

Hydrogenation



David Erickson



E. W. Lusas

. Protein



David N. Holcomb



. . Protein

. . . Marine oils

AOCS to offer 4 short courses in Hawaii

Four AOCS educational conferences will be held immediately preceding the 1986 annual meeting in Hawaii to permit registrants to attend a short course and an annual meeting while being out of their offices only one week. The scheduling also will permit persons traveling long distances to attend the two events with only one airfare.

The short courses will begin May 11 and May 12. All four will end on Wednesday, May 14, to permit transfer to the Hilton Hawaiian Village in Honolulu where the joint meeting of the AOCS and the Japan Oil Chemists' Society will open with a mixer the evening of Wednesday, May 14. The AOCS meeting will have technical sessions through Saturday, May 17, with a gala social event that evening and an inaugural brunch on Sunday morning, May 18.

Brief summaries of the four short courses follow this article. The topics will be hydrogenation, marine oils,

Available from AOCS – Handbook \$20 of Soy Oil Processing and Utilization

protein and the physical chemistry of lipids. Full details will be mailed to all AOCS members; others may request information by writing: Meetings Manager, AOCS, 508 S. Sixth St., Champaign, IL 61820.

Hydrogenation

Bob Hastert has a problem. He is organizing a two-day "experience" on the subject of hydrogenation for the Sunday and Monday preceding the AOCS 1986 annual meeting in Hawaii.

The event has been referred to so far as a "short course," but Bob is not entirely pleased with that designation as he believes it implies a lecturer-to-student format that does not fit with what he has in mind.

The purpose of this "event" is to provide, through discussion and lectures, a thorough exposition of both the theoretical principles and the practical aspects of hydrogenation. This will enable participants to better understand and consequently to improve their hydrogenation operations. Registrants will study hydrogenation chemistry, theory of catalysis and reaction orders and rates. The effect of process conditions and feedstock impurities on preferential selectivity and degree of isomerization will be studied in detail. There will be ample opportunity for registrants to pose specific questions on theoretical and practical subjects to an international faculty of hydrogenation specialists.

While there will be lectures, and by the world's leading authorities, there also will be panel discussions and there will be question-and-answer sessions that will include the faculty, additional experts and the registrants. In other words, Bob wants the lectures to be the starting point for a broad learning experience.

Perhaps a better name would be Scientific or Research Conference? But Bob thinks that sounds a little stuffy. Symposium sounds like a technical session at an annual meeting.

If you have thoughts on what to call the meeting, let Bob know. Or if you plan to attend and have a specific topic you want covered, let Bob know. Write to: Robert Hastert, Manager, Market and Product Technology, Harshaw/Filtrol Partnership, 30100 Chagrin Boulevard, Cleveland, OH 44124 USA.

And if you want to participate in the event, reserve Sunday, May 11, 1986, and Monday, May 12, 1986, to attend a "Hydrogenation Something-or-Other." Program and registration information will be available from: Meetings Manager, AOCS, 508 S. Sixth St., Champaign, IL 61820 USA.

Food uses of protein

The food uses, with minimum processing, of oilseeds, legumes and nuts will be reviewed in a 2½-day short course to be held May 12-14, 1986 on Oahu.

Soybeans will be the first subject covered with talks planned on production, availability and variety differences, general uses of whole soybeans (fresh vegetable, canned, snacks, soy butter, full-fat flours), principles of soy milk production, review of soy milk processes by manufacturers' representatives, review of tofu manufacture, miso preparation, tempeh and whole soybean sauces.

Next will be papers on uses of common dry field beans, Indian uses of dry pulses, African uses of cowpeas, pigeon peas and local seeds, food uses of tropical nuts and palm fruit, uses of fresh and desiccated coconut, use of sesame, manufactured peanut products and confections, native uses of whole peanuts, uses of confectionery sunflowerseed and food uses of glandless cottonseed.

This will be followed by papers on world uses of dry field peas and lentils, sprouted seed foods, control of antinutritional and toxic factors in oilseeds and legumes, vegetable protein quality enhancement by blending, nutritional considerations, nutrition progress in vegetable protein diet societies, and changing food styles and vegetarianism in industrial nations.

On Wednesday morning, May 14, field trips are planned to soy milk, tofu, tempeh, soy sauce and nut processing operations on Oahu with the trips concluding in Honolulu where short course participants will arrive in time to register for the AOCS annual meeting.

Marine oils

"Marine Oils and Eicosapentaenoic Acid" will be the topic for an AOCS short course to be held May 11-14, 1986, at the Sheraton Waikoloa in Hawaii.

Marine oils have been the center of increasing interest by dieticians and nutritionists in recent years. At the 1980 Conference on Dietary Fats and Health, sponsored by AOCS, William E. Connor presented a paper on "The Hypolipidemic and Antithrombotic Effects of Salmon Oil" reporting on studies that showed marine oils reduce plasma cholesterol levels, as do vegetable oils, but also reduce triglyceride levels significantly more than the vegetable oil diet.

Since then there have been additional meetings and much research on the potential benefits of dietary marine oils, specifically the linolenic content.

The National Institutes of Health invited researchers to a June 1985 meeting to discuss what the agenda should be for further research.

The AOCS short course will cover marine lipid biochemistry as well as dietary implications. Topics expected to be discussed include whether the fishing industry can integrate with the food industry rather than operate in its traditional independent role, how nutritional information can be conveyed to nutritionists and to the general public, and the role of lipid biochemists in assessing the role of linoleic and linolenic fatty acids.

Chairman for the short course is Robert G. Ackman, professor at the Technical University of Nova Scotia and an internationally known marine lipid researcher.

Among the tentative papers being considered are:

• Photosynthesis, food chains, basic lipid classes and fatty acids.

• Fish groups, the fishing industry and fish processing for food.

• Fish farming and aquaculture; modifying fish fat for more EPA.

• Fish oil types, production hydrogenation, use in the fats and oils industry, stability.

• Plans for utilization of fish oils and fractions.

• Clinical experience with MaxEPA.

Marine biochemicals and prostanoids.

• Fish in the human diet-quantities and varieties, geography, shellfish and cholesterol.

• Biochemistry of AA, EPA and DHA-the linoleic/linolenic acid balance and vegetable sources.

• Other aspects of fish oils—peroxides, cancer, aging, autoimmune disease.

• Analytical techniques for lipids and fatty acids.

• Open forum or presentations on NIH, FDA, fads, foods and regulations.

As with the other short courses, the marine oil short course will end to provide time on Wednesday, May 14 for travel to the Hilton Hawaiian Village in Honolulu for the AOCS-JOCS annual meeting.

Physical chemistry

The AOCS Short Course on Physical Chemistry of Fats and Oils will be concerned with such products as margarines, shortenings and salad dressings, as well as other products based primarily on fats and oils, and also with pure triglycerides, diglycerides and monoglycerides. It will include information on use of monoand diglycerides as emulsifiers in oil-based systems.

The course, to be held May 12-14, 1986, at the Turtle Bay Hilton, is being organized by David N. Holcomb, manager of basic food science at the Kraft Inc. Research and Development facility in Glenview, Illinois. Short Course cochairmen are Niels Krog of Grindsted Products A/S in Brabrand, Denmark, and Kiyotaka Sato, professor on the faculty of applied biological science at Hiroshima University in Japan.

The tentative program is as follows:

Monday, May 12, Introduction, Methods and Concepts

Physical Properties of Fats and Oils: An Overview

Rheological Principles with Applications to Fats and Oils

Newer Methods for Evaluating Viscoelastic Properties of Fat Systems (Emulsions)

Principles of NMR with Applications to Fats and Oils Principles of DSC with Applications to Fats and Oils Microscopy of Fats and Oils, including TEM and SEM

X-Ray Diffraction Analysis of Fats and Fatty Acids

Tuesday, May 13, Polymorphism of Fats

Polymorphism of Fats: An Overview

Crystallization Behavior of Polymorphs of Fats and Fatty Acids

Surface-active Lipids, Their Structure, Polymorphism and Mesomorphic Behavior in Aqueous Systems

Modern Spectroscopic Methods in the Study of Polymorphs of Fats and Fatty Acids

Surfactant Additives in Confectionery Fats

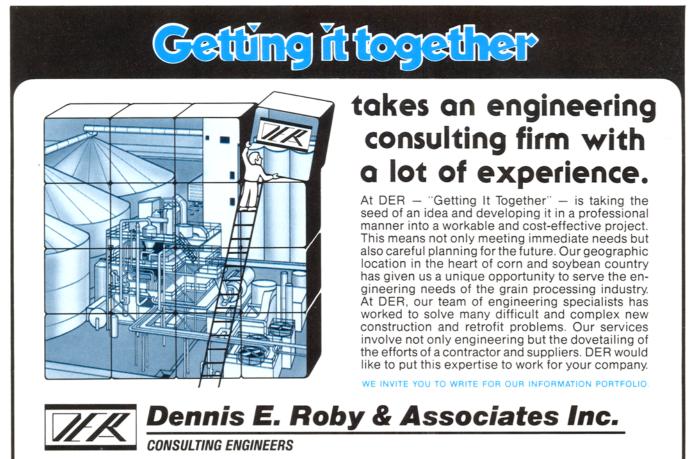
Ultrastructural Characterization of Interfacial Layers in Oil-in-Water Emulsions

Computer Modelings of Polymorphic Phase Transitions in Triglycerides

Wednesday, May 14, Interactions of Fats and Oils with Other Components

Interactions of Surface-active Lipids with Starch Components in Food Systems

Interactions of Glycerides with Proteins in Interfaces in Emulsions



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Lipid-Protein Interactions Summary

Confirmation is expected shortly from speakers in Canada, England, Germany, Sweden, Japan, Denmark, Israel and the United States.

The course is expected to be of particular interest to researchers from industry and academia concerned with physical chemistry properties of fats and oils, including polymorphism. Registrants will gain understanding of how the molecular properties influence the functionality of fats and oils and their interreaction with other product ingredients.

The short course will end at mid-day May 14 so that registrants will have ample time to arrive at the Hilton Hawaiian Village in Honolulu to register for the AOCS-JOCS annual meeting to be held May 14-18.

Canadians to meet Oct. 1-2

Thirty research papers are scheduled for presentation during a two-day meeting this October organized by Canadian members of the AOCS.

The event will be held Oct. 1-2, 1985, at the Sir Frederick G. Banting Research Centre, Tunney's Pasture, Ottawa. The meeting is open to all interested persons. Further details may be obtained by telephoning AOCS President Joyce Beare-Rogers in Ottawa (613-993-4449).

Scheduled topics and authors are:

Ruthenium Catalysts for Hydrogenation, L. L. Diosady, C. Bell and L.J. Ruben, University of Toronto

VPEX: An Emerging Technology in Canola Crushing, M. Picard, CSP Foods, Saskatoon, Saskatchewan

Effect of Chlorophyll on Hydrogenation of Canola Oil, V. Abraham and J. M. deMan, University of Guelph, Guelph, Ontario

Trans Reduction and Polyunsaturate Optimums in Margarines, J. Ward, Nabisco Brands, Mississauga, Ontario

Quality of Canola and Rapeseed, J. K. Daun, Canadian Grain Commission, Winnipeg, Manitoba

Canola Oil, Studies on Quality and Stability, M. Eskin, University of Manitoba, Winnipeg, Manitoba

Visco-elastic Properties of Plastic Fats, J. M. DeMan, S. Gupta, M. Kloeb and G. E. Timbers, University of Guelph and Agriculture Canada

Production of Volatile Acids in the Automated Swift Test, L. deMan and J. M. deMan, University of Guelph, Guelph, Ontario

The Fatty Acid Composition of Seed Oil of Cucurbitaceae, C. Y. Hopkins, Ottawa, Ontario

Lipids as Biosurfactants, D. G. Cooper, McGill University, Montreal

Location of *trans*-Unsaturated Fatty Acids in the Triacylglycerols of Canola Oil, Fan Tie and J. M. deMan, University of Guelph, Guelph, Ontario

Fractionation of Butterfat and Characterization of Fractions, V. Amer, D. Kupranycz and B. Baker, Dairy Bureau of Canada and McGill College, Montreal

Thermal Oxidation of Butterfat, Butterfat Fractions and Vegetable Oils, D. Kupranycz, V. Amer and B. Baker, Dairy Bureau of Canada and McGill College, Montreal

Triacylglycerols from Thermally Oxidized Oils, J. C.

Alexander and H. Yoshida, University of Guelph, Guelph, Ontario

Fat and Oil Composition of Weed Plants, J. Rattray, University of Guelph, Guelph, Ontario

Hydrazine Reduction in the Analysis of Cyclopropenoid Fatty Acids, R. G. Ackman and N. Ratnayake, Technical University of Nova Scotia, Halifax, Nova Scotia

Determination of Molecular Species of Phospholipids from Rat Intestinal Mucosa by HPLC and GLC, S. Pend, A. Kuksis, J. J. Myher, L. Marai and D. Kritchevsky, University of Toronto, Toronto, Ontario, and the Wistar Institute

Qualitative and Quantitative Separation of Lipids by the Iatroscan Method, J. Kramer, Agriculture Canada, Ottawa, Ontario

Effect of Lipid Environment on Immune Recognition of Lipid or Protein Antigens, J. M. Boggs, Hospital for Sick Children, Toronto, Ontario

Effect of Vitamin E on Platelet Lipoxygenase, C. E. Douglas and A. C. Chan, University of Ottawa, Ottawa, Ontario

Molecular Species Analysis of Phosphatidylcholine and Phosphatidylethanolamine from Human Platelets, I. Vishnubhatla and M. Kates, University of Ottawa, Ottawa, Ontario

Alterations in the Blood Plasma and Platelet Lipid Composition of Human Subjects Receiving a Lipid Concentrate Enriched in Eicosapentaenoic Acid, B. Holub, M. K. Skeaff and D. Bakker, University of Guelph, Guelph, Ontario

Polyunsaturated Fatty Acids in Human Erythrocytes, M. Carman and J. L. Beare-Rogers, Department of National Health and Welfare, Ottawa, Ontario

Levels of Fatty Acids in Normal Populations and Various Clinical Disorders, M. S. Manku, Efamol Inst., Wolfville, Nova Scotia

Studies on the Mechanism of Regulation of Essential Fatty Acids in Cultured Cells, H. Cook, Atlantic Research Centre for Mental Retardation, Halifax, Nova Scotia

The Effects of Reducing the Level of Dietary Fat on DMBA-induced Mammary Tumorigenesis, L. M. Braden, J. A. Bell, R. Kalamegham and K. K. Carroll, University of Western Ontario, London, Ontario

Influence of Dietary Fat on Colonic Epithelium, R. P. Bird, Ludwig Cancer Institute, Toronto, Ontario

Transfer of *trans*-Fatty Acids from Laying Hens to Eggs, Embryos and Hatched Chicks, J. S. Sim, University of British Columbia, Vancouver, British Columbia

Cholesterol and Essential Fatty Acid Metabolism, Y. S. Wong, Efamol Institute, Wolfville, Nova Scotia

Whole Body Oxidation of Dietary Fat, M. T. Clandinin and P. J. Jones, Pencharz University of Alberta, Edmonton, Alberta and Hospital for Sick Children, Toronto, Ontario

Cannes registration

Persons planning to attend the World Conference on Emerging Technologies to be held Nov. 3-8, 1985, in Cannes, France, have until Sept. 23 to register at the early registration fee (see registration form in this issue of JAOCS for details).

The conference will focus on the latest developments relative to unit processes, energy, environmental topics, end uses, and automation and computerization. Attendees will receive information to use in anticipating how emerging technologies may affect their firms and the industry as a whole.

If the registration and housing form in this issue of *JAOCS* has been removed, additional forms are available from the AOCS, 508 S. Sixth St., Champaign, IL 61820, or from ITERG, 10/A Rue de la Paix, 75002 Paris, France. The American Oil Chemists' Society and L'Institut des Corps Gras are the primary organizers for the meeting.

There will be more than 70 plenary lectures, with plenary lecturers also participating in informal discussion sessions following each afternoon session. Supplementing the plenary program will be more than a dozen poster presentations. The accompanying exposition will provide an opportunity for registrants to see the latest in services and equipment offered by suppliers to the industry. In addition, there will be ample opportunity for informal conversations at coffee breaks and a series of social events.

Registrants from the United States will have the opportunity to participate in either of two pre-conference tours, one of which includes a full-day technical visit at the ITERG facilities in Bordeaux. U.S. registrants also may elect a post-conference stopover tour in Paris. Details are available from AOCS. All registrants will be provided information on a two-day technical program on oilseed preparation, hosted by Buhler Brothers Ltd. in Switzerland. Details of the program were published in the August JAOCS or are available from AOCS. Costs for these optional pre- and post-conference tours are not included in the conference registration fees.

The conference will use 18 hotels in Cannes. Rates for four-star hotels will be 702 French francs a night for double occupancy, 594 for single occupancy; three-star hotels, 300 to 390 French francs for double occupancy or 195-365 for single occupancy, and two-star hotels, 220 French francs a night for double occupancy or 185 for single occupancy. Please indicate your choice of hotels on the registration form by using the number code provided:

Four-star hotels: 1. Majestic; 2. Carleton; 3. Gray D'Albion; 5. Grand, and 6. Martinez.

Three-star hotels: 7. Solhotel; 8. Embassy; 9. Univers; 10. Acapulco; 11. Des Orangers; 12. Ruc; 13. Abrial; 15. Belle Plage; 16. Gallia; 17. Grande-Bretagne, and 18. Ligure.

Two-star hotels: 4. Atlas, and 14. Amiraute.

Post-conference course

Registrants attending the world conference in Cannes will have the option of attending a short course on Oilseed Processing to be held Nov. 11 and 12, 1985, in Zurich, Switzerland.

The course was organized by European members of the AOCS following a suggestion made during the 1985 AOCS annual meeting that such an event be scheduled. The registration fee will be U.S. \$250 and will include the course, three nights lodging at the Moevenpick Hotel at the Zurich Airport, two breakfasts, two lunches, coffee breaks and transportation to visit Buhler Brothers pilot plant facility in Uzwil.

Short course chairman is Roger Leysen of the American Soybean Association staff in Brussels. Technical sessions will be held all day Monday, Nov. 11, and the morning of Tuesday, Nov. 12. The visit to Buhler Brothers will be the afternoon of Nov: 12.

Tentative topics and speakers are:

- Ship Unloading, R. Bruellmann, Buhler Bros., Uzwil
- Seed Cleaning, F. Frey, Buhler Bros., Uzwil
- Construction of Concrete Silos, A. Kraemer, A. Kraemer Engineering, Zurich

• Construction of Steel Silos, P. B. Deschamps, Denis Privd, Germany

• Seed Storage, C. Ruckenstein, USOP, Israel

• Dehulling of Soybeans, W. Fetzer, Buhler Bros., Uzwil

• Flaking, L. Ruethemann, Buhler Bros., Uzwil

• Expeller Press Installations, Ruckenstein

• Solvent Extraction, Roger Leysen, American Soybean Association, Brussels

• Energy Production by Burning of Sunflower Hulls, Ruckenstein

• Potential for Automation of Seed Preparation, Fetzer

• Level Controls in Oil Mills, H. Lang, Endress und Hauser, Reinach

The course fee will cover actual costs. A minimum of 25 participants is required; a maximum of 40 can be accommodated. Persons interested in participating should send a check to Buhler Brothers Ltd., Uzwil, Switzerland, ATTN: Dept. DM-4. A cover letter must accompany the check providing the full name, mailing address and telex number, if available, of the prospective registrant. All persons registering for Cannes will receive information about the short course with their registration confirmation. Registrations for the short course will be accepted on a first-come, first-served basis.

FACSS meets this month

The 12th annual meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS) will be held Sept. 29-Oct. 4 at the City Line Marriott, Philadelphia, Pennsylvania. Approximately 500 papers on fundamental and applied topics in spectroscopy and analytical chemistry will be presented. Sponsoring organizations for the meeting are the Society for Applied Spectroscopy, Analytical Division of the American Chemical Society, Association of Analytical Chemists, Analysis and Instrument Division of the Instrument Society of America, Chromatography Forum of the Delaware Valley and Coblentz Society.

1985 officers of FACSS are Fred Corcoran, Dionex, general chairman; Matthew S. Klee, Smith Kline & French Labs, program chairman; Robert A. Barford, USDA Eastern Regional Research Center, governing board chairman; Edward G. Brame, DuPont, secretary, and Douglas W. Robinson, Pennwalt Corp., treasurer.

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