Calendar

AOCS NATIONAL MEETINGS

Annual Meeting, May 8-12, 1988, Hilton and Hyatt Hotels, Phoenix, Arizona.

Annual Meeting, May 3-7, 1989, Convention Center, Cincinnati, Ohio.

AOCS WORLD CONFERENCES

World Congress on the Utilization of Vegetable Proteins in Human Foods and Animal Feedstuffs, Oct. 2-7, 1988, Singapore. World Conference on Edible Fats and Oils Processing: Basic Principles and Modern Practices, Oct. 1-6, 1989, Maastricht, The Netherlands.

AOCS SHORT COURSES

Short Course on Introduction to Fats and Oils Technology, May 4-7, 1988, Phoenix, Arizona. Short Course on Lecithins: Sources, Manufacture and Uses, May 4-7, 1988, Phoenix, Arizona. Short Course on Application of Pulsed NMR Technology in Food Analysis. May 4-7, 1988, Phoenix, Arizona.

1988

February

AOCS Northeast Section meeting, Feb. 2, 1988, Robin Hood Inn, Clifton, New Jersey. A. Bendich of Hoffman-LaRoche to talk on biochemical antioxidants. Contact: Anthony Montana, Henkel Process Chemicals Inc., 350 Mt. Kemble Ave. CN 1931, Morristown, NJ 07960-1931.

Annual meeting, Food Processing Machinery & Supplies Association, Feb. 5-10, 1988, Buena Vista Hotel, Orlando, Florida. Contact: Food Processing Machinery & Supplies Association, 200 Daingerfield Rd., Alexandria, VA 22314.

Symposium, "Soybean Utilization Alternatives," Feb. 16-18, 1988, Radisson Hotel South, Bloomington, Minnesota. Contact:

(Continued on page 88)

On the Cover

The photograph of crambe flowers at the flowering and seed-set stage (top photo) was taken by George A. White, Plant Introduction Officer, U.S. Department of Agriculture, Agricultural Research Service (USDA/ARS). The jojoba photograph (left photo), taken by Kelley Dwyer of Jojoba Growers and Processors Inc., shows the female jojoba flower. The third photograph (bottom right), showing the flowers and seed pods of the hybrid cross between Cuphea leptopoda and Cuphea laminuligera, was provided by Anson E. Thompson of USDA/ARS, U.S. Water Conservation Lab, Phoenix, Arizona. An article examing efforts to develop crambe, jojoba and cuphea as commercial crops begins on page 6.

JAOCS

JOURNAL OF THE AMERICAN OIL CHEMISTS' SOCIETY (ISSN: 0003-021X), formerly OIL & SOAP, is published monthly by the AMERICAN OIL CHEMISTS' SOCIETY, 1608 Broadmoor Dr., Champaign, IL 61821-0489 USA. Phone (217) 359-2344, Telex: 4938651 AOCS UI. Second class postage paid at Champaign, Illinois, and additional mailing offices. POST-MASTER: Send address changes to Journal of the American Oil Chemists' Society, P.O. Box 3489, Champaign, IL 61821-0489 USA.

SUBSCRIPTIONS for U.S. are \$70 for one year and \$190 for three years. Non-U.S. subscriptions are \$85 for one year and \$235 for three years. Air mail postage is \$60 extra per year.

COPYRIGHT 1988 by the American Oil Chemists' Society. Formerly published as Chemists' Section, Cotton Oil Press, 1917 to 1924; Journal of the Oil and Fat Industries, 1924 to 1931; Oil & Soap, 1932 to 1947. The American Oil Chemists' Society assumes no responsibility for statements or opinions of contributors to its columns. The Journal is indexed in the Applied Science and Technology Index of the H.S. Wilson Company, New York.

CLAIMS for copies lost in the mails must be received within 30 days (90 days foreign) of the date of issue. Notice of change of address must be received two weeks before date of issue.

ADVERTISING INSTRUCTIONS AND DEADLINES. Closing date 3rd of month preceding date of issue. Insertion orders received after closing will be accepted by the production manager at advertisers' risk. AOCS cannot guarantee positioning of proofs for ads received after closing. Cancellation date 3rd of preceding month. Send insertion orders and mechanical materials to advertising offices at 1608 Broadmoor, P.O. Box 3489, Champaign, IL 61821-0489 USA. Phone: (217) 359-8028. Telex: 4938651 AOCS UI. Advertising Sales and Production: Arleen Ward, Jennifer Nelson.

MANUSCRIPT PUBLICATION: Submit to the Journal of the American Oil Chemists' Society, P.O. Box 3489, Champaign, IL 61821-0489 USA.

AOCS OFFICERS: President, Robert C. Hastert, manager of market and product technology, Harshaw/Filtrol Partnership,

Cleveland, Ohio; Vice President, Timothy L. Mounts, leader, vegetable oil research, USDA Northern Regional Research Center, Peoria, Illinois; Secretary, David Erickson, director of technical services for international marketing, American Soybean Association, St. Louis, Missouri; Treasurer, R.M. Burton, president of Burton International Biomed Ltd., St. Louis, Missouri; Executive Director, James C. Lyon, AOCS, Champaign, Illinois.

JOURNAL STAFF: Editor: T.H. Applewhite; Associate Editors: G.C. Cavanagh, T.A. Foglia, T.J. Jacks, George Liepa, Raymond Mackay, D.B. Min, T.L. Mounts, E.G. Perkins, L.H. Princen, M.A. Reynolds, M.J. Rosen, J.F. Scamehorn, Edward A. Sedor, G.F. Spencer, W.J. Stancel, M.E. Tuvell, P.J. Wan, D.L. Wharry; Chairman, AOCS Publications Committee: A.R. Baldwin; Managing Editor: George Willhite; Publication Supervisor: Lee Heissel; Graphics Supervisor: Lee Gross; Staff Editor: Paula Erwin; News Editor: Barbara Fitch Haumann; Circulation Manager: Sandy Burr; Advertising Chairman: K.T. Zilch; Book Review Editor: E.G. Perkins; Index Editor: E.G. Perkins; Technical Correspondent: E.G. Perkins.

New Products

COMBUSTION ANALYZERS

Kane-May's KM9000 series of combustion analyzers operate in real time, allowing operators to make air damper adjustments and monitor changes as they occur. Four models are available. Each unit continuously aspirates gases from the flue to the sensor, measures oxygen, carbon monoxide and temperature, and has an automatic alarm for high carbon monoxide levels. Contact: Kane-May Measuring Instruments, 256 Hathaway Dr., Stratford, CT 06497.

COLOR DIMER ACID

Pripol 1025, a light-color dimer acid containing low amounts of monomer and 78% dimer, is available from Unichema Chemicals Inc. This hydrogenated dimer acid with low unsaturation is designed for applications in which color, color retention and oxidation are of critical importance. Contact: Uni-

chema Chemicals Inc., 2 Park Way & Rte. 17 S., Upper Saddle River, NJ 07458.

The state of the s

ROSE HIP SEED OIL

Rose hip seed oil used in South America and Europe as a cosmetic treatment ingredient is available from Tri-K Industries Inc. in commercial quantities. The oil is finding application in skin treatment, after-sun moisturizers and UV protection products. Contact: Tri-K Industries Inc., Box 312, 466 Old Hook Rd., Emerson, NJ 07630.

SAFETY TRAINING

SAVANT'S audiovisual training program, Safety in the Chemistry Laboratory, SAF-101, is designed to help laboratories comply with the training provisions of OSHA's "Worker's Right to Know Law."

It acknowledges that the environment of a chemistry laboratory is different from that of a production plant and addresses the requirements of laboratory professionals. It runs 40 minutes and is available in slide/tape or video formats. Contact: Valerie Sloane, SAVANT, PO Box 3670, Fullerton, CA 92634.

NIRA TECHNIQUE

Bran + Luebbe Analyzing Technologies Inc. offers a technique for measuring moisture and fat content in many dairy products. The new method, using Near Infrared Reflectance Analysis (NIRA) and the Technicon InfraAlyzer 450 instrument, is designed to measure moisture and fat content in less than 50 seconds with little or no sample preparation. Contact: Marketing Manager, InfraAlyzer Systems, Bran + Luebbe Analyzing Technologies Inc., 511 Benedict Ave., Tarrytown, NY 10591.

Calendar Business and the Company of the State of the Company of t

(Continued from page 4)

Cathie Bergum, Extension Special Programs, 405 Coffey Hall, 1420 Eckles Ave., University of Minnesota, St. Paul, MN 55108.

Joint meeting, AOCS South Central and Co-Products Sections, Feb. 8, 1988, Harvey Hotel Dallas, Dallas, Texas. Contact: Nancy DiMarco, Texas Woman's University, Nutrition and Food Science, Box 24134 TWU Station, Denton, TX 76204, telephone 817-898-2642.

Alton E. Bailey Award dinner meeting, AOCS North Central Section, Feb. 10, 1988, Holiday Inn, Countryside, Illinois. Contact: Larry Gavin, EMI Corp., 3166 Des Plaines Ave., Des Plaines, IL 60018, telephone 312-827-3164.

March

AOCS Northeast Section Society Night, March 1, 1988, Madison Hotel, Madison, New Jersey. Featured will be AOCS President Robert Hastert and a student awardee. Contact: Anthony Montana, Henkel Process Chemicals Inc., 350 Mt. Kemble Ave. CN 1931, Morristown, NJ 07960-1931.

Seminar, Concerns About the Food Supply in the 21st Century: Technology Transfer as It Affects Food and Health, March 3-4, 1988, Crystal Marriott, Crystal City, Virginia. Contact: IFT Headquarters, 221 N. LaSalle St., Chicago, IL 60601, telephone 312-782-8424.

National Institute of Oilseed Products (NIOP) annual convention, March 8-12, 1988, LaPaloma Hotel, Tucson, Arizona. Contact: NIOP, 412 First St. SE, Washington, DC 20003.

Workshop, Personal Computer Interfacing for Scientific Automation for Laboratory Personnel, March 10-12, 1988, Virginia Tech, Blacksburg, Virginia. Contact: Linda Leffel, C.E.C., Virginia Tech, Blacksburg, VA 24061. 1988 Mississippi Valley Oilseed Processors Association Annual Oilseed Processing Clinic, March 14–15, 1988, Monteleone Hotel, New Orleans, Louisiana. Details: Wayne E. Marshall, USDA/ARS, 1100 Robert E. Lee Blvd., PO Box 19687, New Orleans, LA 70179.

Workshop II in Food Flavor: A Hands-On Course in Flavor Application, March 15-17, 1988, University of Minnesota, St. Paul, Minnesota. Contact: G. Reineccius, Department of Food Science and Nutrition, University of Minnesota, 1334 Eckles Ave., St. Paul, MN 55108.

Canola Council's 1988 annual convention, March 28-30, 1988, Westin Bayshore, Vancouver, Canada. Contact: Canola Council, 301-433 Main St., Winnipeg, Manitoba, Canada R3B 1B3.

April

Antioxidants in Food Symposium, April 21-22, 1988, Brunel University, London, England. Sponsors are the Society of Chemical Industry's Oils & Fats and Food Groups, the Royal Society of Chemistry's local section and the European Federation of Food Science & Technology. Contact: D.T. Coxon and P.A.T. Swoboda, IFRNL, Colney Lane, Norwich NR4 7UA Enland.

May

Inter-Society Color Council 1988 annual meeting, May 8-10, 1988 Sheraton Inner Harbor Hotel, Baltimore, Maryland. Contact: Paula J. Alessi, 10 Bay Pk., Webster, NY 14580.

Analytical Environment Symposium and Exhibition, May 9-11, 1988, Woodfield Hilton, Chicago, Illinois. Contact: Robert S. Zutkis, INFOSCIENCE Services Inc., PO Box 153, Northbrook, IL 60065-0153.

National Cottonseed Products Association (NSPA) annual meeting, May 12-14, 1988, Opryland Hotel, Nashville Tennessee. Contact: NSPA, PO Box 12023, Memphis, TN 381.

International conference on Diet, Lipids and Cancer (Metabolism, Membranes, Mechanisms), May 22-26, 1988, Yulara-Ayers Rock, Northern Territory, Australia. Contact: Dr. John R. Sabine, Department of Animal Sciences, Waite Aricultural Research Institute, Glen Osmond, South Australia 5064, Australia.

International Conference on the Biochemistry of Lipids, May 22-26, 1988, Tokyo, Japan. Contact: Professor Y. Seyama, Faculty of Medicine, University of Tokyo, Bunkyo-Ku, Tokyo 113, Japan.

World Surfactants Congress II, May 24-27, 1988, Paris, France. Organized by ASPA, France; sponsored by the European Committee on Organic Surfactants and Their Intermediates, Avenue Louise 250, Bte. 102; B-1050 Brussels, Belgium.

June

Workshop, Personal Computer Interfacing for Scientific Automation for Laboratory Personnel, June 2-4, 1988, Virginia Tech,

Blacksburg, Virginia. Contact: Linda Leffel, C.E.C., Virginia Techn, Blacksburg, VA 24061.

63rd World Congress of the International Association of Seed Crushers, June 7-10, 1988, Hyatt Regency and Hotel Vancouver, Vancouver, British Columbia, Canada. Contact: Secretariat, Suite 801, 750 Jervis St., Vancouver, B.C., Canada V6E 2A9, telephone 604-681-5226, telex 04-352848 VCR.

Symposium, "Hormones, Thermogenesis and Obesity," June 12-16, 1988, Madison, Wisconsin, sponsored by the Biochemistry Department and Enzyme Institute of the University of Wisconsin, 1710 University Ave. Madison, WI 53705.

July

8th International Biotechnology Symposium, July 17-22, 1988, Palais des Congrès, Paris, France. Contact: 8th International Biotechnology Symposium, c/o S.O.C.F.I., 14, rue Mandar, 75002 Paris, France.

8th International Symposium on the Biological Role of Plant Lipids, July 25-28, 1988, Budapest, Hungary. Details: Tardyné Lengyel Márta, Central Food Research Institute, Budapest, Herman Ottó ut 15, H-1022, Hungary.

Twelfth International Sunflower Conference, sponsored by the Yugoslav Association of Producers of Plant Oils and Fats and Yugoslav government entities, July 25-29, 1988, Novi Sad, Yugoslavia. Contact: Institute of Field and Vegetable Crops, M. Gorkog 30, 21000 Novi Sad, Yugoslavia.

August

Bioavailability '88: Chemical and Biological Aspects of Nutrient Availability, Aug. 21-24, 1988, University of East Anglia, Norwich, England. Details: Bioavailability '88. AFRC Institute of Food Research, Norwich Laboratory, Colney Lane, Norwich, Norfolk NR4 7UA, United Kingdom.

New Zealand Institute of Chemistry and New Zealand Biochemical

sustane tood-grade antioxidants Sustane® BHA, BHT, TBHQ, PG and a variety of liquid blends vegetable Oils • Animal Applications: Fats • Flavors • Spices • Fragrances Confections • Nuts • Fresh Sausage • Chewing Gum Food Packaging Materials • Animal Feeds • Cereals • Dehydrated Potatoes • Yeast • Desserts Cosmetics Beverages • products for the food industries



Send this coupon to us today to receive this free 12 page color brochure Biological and Food Products UOP, Inc. 25 E. Algonauin Rd. Box 5017 Des Plaines, IL 60017-5017 Phone: 312/391-3093 Toll Free/ 1-800-348-0832



| Name: |
|-----------------------|
| Title: |
| Company: |
| Address: |
| |
| Telephone: |
| · |
| ☐ Have Sales Rep Call |

Calendar And Calen

Society joint annual meeting, Aug. 23-26, 1988, Palmerston North, New Zealand. Contact: Conference Secretary, Grasslands Division, DSIR, Palmerston North, New Zealand.

102nd Annual International Meeting, Association of Official Analytical Chemists, Aug. 29-Sept. 1, 1988, The Breakers, Palm Beach, Florida. Contact: Margaret Ridgell, AOAC, 1111 N. 19th St., Suite 210, Arlington, VA 22209.

4th Separation Science & Biotechnology Symposium, Aug. 31-Sept. 3, 1988, Palazzo Feltrinelli, Gargnano del Garda, Italy. Contact: Pier Giorgio Righetti, Professor of Biochemistry and Symposium Chairman, Euro Business Center, PO Box 10552, 1001 EN Amsterdam, The Netherlands.

September

Scientific Congress on Proteins in Food and Nutrition, Sept. 8-9. 1988, Vienna, Austria. Contact: Secretariat of the Scientific Congress on Proteins in Food and Nutrition, c/o Vienna Medical Academy, Alsterstrasse 4, A-1090 Vienna, Austria.

2nd International Symposium on Lipid Metabolism in the Normoxic and Ischemic Heart, Sept. 12-13, 1988, University of Limburg, Maastricht, The Netherlands. Contact: G.J. Van der Vusse, Department of Physiology, University of Limburg, PO Box 616, 6200 MD Maastricht, The Netherlands.

29th International Conference on the Biochemistry of Lipids, Sept. 19-22, 1988, Tokyo, Japan. Details: 29th ICBL, c/o Prof. Y. Seyama, Department of Physiological Chemistry and Nutrition, Faculty of Medicine, University of Tokyo, Bunkyo-ku, Tokyo 113, Japan.

Cosmetic Science '88-Achievements and Aims, 15th International Congress of the International Federation of Societies of Cosmetic Chemists, Sept. 26-29, 1988, Grosvenor House, Park Lane, London, England. Contact: Society of Cosmetic Scientists, Delaport House, 57 Guildford St., Luton, Beds LU1 2NL, England.

ISF-JOCS World Congress 1988,

Sept. 26-30, 1988, Tokyo, Japan. Contact: ISF-JOCS World Congress 1988, Secretariat, The Japan Oil Chemists' Society, 7th floor, Yushi Kogyo Kaikan, 13-11 Nihonbashi 3-chome, Chuoku, Tokyo 103, Japan.

1989

February

Fats for the Future II, international conference on oils, fats and waxes, Feb. 12-16, 1989, Auckland, New Zealand, Contact: Jennifer Gray, Conference Secretary, 1989 Oils and Fats Conference, c/o Chemistry Department, University of Auckland, Private Bag, Auckland, New Zealand.

June

First Congress Eurolipid, international congress marking the centenary of the death of Micheal Eugene Chevreul, June 7-9, 1989, Angers, France. Information: French Association for the Study of Fats (AFECG), 10A, rue de la Paix, 75002 Paris, France.

Methods for Nutritional Assessment of Fats

Joyce Beare-Rogers

Edited by A new AOCS monograph that provides invaluable guidance for planning research involving nutritional assessment of fats. In a dozen concise chapters, leading researchers take the reader through the sequence of steps needed to produce valid, useful results. The first chapter discusses experimental design, \$30 Members followed by chapters on selection and use of test animals, formulating diet, \$50 Nonmembers characterizing the test material, studying tissue lipids, using epidemiological data, interpreting results and, finally, preparing the data for publication. This collection of procedures and comments provides a useful review of some of the requirements in the nutritional assessment of a dietary fat.

Methods for Nutritional Assessment of Fats