the first year
- Developed and test marketed four varieties of frozen soups for John F. Cope Food Products, Rheems, PA. The products were accepted by consumers as superior to market leading brands

- Recognized by the Pennsylvania Technical Assistance Program for efforts improving the formulation and manufacture of foods resulting in higher quality, increased productivity and new and improved products in the marketplace.

THE PENNSYLVANIA STATE UNIVERSITY, University Park, PA 1978 to 1998
Penn State has 42,000 students at the University Park Campus

Joined as Assistant Professor and was promoted and tenured to Professor. Duties included teaching graduate and undergraduate courses, conducting research in the areas of food proteins, enzymes and dairy foods, and conducting outreach/extension programs in continuing education.

- Directed the internationally famous Ice Cream Short Course, Pasteurizer Operators Workshop, and participated in teaching Sanitation Workshop, Better Process Control School and Pennsylvania Approved Dairy Laboratory Directors Course
- Organized seminars for and reengineered production schedules that resulted in product quality improvements, increased productivity for the University Creamery (a \$ 3 million annual sales enterprise). Increased revenues by 15% in 3 months.
- Performed needs assessment, surveyed and redesigned courses, evaluated competitive pressures, revamped mailing lists all of which led to a 35% increase in enrollments for continuing education programs
- Instituted and chaired a strategic Planning Committee for the Department of Food Science that outlined the vision, mission and goals for the next decade
- Trained 13 PhD and 35 M.S. students who are gainfully employed in the food industry.
- Published over 120 research papers and contributed to conference proceedings and technical text books

EDUCATION

UNIVERSITY OF NEBRASKA, LINCOLN, PhD
 UNIVERSITY OF SASKATCHEWAN, SASKATOON, CANADA M.Sc.
 PUNJAB UNIVERSITY, CHANDIGARH, INDIA, B.Sc.

AFFILIATIONS

Institute of Food Technologists
 American Dairy Science Association
 American Chemical Society
 Gamma Sigma Delta
 Society of Sigma Xi
 Phi Tau Sigma

Editorial boards of Journal of Dairy Science, Journal of Industrial Microbiology and Biotechnology, Peer reviewer for various journals

U.S. Citizen

PUBLICATIONS IN REFEREED JOURNALS AND BOOKS:

FUNCTIONAL PROPERTIES OF PROTEINS

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Phillips, L.G.; German, J.B.; O'Neill, T.E.; Foegeding, E.A.; Harvalkar, V.R.; Kilara, A.; Lewis, B.A.; Mangino, M.E.; Morr, C.V.; Regenstien, J.M.; Smith, D.M.; and Kinsella, J.E. 1990. Standardized procedure for measuring foaming properties of three proteins, a collaborative study. *J. Food Sci.*, 55: 1441-1444.

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Vaghela, M.N and Kilara, A. 1995. Quantitative analysis of phospholipids from whey protein concentrates by high performance liquid chromatography with a narrow-bore column and an evaporative light scattering detector. J.A.O.C.S. 72: 729-733.

Mutilangi, W.A.M., Panyam D. and Kilara, A. 1995. Hydrolysates from proteolysis of heat denatured whey proteins. J. Food Sci. 60: 1104-1109.

Althouse, P.J., Panyam, D. and Kilara, A. 1995. Screening of proteolytic enzymes to enhance foaming of whey protein isolate. J. Food Sci. 60: 1110-1112.

Panyam, D. and Kilara, A. 1996. Enhancing functionality of food proteins through enzymic modification. Trends Food Sci. Technol. 7(4): 120-125.

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Ju, Z.Y. and Kilara, A. 1998. Aggregation induced by calcium chloride and subsequent thermal gelation of whey protein isolate. J. Dairy Sci. 81: 925-931.

Ju, Z.Y. and Kilara, A. 1998. Textural properties of cold-set gels induced from heat-denatured whey protein isolates. J. Food Sci. 63:288-292.

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Patel, M.T.; Nagarajan, R. and Kilara, A. 1996. Hydrolysis of milk fat by solvent-free phospholipid reverse micelles. J. Food Sci. 61:33-38,73.

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Abd El-Rahman, A.M., Madkor, S.A., Ibrahim, F.S. and Kilara, A. 1997. Physical characteristics of frozen desserts made with cream, anhydrous milk fat or milk fat fractions. J. Dairy Sci., 80:1926-1935.

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