TALLER DE CONGELACIÓN Y ALMACENAMIENTO DE ALIMENTOS CONGELADOS.

OBJETIVOS:

- *Conocer Los mecanismos fisicoquímicos que gobiernan la transferencia de calor en un sistema de congelación de alimentos.*
- *Relacionar un tipo de alimento congelado a la vida útil del mismo en base a sus condiciones de almacenamiento.*
- *Evaluar el impacto de las temperaturas de congelación en la calidad, vida útil y gasto energético.*
- *Desarrollar Cálculos para la estimación de tiempos de congelación, PIC y gasto energético.*

DIRIGIDO A:

Profesionistas que se desarrollen en la Industria de alimentos (Calidad, Investigación y desarrollo y áreas a fines), Estudiantes de Ingeniería Química, Química de Alimentos, Ingeniería Bioquímica, Gastronomía y carreras afines.
Académicos que trabajan en congelación y procesos de alimentos.

DURACIÓN:

16 hrs.

INSTRUCTOR:

Ph. D. Dennis R. Heldman
Traducción simultánea Q.F.B. Marco Antonio León Félix.

TEMARIO:

- *Introducción al proceso de congelación.*
- *Análisis del proceso de congelación; influencia de la composición en el punto inicial de congelación y en la fracción de agua no congelada.*
- *Cálculos interactivos del punto inicial de congelación y en la fracción de agua no congelada con base en la composición de alimentos.*
- *Propiedades de los alimentos congelados; impacto de la temperatura sobre las propiedades y los modelos usados para predecirlas.*
- *Predicción del tiempo de congelación para alimentos expresiones y modelos para estimar los tiempos de congelación, incluyendo métodos numéricos.*
- *Demostración de un programa de simulación de tiempos de congelación.*

Calle 28 de Diciembre No. 87 Col. Emiliano Zapata C.P: 04815, México, D.F. Tel. 01 (55) 56843889
Tel. y Fax. 01 (55) 56 84 3301
E-mail: lefix@prodigy.net.mx lefix04@yahoo.com.mx http://www.lefix.com.mx

- *Análisis de las historias de distribución de temperaturas durante el proceso de congelación; el tiempo de congelación característico.*
- *Determinación interactiva de los parámetros del proceso de congelación necesarios para lograr la máxima calidad del alimento.*
- *Optimización de la calidad de alimentos congelados usando parámetros de proceso.*
- *Estimación de los costos de enfriamiento/ congelación; predicción de los costos de enfriamiento/congelación con base en los parámetros del proceso de congelación y al sistema de refrigeración.*
- *Cálculos interactivos de costos para el enfriamiento o congelación de los alimentos.*
- *Almacenamiento y trasporte de alimentos congelados; parámetros que afecten la calidad de alimentos congelados, medidas y controles; vida de anaquel de alimentos congelados.*

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Ph. D. Dennis R. Heldman

Dennis R. Heldman was awarded B.S. (1960) and M.S. (1962) degrees from The Ohio State University, and a PhD (1965) from Michigan State University. His educational background emphasized the application of engineering principles and concepts to the processing of foods.

In 1966, Dr. Heldman joined the faculty at Michigan State University, and began teaching and research in the area of food process engineering. In 1975, the first edition of Food Process Engineering (by Heldman), a textbook for undergraduate engineering students, was published. He served as Chair of the Agricultural Engineering Department at Michigan State University from 1975 to 1979. In 1981, the second edition of Food Process Engineering (with R. Paul Singh) was published, and in the 1984, the first edition of Introduction to Food Engineering (with R. Paul Singh) was published.

Dr. Heldman joined the Campbell Soup Company in 1984, as the Vice President of Process Research and Development. In 1986, he moved to the National Food Processors Association, as Executive Vice President of Scientific Affairs, and CEO for The National Food Laboratory, and President of The Food Processors Institute. In 1991, Dr. Heldman joined the Weinberg Consulting Group Inc, and was involved in consulting on food regulatory issues. In 1992, the first edition of the Handbook of Food Engineering (Heldman and Lund) was published.

In 1992, Dr. Heldman was appointed Professor of Food Process Engineering at the University of Missouri and Leader for the Foods, Feeds and Products cluster in the Foods for the 21st Century program; he was involved in teaching and research in food engineering. Beginning in 1994, he served as Unit Leader for the Food Science and Engineering Unit, and in 1997, as Director for the Office of Value-Added Agriculture Outreach. In 1993, the second edition of Introduction to Food Engineering (with R. Paul Singh) was published, and in 1997, Principles of Food Processing (with Richard W. Hartel) was published.

From 1998 to 2004, Dr. Heldman was Professor of Food Process Engineering at Rutgers, the State University of New Jersey, and Director of the Cooperative Research & Development Program in the Center for Advanced Food Technology (CAFT). The third edition of Introduction to Food Engineering (with R. Paul Singh) was published in 2001. In 2003, the print edition of the Encyclopedia of Agricultural, Food and Biological Engineering (Heldman as Editor) was published; the print edition has been followed by quarterly on-line up-dates.

Currently, Dr. Heldman is Principal in Heldman Associates, a consulting firm involved in applications of engineering concepts to food processing for educational institutions, industry and government. These activities include publication of the Second Edition of the Handbook of Food Engineering (with Daryl B Lund) in 2007, continued on-line contributions to the Encyclopedia of Agricultural, Food and Biological Engineering, and a new Encyclopedia of Biotechnology in Agriculture and Food (Heldman as Editor) to be published in 2010. In addition, Heldman has served as President-Elect (2005-06), President (2006-07) and Past-President (2007-08) of IFT, the Society for Food Science and Technology, an international organization with over 20,000 members. He was elected Fellow in the International Academy of Food Science & Technology in 2006. The fourth edition of Introduction of Food Engineering (with R. Paul Singh) was published in 2008.