

## Registration Form

Course Offering # **0908-202**

### Suspensions and Emulsions in Pharmaceuticals and Food

August 10–11, 2009 • Burlingame, CA

**Priority Code:** 520  
(Please use this code when registering)

Dr. Mr. Ms. \_\_\_\_\_  
First Name Last Name

Job Title \_\_\_\_\_

Company/Institution \_\_\_\_\_

Company Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Tel \_\_\_\_\_ Fax \_\_\_\_\_

E-mail Address \_\_\_\_\_

(Required in order to send confirmation material. CfPA does not rent or sell e-mail addresses)

**Note: Please complete separate form for each registrant.**

## Tuition and Payment Methods

**Early Registration (Save \$200)**  
(Must register and pay by June 15, 2009)

U.S. \$ Single Rate **1275** / \$ Group Rate\* **1215**

**Regular Registration**

U.S. \$ Single Rate **1475** / \$ Group Rate\* **1415**

Tuition payable in US funds net of all charges includes continental breakfast, luncheon, breaks and course notes.

\*Group Rate is per person, for two or more enrollments registering at the same time, from the same company, for the same course.

**Note: Payment is due before course start date.**

#### Send Invoice

Purchase Order # \_\_\_\_\_  
(If Required)

Check (payable in U.S. funds to The Center for Professional Advancement)

#### Credit Card

Visa  MasterCard  American Express  Discover

Card # \_\_\_\_\_ Exp. Date \_\_\_\_\_

Cardholder Name \_\_\_\_\_

Signature \_\_\_\_\_

## 3 Ways To Register

- Internet: [www.cfpa.com](http://www.cfpa.com)
- Fax registration form to: **732.238.9113**
- Mail registration form to:

**The Center for Professional Advancement (CfPA)**  
**P.O. Box 7077**  
**East Brunswick, NJ 08816-7077**

## General Information

**Payment:** Tuition payable in US funds net of all charges. Payment is due BEFORE course start date. If payment has not been received two weeks before the course, a credit card will be required to guarantee registration.

**Discounts/Rates:** To receive the Early Registration Discount, payment is required at time of registration and/or BEFORE early registration discount expires or the regular tuition rate will apply. If choosing invoice/check/wire transfer, payment must be received prior to expiration of early registration discount or the regular tuition rate will apply. All tuition prices are a per person rate. To qualify for the Group Rate tuition, registration must be for two or more enrollments registering at the same time, from the same company, for the same course. Multiple discounts not applicable.

**Cancellations/Substitutions/FEES:** All cancellations are subject to a \$150.00 processing fee. Applicants may cancel up to two weeks prior to the course start date for a refund. If less than two weeks, a credit will be issued that can be used towards a future course up to one year from the date of issuance. No refunds or credit will be issued for those who do not attend the scheduled course and/or cancel less than two working days before the start date. Substitutions are permitted at any time. If for any reason, CfPA decides to cancel this course, we are not responsible for airfare, hotel or other costs incurred by the registrant. Program content, schedule and instructors are subject to change without notice.

**Confirmation Letters:** Before each course begins, all registrants will receive written confirmation including detailed information regarding course location – VIA EMAIL. If confirmation is not received two weeks prior to the course please contact Customer Service.

**For questions/more information contact Customer Service at 732-613-4500 or [info@cfpa.com](mailto:info@cfpa.com)**

**Our full terms and conditions can be found on our website at [www.cfpa.com](http://www.cfpa.com)**

## Courses of Interest

- **Cosmetic Product Formulation**  
course id# 1350
- **Industrial Rheology**  
course id# 1025
- **Microencapsulation and Particle Coating**  
course id# 774
- **Mixing of Liquids and Complex Materials**  
course id# 1115
- **Pathways to Skin Penetration**  
course id# 2149
- **Skin Product Development**  
course id# 1050

## Who We Are

The **Center for Professional Advancement (CfPA)** is the largest accredited technical training organization in the world with a curriculum of approximately 350 short courses in 18 industries including Pharmaceutical, Biotechnology, Medical Device, Chemical, Cosmetics, Food and more.

Since our founding in 1967, we have successfully trained nearly a half million people worldwide in topics ranging from basic and introductory concepts to new advances and cutting-edge technology, and current U.S. and European regulations. CfPA courses are offered in a variety of formats – Public offering, Client Site and Online – to fit you or your company's training needs.

## Accreditations



The **Center for Professional Advancement** has been approved as an Authorized Provider by the **International Association for Continuing Education and Training (IACET)**, 8405 Greensboro Drive, Suite 800,

McLean, VA 22102. In obtaining this approval, **The Center for Professional Advancement** has demonstrated that it complies with the ANSI/IACET Standards which are widely recognized as standards of good practice internationally. As a result of their Authorized Provider membership status, **The Center for Professional Advancement** is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET Standards.



**The Center for Professional Advancement (CfPA)** is accredited by the **Accreditation Council for Pharmacy Education** as a provider of continuing pharmacy education. **Continuing Education Units (CEU)** will be awarded only upon successful completion of the course, i.e., attendance at essentially all the formal sessions and submission of a course evaluation. The **CEU** rate is 0.1 **CEU** per contact hour; statement of credit will be mailed within six weeks. You will have an opportunity to evaluate your successful completion of these course objectives through a **Learning Assessment**. *This offering is Program# 716-000-09-208-L04*

The Center for Professional Advancement offers many courses which have a chemical component. Such courses may earn up to **20 Certification Units** toward certification by **The National Certification Commission in Chemistry and Chemical Engineering**, sponsored by **The American Institute of Chemists**.

### The Center for Professional Advancement

P.O. Box 7077, East Brunswick, NJ 08816-7077

Phone: 732.238.1600 • Fax: 732.238.9113

E-mail: [info@cfpa.com](mailto:info@cfpa.com)

[www.cfpa.com](http://www.cfpa.com)

**SAVE \$200-Register & Pay by June 15**

August 10–11, 2009  
Burlingame, CA



# Suspensions and Emulsions in Pharmaceuticals and Food

#### Course Topics Include:

- Formulation for Pharmaceuticals and Foods
- Performance and Stability Measurements
- Understanding the Theoretical Basis for Practical Applications
- Scale-Up Processes for the Manufacture of Dispersed Phases
- Hands on Workshop

Directed by:

**Larry D. Ford, Ph.D.**  
Independent Consultant  
and

**Edgar N. Jaynes, Jr., Ph.D., CQE**  
Technical Transfer Liaison  
Banner Pharmacaps Inc.



**CfPA**

The Center for Professional Advancement  
Accredited Technical Training Worldwide

[www.cfpa.com](http://www.cfpa.com)

## Who Should Attend

This program will benefit:

- Scientists
- Engineers
- Managers
- Technicians

Who work in the following areas:

- Product Development
- Process Development
- Continuous Improvement
- Pilot Plant Operation and Scale-Up
- Research and Development
- Regulatory Affairs/Quality Control
- Technology Transfer

## Learning Objectives

Upon completion of this course, you will be able to:

- Translate basic principles to design emulsion and suspension-based products to meet product requirements
- Develop testing and stability protocols to measure product performance under use conditions
- Investigate product performance issues in prototype or commercial products

## Course Description

This course is designed to provide a set of theoretical and practical tools for those interested in working with dispersed phases and predicting and understanding their sometimes complex behavior. The participant will learn to use the materials and processes needed to create dispersed-phase products, and to effectively solve problems arising during development. Troubleshooting existing commercial product problems will be emphasized as well. The theoretical underpinnings of emulsion and suspension behavior will be described to provide a backdrop for discussions of specific emulsifying and suspending systems. Current methods to analyze the behavior of dispersed phases will be described, as will methods to measure and predict stability of the products. Processing and scale-up issues specific to the type of equipment needed to create dispersed phases will also be discussed.

# Suspensions and Emulsions in Pharmaceuticals and Food

## COURSE OUTLINE

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### First Day

#### 8:00 a.m.: Registration/Continental Breakfast

#### 8:30–10:00 a.m.:

##### Principles of Colloid Chemistry

- Monolayer structure at the interface
- Surfactant structure and function
- Characterization and measurement methodology

#### 10:15–11:45 a.m.:

##### Emulsion and Suspension Theory

- Types of emulsions and suspensions
- Formation mechanisms and kinetics
- Emulsifier types and characteristics
- Suspension stabilizers

#### 12:45–2:15 p.m.:

##### Emulsion Structure and Function

- Food and pharmaceutical emulsifiers
- Oils and other ingredients
- Interfacial structure and rheology

#### 2:30–4:00 p.m.:

##### Practical Food and Pharmaceutical Emulsions

- Types and purposes of emulsions
- Effects on drug delivery and food taste/texture
- Making emulsions fit product requirements

#### 4:15–5:45 p.m.:

##### Emulsion/Suspension Stabilization

- Processes leading to instability
- Effects of density and particle/droplet size
- Surface charge characteristics
- Surface rheology measurements

### Second Day

#### 8:30–10:00 a.m.:

##### Practical Suspensions

- Commercial uses of dispersed-phase products
- Making dispersed phases fit product requirements
- Recent developments (drug delivery, flavor delivery)

#### 10:15–11:45 a.m.:

##### Processing Methodology

- Equipment
- Process planning
- Processing effect on interfacial structure
- Scale-up issues

#### 12:45–2:30 p.m.:

##### Hands-On Workshop

- Preparation of emulsions (w/o and o/w)
- Suspension destabilization
- Particle size effect on the appearance of an emulsion
- Viscosity of an emulsion of non-uniform drop size

## Course Co-Directors

**Dr. Larry Ford** is currently an independent consultant for the food and nutraceutical industries. For over 25 years, he was a Research Principal in research, product development, and food ingredient development for Kraft Foods. His work experience has covered a broad range of food emulsion and suspension-based products including pourable salad dressings, margarine and spreads, mayonnaise, ice cream, processed cheeses, etc. He has also spent considerable time studying oil/water interfaces in food systems in order to optimize the emulsification process, emulsion stability, and to enhance the interfacial properties of natural surfactants.

In 1982 Dr. Ford received his PhD degree in Physical Chemistry, specializing in Colloid and Surface Chemistry, from the University of Missouri at Rolla, Missouri.

**Dr. Edgar N. Jaynes, Jr., CQE**, is Technology Transfer Liaison at Banner Pharmacaps Inc., a manufacturer of soft gelatin capsules and Soflet® Gelcaps enrobed tablets and caplets. In this position, he is responsible for transferring products from R&D to Operations, and for transferring external technologies into the company. He has held several positions at Banner in the areas of Business Development, Market Research, Quality Investigations, Competitive Intelligence and Pharmaceutical Product Formulation. He has taken part in development and commercialization of several prescription and OTC products.

Prior to joining Banner, Dr. Jaynes held science and management positions in Technology Development at Campbell Soup in Camden, NJ, Kraft Foods in Glenview, IL, and General Foods Corporation in Tarrytown, NY, as well as a position in Product Development at SC Johnson, Inc.

Dr. Jaynes has developed product prototypes in a wide range of food, personal care, and pharmaceutical products, in addition to investigating and correcting manufacturing exceptions.

## Course Location

This course will be held at the **DoubleTree Hotel in Burlingame, California**. A limited block of rooms in the hotel will be held for our registrants until four weeks before the course. Participants must, however, make their own reservations; the cost of hotel accommodation is not included in the course fee. Hotel information will be included with your acceptance. To receive **CfPA's** rate and room block, be sure to mention that you will be attending one of our courses. For reservations call 650.344.5500.

[www.cfpa.com](http://www.cfpa.com)

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## Client Site

Training at your site and at your convenience. For further information, please contact **Client Site** Programs: Direct Dial (USA) +1/732.238.1600, ext. 4549; or fax +1/732.238.9113; or **E-mail** [clientsite@cfpa.com](mailto:clientsite@cfpa.com).

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