

LIFE LINES

Eduard Hernández Balada obtained his degree in Chemical Engineering from the University of Barcelona (UB), Spain, on 2002. In 2005, he obtained his Master's in Chemical Engineering from the UB in cooperation with the Ecotechnology Department of the High Council for Scientific Research (CSIC), Barcelona (Spain). In 2009 he obtained his PhD in Chemical Engineering from the UB in cooperation with the Fats, Oils and Animal Coproducts Research Unit, at the Eastern Regional Research Center (ERRC), in Wyndmoor, PA. His research has been focused in the preservation of raw hides and skins with the ultimate goal of optimizing the brine curing. He also carried out studies on the feasibility of using enzymatically modified waste proteins as filling agents for leather.

Maryann M. Taylor, see *JALCA* **93**, 328, 1998

Eleanor M. Brown, see *JALCA* **93**, 328, 1998

Cheng-Kung Liu, see *JALCA* **94**, 158, 1999

J. Cot, see *JALCA* **94**, 58, 1999

LinShu Liu has been conducting research on biomedical materials for 25 years. He obtained a Ph.D. in polymer chemistry at Kyoto University, Japan in 1990, and then worked at MIT, MA, as a postdoctoral associate. In this learning and training period, Dr. Liu authored and co-authored 10 peer reviewed papers, 1 book chapter, and 13 proceedings. From 1992 to 2002 Dr. Liu worked with private sectors in pharmaceutical industries in California. As a principal investigator, he developed a series of biomatrices for skin, bone and cartilage regeneration which were bioactive, biodegradable, and biocompatible. His research accomplishments in this field were documented by 20 patents, 6 peer-reviewed papers, 3 book chapters, and 12 proceedings. Dr. Liu joined the Eastern Regional Research Center, ARS, USDA (Wyndmoor, PA), in 2002. He uses his specialized expertise to explore new applications and develop value-added non-food materials from the byproducts and coproducts from agricultural processing. In the last 6 years, Dr. Liu has authored or co-authored 25 peer-reviewed papers, 3 patent applications, 6 book chapters, 3 books, 5 proceedings, and co-organized 2 international symposiums.

Nicholas P. Latona, see *JALCA* **96**, 401, 2001

Neil M. Goldberg, P.E., a Mechanical Engineering graduate from Drexel University, Philadelphia, PA, first worked for the Department of the Navy in 1980 designing shipboard systems. He joined the Eastern Regional Research Center, Wyndmoor in 1990, and has designed and developed a wide variety of unique equipment and processes since then. He heads the SUPER Engineering Research Support Group that modifies, installs, and maintains all of the pilot scale

equipment at ERRC, provides processing and cost engineering support, and manages pilot plant space. Mr Goldberg developed unique equipment and processes related to thermochemical biomass conversion, Ethanol production and feedstock pretreatment. He developed numerous proof-of-concept prototypes and production machines that have led to the commercialization of new techniques enhancing the safety of processed and RTE meats. Unique equipment developed by Mr. Goldberg supporting Dairy products research include a method of producing high fat spray dried powders, a low cost butterfat fractionation device, and a device that produces duplex powders. Mr. Goldberg has co-authored 28 peer reviewed papers and Holds three patents in these technologies.

Peter H. Cooke, see *JALCA* **101**, 330, 2006

Joan Roig was licensed in Pharmaceutical sciences for the University of Barcelona in 1997. Since 2000 year has been working in the technical department of AIICA and developing tasks of environmental advice to the companies. Nowadays is the business manager of AIICA. He has collaborated in various research projects and has published some technical articles of environmental topics.

J. Font, see *JALCA* **103**, 53, 2008

Xavier Marginet is Chemical Engineer from the University of Barcelona since 1986, and currently is managing the Corporation of Technological Centers in Catalonia - Spain. He has been Director of AIICA Leather Technology Center in Spain from 1998 till 2008, publishing several papers in leather technology journals and participating in significant collaborative research projects at UE level. Member of the board of AQEIC, Spanish member of IULTCS, for 15 years, Spanish delegate of IUE Commission for five years and Chairman of IUC Commission in 2007.

M. Jorba, see *JALCA* **103**, 53, 2008

Ll. Olle, see *JALCA* **101**, 284, 2006

A. Bacardit, see *JALCA* **101**, 284, 2006

Rita Puig is a chemical engineer and has a PhD in organic chemistry from the Institut Químic de Sarrià, Barcelona. Her research interests cover environmental issues, specifically Life Cycle Assessment (LCA) and Industrial Ecology (IE), as well as environmental issues related with the tanning processes. She is author of the first book on LCA methodology written in Spanish language. She is Professor and Director of the Igualada College of Industrial Engineering – “Leather Technology School” (Technical University of Catalonia-UPC, Spain).

Zhaoyang Luo majored in chemical engineering of light industry at Sichuan University China in 2002-2006. Since 2006, he has studied in The Key Laboratory of Leather Chemistry and Engineering of Ministry of Education, engaged in novel nano-SiO₂ tannage and environment-friendly leather chemicals.

Xiuli Zhang majored in chemical engineering of light industry at Sichuan University in 2004-2008. Since 2008, she has studied in The Key Laboratory of Leather Chemistry and Engineering of Ministry of Education, Sichuan University, China.

Haojun Fan, see *JALCA* **100**, 22, 2005

Yuansen Liu studied leather science and technology at Sichuan University in 2002-2006. Since 2006, he has studied in The Key Laboratory of Leather Chemistry and Engineering of Ministry of Education, Sichuan University, China.

Bi Shi, see *JALCA* **99**, 220, 2004

THE 50TH JOHN ARTHUR WILSON MEMORIAL LECTURER

The 50th John Arthur Wilson Memorial Lecture to be presented at the 105th ALCA Annual Convention at the Grandover Resort, Greensboro, NC, on June 19, 2009 will be given by Dr. Eleanor M. Brown. The title of her lecture is "Collagen - A Natural Scaffold for Biology and Engineering."

Eleanor M. Brown, Research Chemist, Lead Scientist, FOAC, ERRC, ARS, USDA. Eleanor (Ellie) Brown is a native of East Liverpool, Ohio, and currently lives with her husband in Oreland, PA. She holds a BA in mathematics and chemistry from Ohio Wesleyan University and a Ph.D. from Drexel University in Chemistry with an emphasis on the application of physical chemistry to biological problems. Her research career has been with ERRC, ARS, USDA. Since 1971, she has studied protein structure in a variety of agriculturally important systems (dairy, poultry, and leather) to achieve knowledge of the relationships between structure and biological or technological function. She has studied the effects of chemical and enzymatic modifications as well as interactions with environmental variables and other biomolecules on protein structure-function relationships in basic and applied contexts. She is author or coauthor of 125 publications and 4 patents and has presented 45 papers at scientific meetings.

Since 1990, she has been Lead Scientist for projects designed to reduce the environmental impact of leather production and develop a basis for understanding the mechanisms of tanning. Studies of the relationship between protein (collagen) structure and function, particularly in a processing system, form the core of her research. Dr. Brown has established a successful record of defining research problems on a molecular basis and developing innovative approaches to their solution. Early in her research career, she identified the amino acid residues that comprise the metal binding site of the milk protein, lactoferrin. She has demonstrated accomplishments in the areas of chemical modification of amino acid side chains, spectrophotometric estimation of protein conformation, molecular modeling of noncrystalline proteins. She pioneered the combined use of algorithms to predict protein structure with physical chemical data to develop preliminary three-dimensional structures for agriculturally important proteins, including caseins, apolipoproteins, and collagen. The models, after refinement via molecular dynamics and energy minimization have proved to be consistent with more recently obtained data and have provided the basis for modeling of these proteins by other groups around the world. In conjunction with the molecular models, she has developed a soluble model tanning system that allows one to observe by a variety of spectroscopic techniques the effects on collagen structure of tanning processes. As Lead Scientist, she has developed collaborations with researchers in the USA and worldwide for the study of collagen structure and function in tanning and has participated fully in collaborations for the development of value added products from tannery waste. Academic scientists from the USA, UK, China and Spain have obtained their own funding to support their research in her laboratory on the biochemical fundamentals of tanning.

She has been a member of the American Leather Chemists Association since 1991, serving as a member and chair of the Uses of Collagen and Its Coproducts Committee, a member of the Editorial Board of *JALCA* and a member of Council (2005-2008). She received the prize paper award in 1993 and the Alsop award in 1996. Her organizational activities in addition to the ALCA include membership in the Protein Society, the American Society for Biochemistry and Molecular Biology, the American Chemical Society where she is a member of the Women Chemists Committee and the Association for Women in Science where she was a founding member of the Philadelphia chapter.

ABSTRACT: 50TH JOHN ARTHUR WILSON MEMORIAL LECTURE

COLLAGEN – A NATURAL SCAFFOLD FOR BIOLOGY AND ENGINEERING

by

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ABSTRACT

Collagen, the most abundant protein in mammals, constitutes a quarter of the animal's total weight. The unique structure of fibrous collagens, a long triple helix that further associates into fibers, provides an insoluble scaffold that gives strength and form to the skin, tendons, bones, cornea and teeth. The ready availability, to meat eaters, of animal skins that would putrefy, if left untreated, led to man's earliest venture into biomaterials engineering and resulted in the production of leather. Through empirical methods, a number of tanning agents with a variety of properties were identified. The methods for production of leather evolved over several centuries as art and engineering with little understanding of the underlying science. Scientific advances of the twentieth century, including increasing use of collagen in medical device research, began to provide a basis for understanding the relationship between collagen structure and function in both biology and technology.

During the past 20 years, leather researchers at ERRC have used experimental and theoretical approaches to investigate several methods for stabilizing collagen structure. This research, which includes studies of mineral and vegetable tannages, enzyme catalyzed and aldehyde based covalent crosslinks, electrostatic and hydrophobic interactions, will be reviewed. Insight gained from these studies and those of other leather and biomaterials scientists will be evaluated as steps toward a still elusive, comprehensive mechanism for stabilization of collagen in leather and other biomaterials.



Dr. Eleanor M. Brown, Research Chemist, Lead Scientist,
FOAC, ERRC, ARS, USDA

THE 105TH ANNUAL CONVENTION, JUNE 18 - 21, 2009

OGLEBAY RESORT, WHEELING, WEST VIRGINIA

Welcome to an exciting venue of events that will be unfolding for us from June 18 to June 21, 2009. We will host the 105th Annual Meeting at the beautiful Oglebay Resort & Conference Center in Wheeling, West Virginia. It is a first class facility. You can learn more about Oglebay by logging on to their website at <http://www.oglebay-resort.com>. Look for the reservation form in your spring mailing which will give all details of the convention. Also, continue checking this website for new information and announcements about the 105th Annual Meeting.

Prior to the official opening of the convention, the annual shotgun golf tournament will be held at the Speidel Golf Club playing the Robert Trent Jones course beginning at 1:00 pm Thursday afternoon, June 18th. Pre-registration for golfers is a must to facilitate the start of the tournament. Further information on the golf outing will be found in your convention packet which will be sent in March.

The official opening of the convention will begin with Registration on Thursday, June 18, from 5:00 to 7:00 pm in the main lobby. Registration will continue from 7:00 to 8:00 pm at the West Plaza joining the President's Cocktail Reception from 7:00 to 8:00 pm and an outdoor buffet from 8:00 to 9:00 pm at the West Plaza overlooking the lake.

ALCA President Stephen S. Yanek will open the Technical Program at 8:00 am on Friday. This year's technical program is being organized by Vice-President David LeBlanc and will offer a wide array of leather technologies covering tanning to finishing to environmental issues and can be viewed in the coming months under this section of our website. The 50th John Arthur Wilson Lecture will feature Eleanor M. Brown, Research Chemist/Lead Scientist with the Eastern Regional Research Center, Agricultural Research Service, United States Department of Agriculture in Wyndmoor, PA. Our Technical Committees will have an opportunity to meet and have discussions during lunch-time. The technical sessions will end at 4:15 followed by the Fun Run at 5:00 pm. Friday's activities will be capped off by a cocktail reception and dinner in the Gleessner Ballroom from 7:00 pm to 9:30 pm. This will be an exciting evening that you won't want to miss.

Technical papers will resume Saturday morning at 8:00 am with the Annual Business Meeting ending the morning sessions at 10:45 am. At noon everyone is invited to attend the Activities Awards Luncheon in the Gleessner Ballroom, where prizes will be awarded for the Fun Run and golf outing. Technical papers will resume in the afternoon at 1:00 pm until 4:15 pm with the Awards Banquet Social Hour beginning at 6:00 pm in the Gleessner Ballroom. Dinner will follow at 7:00 pm with the awards presentations afterwards. The convention will close with check out on Sunday.

Please make plans now to join us for a wonderful time at Oglebay!

Doug Morrison
Convention Chair

2009
CALL FOR PAPERS
FOR THE 105TH ANNUAL MEETING OF THE
AMERICAN LEATHER CHEMISTS ASSOCIATION
JUNE 18 – 21, 2009

If you have recently completed or will shortly be completing research studies relevant to hide preservation, hide and leather defects, leather manufacturing technology, new product development, tannery equipment development, leather properties and specifications, tannery environmental management, or other related subjects, you are encouraged to present the results of this research at the next annual convention of the Association to be held at the Oglebay Resort & Conference Center, Wheeling, WV on June 18 - 21, 2009.

Abstracts are preferred via email and must be submitted by January 30, 2009 to the Chair of the Technical Program:

Mr. David LeBlanc
c/o TFL USA/Canada, Inc.
8301 New Trails Dr., Suite 100
The Woodlands, TX 77381
USA
Cell Phone: 336 491 2009
Email: david.leblanc@tfl.com

Each abstract should begin with the title in capital letters, followed by the authors' names. The name of the speaker should be denoted by an asterisk, and contact information should be provided that includes an email address. The abstract should be no longer than 300 English words and preferably furnished as a Microsoft Word or Adobe* .PDF document.

Manuscripts based on the presentation, **in publication-ready form**, are expected by May 15, 2009. They should be sent in electronic format (either as an email attachment or on a CD-R) by that date to:

Robert F. White, Journal Editor
c/o The American Leather Chemists Association
1314 50th Street, Suite 103
Lubbock, TX 79412-2940
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E-mail: jalcaeditor@prodigy.net
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Presentations at the convention will be limited to 25 minutes. In accordance with the Association Bylaws, papers covering such presentations are to be submitted to the *Journal of the American Leather Chemists Association* for publication consideration. Those papers are not to be published elsewhere, other than in abstract form, without permission of the *Journal* Editor, Robert F. White.