



XXXI IULTCS Congress
Valencia (Spain) - September 27th-30th 2011



Tuesday 27, September 2011

17:00-19:00 Reception of Congress delegates
19:00 Official reception



Wednesday 28, September 2011

- 8:30-9:00 Opening Ceremony
9:00-9:45 *Heidemann Lecture*
A natural plant crosslinker from olive waste for leather tanning
Stefan Marx, Jens Zotzel, Heinz-Peter Germann, Stefan Banaszak
9:45-10:30 *AQEIC Lecture*
Study of the weathering variables on chrome-tanned leather ageing
Anna Bacardit, Montse Jorba, Joan Carles Castell, Joaquim Font, Luis Ollé
10:30-11:00 Coffee Break

SESSION 1. Oral lectures on: ***“Basic research in the tanning industry”***
Chairman: Dr. Volkan Çandar & Prof. Jaume Cot

- 11:00-11:20 A1. Using collagen fiber as carrier and stabilizer to prepare heterogeneous palladium (Pd) nanoparticle catalyst and its hydrogenation of olefins
Hui Mao, Chen Chen, Xue-Pin Liao, Bi Shi
11:20-11:40 A2. Specific ion effects to explore the difference of chromium and aluminum salts in the stabilization of collagen
Lirong He, Changdao Mu, Sumei Cai, Wei Lin
11:40-12:00 A3. The quest for a comprehensive tanning mechanism
Eleanor M. Brown, Maryann M. Taylor, Cheng-Kung Liu
12:00-12:20 A5. Investigation of Red Stains on Wetblue Leather
Luis A. Zugno, Elton L. Hurlow
12:20-12:40 A7. Prediction in leather processing: a dark art or a clear possibility?
Anthony D. Covington
12:40-13:00 A8. Collagen stabilization using functionalized nanoparticles
Kalarical Janardhanan Sreeram, Marimuthu Nidhin, Selvam Sangeetha, Nishtar Nishad Fathima, Usha Ramamurthy and Balachandran Unni Nair
13:00-13:20 A23. Studies of Assembly and De-assembly of Collagen.
Jochen Ammenn, Volker Bach, Nora Haufe, Doreen Naumburger, Michael Mertig.
13:20-13:40 B43. Research on the application of a new multifunctional swelling agent in leather industry
Kuilin Ye, Qiang Zeng
13:40-15:10 Working Lunch

SESSION 2. Visual displays on: ***“Basic research in the tanning industry”***

- 15:10-16:40 A4. Adsolubilization studies on collagen fibres with 2-Naphtol as model substance
Agustí Marsal, Fernando Maldonado, Albert M^a Manich
A6. Collagenic biopolymer isolation from bovine hides for its use in medical applications
M. Catalina, J. Cot, P. Celma, A. Manich



A9. The Influences of Carboxyl Groups Content of Collagen on the Chromium (III) Absorption

Chunchun Xia, Zhaoyang Luo, Haojun Fan, Xin Chen, Bi Shi

A10. The importance of elastin distribution and morphology in ovine leather
Richard Edmonds, Sue Cooper

A13. Modification of collagen with a natural cross-linker, procyanidin

Lirong He, Changdao Mu, Jiabo Shi, Qian Zhang, Bi Shi, Wei Lin

A14. Raw hide quality

René Liauzon

A15. Mechanical Properties and Hydrophilicity of Gelatin and Poly (3-hydroxybutyrate-co-3-hydroxy-valerate) Blend Films

Ya Li, Lan Jiang, Kaiqi Shi, Jiali Lu, Jingkuan Duan, Shuangxi Shao

A16. Stabilization of Collagen with biotechnological Approaches

Ines Stachel, Winfried Schlögl, Wolfgang Frieß, Georg Gübitz, Michael Meyer

A17. Dimensional and structural stability of leather under alternating climate conditions

Michaela Schröpfer, Michael Meyer

A18. Swelling behavior of gelatin-based hydrogel cross-linked with microbial transglutaminase

Deyi Zhu, Liqiang Jin, Yulu Wang, Haixia Ren

A19. Characterization of red deer skins

Gökhan Zengin, Urana Dandar, Selime Menten Çolak, Remziye Deveci

A22. Thermal insulation studies on leather clothing: Relevance to structure-property relationship

Kaliappa Krishnaraj, Palanisamy Thanikaivelan, Perumal Singaraj SureshKumar, Ramasamyreddy Jagadeeswaran, Bangaru Chandrasekaran

A24. Vibroacoustic Characterization of Drumheads

Ali Maruf Alaskan, Bahri Başaran

A25. A novel approach to stabilize collagen analogs through L→D configurational changes

Punitha Velmurugan, Raghava Rao Jonnalagadda, Balachandran Unni Nair

A26. Extraction and Characterization of Collagen from Rabbit-skins

Keyong Tang, Fang Wang, Xuejing Zheng, Wenpo Feng, Ling Zhang

A27. Color prediction in wet leather – Mathematical modelling using linear regression

Malathy Jawahar, R. Venba, G. Jyothi, Swarna V Kanth, N K Chandrababu

Visual displays on “*New developments in chemical products for the tanning industry*”

D4. Combination Tanning Properties of Aluminum Salts and Amide Derivatives Prepared by Gallic Acid and Melamine

Xihuai Qiang, Yuan Feng, Hui Zhang

D6. Novel Natural Dyes for Eco-Friendly Leather Articles

Soriene Bordingnon, Mariliz Gutterres, Sérgio Knorr Velho, Wagner Fernando Fuck, Abel V. Schor, Miriam Cooper, Larissa Bresolin

D14. The significance of decorin, a minor proteoglycan of bovine hides, in improving the quality of leather



Mila Aldema Ramos, Cheng-Kung Liu

D15. The Biodegradabilities of Different Oil-based Fatliquors

Luo Zhaoyang, Xia Chunchun, Fan Haojun, Shi Bi, Peng Biyu

D18. A theoretical study on the reactivity of phenols and aldehydes: prospect of formaldehyde-free syntans

Yanan Wang, Wenhua Zhang, Shangzhi Pu, Xuepin Liao, Bi Shi

D19. Study on influence of leather fatliquor on the biodegradation of dye

Zheng Liwen, Li Yanchun, Liu Jie, Chen Yufeng

D22. Study on synthesis and antibacterial property of polyamino chitosan derivatives

Luo Xiaomin, Wu Dongqiu, Xie Xing, Li Pengni, Ren Longfang

D24. Anticalcification treatment of glutaraldehyde fixed bovine pericardium with modified hyaluronic acid

Deyi Zhu, Liqiang Jin, Liu Tianqi, Wang Xuemei, Xu jing, Haixia Ren

D31. Alternative Fungicides for leather industry. Part I.

Sara Cuadros, M^aÀngels Manresa, Joaquim Font, M^a Elena Bautista, Fernando Maldonado, Agustí Marsal

D32. Cool pigments for leather finishing

Kalarical Janardhanan Sreeram, Radhika Sreenivasan, Aravindhan Rathinam, Balachandran Unni Nair

D33. Effect of pH on the Phosphorous Components of Tetra-hydroxymethyl Phosphonium Chloride Solution

Kaiqi Shi, Lan Jiang, Ya Li, Shuangxi Shao

D34. An aqueous PU finishing agent modified by hydroxyl silicone

Keyong Tang, Fang Wang, Xuejing Zheng, Bing Zhu, Guoli Dai

D35. A new power tool for the evaluation of collagen type-I chemical stabilisation agents; Part II: Mineral tanning agents

Madalina Georgiana Albu, Marian Crudu, Ioannis A. Ioannidis, Viorica Deselnicu, Ciprian Chelaru

D39. Alternative Natural Delimiting Agents

Eser Eke Bayramoglu, Seda Erdogan Bayram

16:40-17:00 Coffee Break

SESSION 3. Oral lectures on: *“New developments in chemical products for the tanning industry”*

Chairman: Mr. Elton Hurlow & Mr. Luis Labastida

17:00-17:20 D3. Hybrid polymers with double nature acrylic and urethanic for leather finishing

Mario Jiménez, Montserrat Oliveras, Josep M. Pont Pi

17:20-17:40 D5. Synthesis and application of the amphiphilic hyperbranched-liner fatliquor

Xuechuan Wang, Zhaofeng Huang, Taotao Qiang, Longfang Ren, Genbao Wang, Yuxuan Wang, Zhang Baohua

17:40-18:00 D27. Structural Colours like Chameleon for Leather

Alois G. Püntener, Fritz Dannenhauer



- 18:00-18:20 D12. High-fastness fatliquors from renewable resources
Leonardus Strijbos, Rupert Saumweber, Markus Hess, Catherine Gabagnou,
Campbell Page, Jens Fennen
- 18:20-18:40 D30. Lugafast® Colorlock Technology – Value Generation to Leather by
Application of New Binding Principles for Coloration
Stefan Meier, Harald Kiesow, Gerhard Wolf
- 18:40-19:00 B66. Genuine Leather Mark: An important measurement to promote and
protect natural leather.
Chen Zhanguang, Bi Bo, Qi Junping, Su Chaoying
- 19:00-19:05 Presentation of the IUC/IUF/IUP Commission
- 19:05-19:10 Presentation of the IUE Commission



Thursday 29, September 2011

SESSION 4. Oral lectures on: ***“Clean innovative technologies in the tanning industry”***
Chairman: Prof. Anthony Covington & Dr. Agustí Marsal

- 8:15-8:35 B1. Ozone as biocide in soaking
M. M. Mutlu, B.H. Cadirci, H. Ozgunay, A.C. Adiguzel, O. Sari
- 8:35-8:55 B3. Preserving wool-on skins in pickle
Tim Allsop
- 8:55-9:15 B4. Fibre stabilization before Enzyme-only beam house operation – An innovative approach for fail-safe chemical-free process
N. K. Chandra Babu, B. Swarna Kumari, R. Karthikeyan, R. Ramesh, A. Jayaprakash, R. Venba
- 9:15-9:35 B5. Utilization of bovine hairs recovered from the hair-save unhairing process for preparing the filling agent for retanning: environmental and economic considerations
Liu Wentao Li Guoying
- 9:35-9:55 B11. Application of enzymes in leather processing: comparison between chemical and coenzymatic processes
Franck R. de Souza, Mariliz Gutterres
- 9:55-10:15 B24. Polycarbodiimide Crosslinkers in Leather Finish Applications
André Derksen, Ans van den Goorbergh
- 10:15-10:35 B39. Composite drying with simultaneous vacuum and toggling
Cheng-Kung Liu, LinShu Liu, Nicholas P. Latona, Neil M. Goldberg, Mila Aldema Ramos, Peter Cooke

10:35-11:00 Coffee Break

SESSION 5. Oral lectures on: ***“New developments in chemical products for the tanning industry”***
Chairman: Dr. Selime Mentés & Mr. Jaume Parareda

- 11:00-11:20 D2. Screening of a new bacterium that produces enzymes with application on leather processing
Aline Dettmer, Élitia Cavalli, Mariliz Gutterres, Marco A. Z. Ayub
- 11:20-11:40 D7. New type of titanium-based tannage
M^a Vicenta Galiana, Silvino Navarro, Vicente Segarra, Joaquín Ferrer, Esther Riquelme
- 11:40-12:00 D8. Fatliquoring from a Viewpoint of Sustainability
Christine Fischer, Francina Izquierdo, Peter Mähner, Josef Drexler, Ivo Reetz, Ramon Segura
- 12:00-12:20 D9. X-Tan® an innovative organic tanning technology with superior sustainability
Dietrich Tegtmeyer, Chris Tysoe, Juergen Reiners
- 12:20-12:40 D10. A novel tanning agent for pickle-less chrome free tanning
Li Jing, Luo Jian-Xun, Liaoxue-Pin, Shi Bi
- 12:40-13:00 D11. Eco-friendly tanning agents for use in leather manufacture



- Marian Crudu, Ioannis Ioannidis, Viorica Deselnicu, Luminita Albu, Andra Crudu
- 13:00-13:20 D13. Soft, Matting Polymeric Particle Technology for use in Leather Finishing Processes
E. Nungesser, T. Kermis, C.J. Chung, J. Hoefler, E. LaFleur
- 13:20-13:40 F11. Synthesis of Vinyl Polymer/ ZnO Nanocomposite via in-situ Polymerization and its Application
MA Jianzhong, Li Yun, GAO Dangge, LÜ Bin
- 13:40-15:10 Working Lunch
- SESSION 6.** Visual displays on: *“Clean innovative technologies in the tanning industry”*
- 15:10-16:40 B12. Evaluation of Lipases Properties and Degreasing Effects in Leather Manufacture
Aijun Hou, Liang Liang, Jinxia Du, Jianlin Yan, Biyu Peng
- B15. Study on biodegradation of several chrome-free goat garment leathers
Qiang Tao-Tao, Huang Zhao-Feng, Wang Xue-Chuan, Ren Yong-Qiang, Zhou Guo-Xiang, Yang Shu-Qin
- B16. A novel low sulphide process for improved ovine leather quality
Richard Edmonds, Tim Allsop, Geoff Holmes, Sue Cooper, Melissa Basil Jones, Richard Haverkamp
- B17. Investigation of Acid-Deterioration in Leather Leading towards Finding a Suitable Product for Treatment
Anne Lama, A. P. M. Antunes, Yvette Fletcher, Jeffry Guthrie-Strachan
- B18. Molecular Weights and Tanning properties Power of Fractions from the Acacia Mangium Bark
Teng Bo, Cheng Wuyong, Zhang Tao, Gong Ying
- B20. Enzymatic unhairing of cattle hide by protease and α -amylase
Yunhang Zeng, Xuepin Liao, Jiahong Lu, Qiang He, Bi Shi
- B21. Comparison of the weathering variables on both chrome-tanned and wet-white leather ageing
Luis Ollé, Montse Jorba, Joan Carles Castell, Joaquim Font, Anna Bacardit
- B23. Study on Dyeing Technology of Chrome-free Leather and Fur
Shi Shiqi, Jiang Wenjia, Li Shenghong, Chang Ruyi, Huang Li, He Youjie
- B30. The Effect of Ambient Temperature Crosslinking Systems on Performance of Acrylic Emulsion Film for Leather
Xi huai Qiang, Yan jiao Wang, Hui Zhang
- B34. Mapping alkyl phenol ethoxylates in leathers treated with surfactants and fatliquors: Role of enzymes in the removal of APEO from leather
Mariappan Rameshkannan, Chandra Raghu, Palanisamy Thanikaivelan, Bangaru Chandrasekaran
- B35. Evaluation of increase at the production of keratinolytic enzymes.
Betina Galarza, Ivana Cavello, Laura Garro, Cecilia Gortari, Roque Hours, Carlos Cantera
- B36. Potential Usage of Tannic Acid in Soaking Process
Arife Candaş Adıgüzel Zengin, Selime Menteş Çolak, Gökhan Zengin



- B40. Detection of changes of biochemical parameters during beamhouse leather-processing
Y. K. Lin, S. Y. Chang, C. F. Huang, C. J. Yu
- B41. Enzymatic dehairing of goat skins utilizing protease from *Pseudomonas fluorescens* species isolated from fish visceral wastes
Kandasamy Nadiya, Sundarvel Amsamani, Palanisamy Thanikaivelan, Bangaru Chandrasekaran
- B42. Enzyme consortium of *Aspergillus tamaris* MTCC5152 for greener beam house processing of hides
Muthiah Shanmugavel, Arunachallam Premalatha, Anandan Dayanandan, Ramakrishnan Ramesh, Arumugam Gnanamani, Lesley Sounderraj, Narasiman Kannan Chandrababau, Alla Jayaprakash, Asit Baran Mandal, Gopal Suseela Rajakumar
- B44. A technical feasibility study on titanium tanning to obtain upper quality versatile leather
Domenico Castiello, Gianluigi Calvanese, Monica Puccini, Maurizio Salvadori, Maurizia Seggiani, Sandra Vitolo
- B45. Performance & characterization of caprolactam-butylacrylate co-modified casein(CA-CPL-BA) leather finishing agent prepared from emulsifier-free emulsion polymerization
Jianzhong Ma, Qunna Xu, Dangge Gao
- B46. Sustainable design, customization and new technologies applied to finished leather. New marketing strategies and paradigm shifts for the tanning industry
Leandra Vallejos Martín, Patricia Casey
- B47. Modification of Leather Surface Characteristics with Fiber Coating: Flocking of Leather
Bahri Basaran, Ali Yorgancioglu, Ersin Onem
- B49. Investigation of the impact of proteases for use in leather manufacture on elastin
Bingbin Xu, Chengxia Li, Ranran Wang, Chunxiao Zhang, Jianlin Yan, Biyu Peng
- B50. Study of New Technologies of Information and Communication (TIC) in tanning industry
P.Latha
- B55. Stabilization of collagen using aldehyde forming enzyme - an approach towards enzyme tanning
N. Usharani, GC Jayakumar, Swarna V. Kanth, B. Chandrasekaran
- B58. Environmental developments and researches in Brazilian leather sector
Míriam Cooper, Mariliz Gutterres, Nilson Marcílio
- B59. Combination tanning based on Tara and THPS: A new chrome free tanning system
B. Madhan, R. Aravindhan, T. Senthil Raja, J. Raghava Rao
- B62. A non-Pickling process for hides and skins using SCM
Jianxun Luo, Jing Li, Bi Shi
- B64. Liming, deliming and bating: a natural and enzymatic approach by eco agents
F.Crispim, R. Bezerra, P. Salgueiro, A. Crispim, J. Cruz, A. Novo



B65. Development of Leathers and Leather Goods Using Deer Skins in Hyogo Prefecture
Futoshi Sugimoto, Tadashi Kishimoto, Yasushi Saeki, Akihito Nishimori, Kazuharu Nakagawa

16:40-17:00 Coffee Break

SESSION 7. Oral lectures on: *“Clean innovative technologies in the tanning industry”*
Chairman: Dr. Dietrich Tegtmeier & Dr. Lluís Ollé

17:00-17:20 B2. Wet White tanning by applying a polymeric aldehyde together with dihydroxydiphenylsulfone

Olga Ballús, Enrique Comes, Ramón Palop

17:20-17:40 B6. Antifungal leather finishing with biological extracts

Kathrin Leppchen, Michael Meyer

17:40-18:00 B7. Tara (*Caesalpinia spinosa*): The sustainable source of tannins for innovative tanning processes

Juan-Carlos Castell, Silvia Sorolla, Montserrat Jorba, Joaquim Aribau, Anna Bacartit, Lluís Ollé

18:00-18:20 B8. Studies on role of unnatural amino acids in leather tanning process for making chrome-free leather

Ganesan Krishnamoorthy, Sayeed Sadulla, Praveen Kumar Sehgal, Asit Baran Mandal

18:20-18:40 B9. Transformation of pelts to wet blue, without basification and high chrome exhaustion

José M^a. Adzet

18:40-19:00 B10. Chrome-free leather, tanned with oxazolidine

M. Roig, V. Segarra, M. Bertazzo, M. A. Martínez, J. Ferrer, C. Raspi

19:00-19:05 Presentation of the IUR Commission

19:05-19:10 Presentation of the IUT Commission



Friday 30, September 2011

SESSION 8. Oral lectures on: **“Future technologies in the tanning industry”**

Chairman: Prof. Bi Shi & Mr. Joan Carles Castell

- 8:15-8:35 F1. A new drying application on garment leather
Sergio Alonso, Roberto Zitzumbo, Martín López
- 8:35-8:55 F2. Shoe finishes as current trends in fashion
Felipe Miralles, Rafael Galindo
- 8:55-9:15 F3. Increasing of feel permanence on leather finishing by a nanotechnological application
Evrin Berkant, Gökhan Zengin, Altan Afşar
- 9:15-9:35 F5. New plastics with gelatin and urethane
Yoshihiro Nomura, Toshihiko Kitaura, Takuma Suzuki, Keiji Yoshimura
- 9:35-9:55 F8. The Role of Leather Science and Technology in Heritage Conservation
Roy Thomson, A.P.M. Antunes, J. Stobart, A.D. Covington
- 9:55-10:15 E56. Energy savings in Bangladeshi tanneries through solar energy use and electrical performance improvement
Luisa F. Cabeza, Cristian Solé, Himangshu Ranjan Ghosh, Ahasanuzzaman, Mohammad Anisur Rahman, Ivan Kral
- 10:15-10:40 B19. Characteristics of Diabetic Patients with Hallux Valgus Based on the Plantar Pressure and Foot Dimension Measurements
Jin Zhou, Luming Yang, Wuyong Chen, Petr Hlavčáek, Bo Xu
- 10:40-11:00 Coffee Break

SESSION 9. Oral lectures on: **“Waste products and environment”**

Chairman: Dr. Mariliz Gutterres & Dr. Rita Puig

- 11:00-11:20 E1. Methods of isolation and identification pathogenic and potential pathogenic bacteria from animal skins and tannery effluents
Anne Lama, Geoff Attenburrow, Margaret Bates, Anthony D. Covington, Stuart C. Allen, A. P. M. Antunes
- 11:20-11:40 E2. Eco-design: Life Cycle Analyses show that Energy is a key factor for the environmental impact of leather and might save money
Thierry Poncet, Régis Lety, Stephane Contini
- 11:40-12:00 E4. Processing and characterization of innovative thermoplastic materials from wastes of the leather industry
Monica Puccini, Domenico Castiello, Gianluigi Calvanese, Tiziana Gambicorti, Maurizia Seggiani, Sandra Vitolo
- 12:00-12:20 E5. Recent Development in Cleaner Production and Environment Protection in World Leather Sector
S Rajamani, Rita Puig
- 12:20-12:40 E6. Landfill Gas Generation of Final Leather Wastes Disposal
Guilherme P. S. Priebe, Mariliz Gutterres, Nilson R. Marcílio, Eduardo Kipper



- 12:40-13:00 E45. Greener Leather Processing: Development of Bio-energy from Biodegradable and Recyclable Leathers
Swarna V. Kanth, J. Raghava Rao, B. Chandrasekaran, Balachandran U. Nair
- 13:00-13:20 E55. Degreasing process based on the use of DME
Ramon Terrado, Martin van Mierlo, Xavier Marginet
- 13:20-14:50 Working Lunch

SESSION 10. Visual displays on: *“Use of advanced techniques for leather analysis”*

- 14:50-16:20 C6. Behaviors of fat liquored leathers in a microwave field
Ying Gong, Tao Zhang, Wuyong Chen
- C7. Study on variational regularity of leather creep property under lastometer deformation in different dry processes
Chen Jing, Cheng baozhen, Zhang xiaolei, Cao Shan
- C11. Characterization of solid materials from the leather industry by mercury porosimetry
R.R.Gil, B.Ruiz, R.P.Girón, M.S.Lozano, E.Fuente, J.C. Castell, J. Adzet
- C12. Physical properties of leathers for assessment of thermal comfort
Rosario Mascolo, Maria Scotti, Claudia Florio, Biagio Naviglio, Gianluigi Calvanese
- C13. Procedure for the gravimetric determination of the relative humidity in standard-conditioned test laboratories
Fernando Maldonado, Josep Carilla, Agustín Marsal, Albert M Manich
- C14. Hybrid Method for Automated Leather Grading System using Image processing techniques
Malathy Jawahar, N. Senthil Kumaran, R. Venba, N K Chandrababu
- C15. Gas Chromatography as a Tool for Quality Control in Production of Bovine Tallow Olein
Guilherme P. S. Priebe, Mariliz Gutterres
- C18. Determination and quantification of Polychlorinated Alkanes in Leather by gas chromatography and mass spectrometry
Aurélien Rey, Nicolas Blanc, Jean Claude Cannot, Alain Berthod

Visual displays on: *“Waste products and environment”*

- E3. Carbon Footprint – A Valuable Tool for Leather?
Jesus Ocana Corral, Gerhard Wolf
- E8. Treatment and Recycling of Chrome Tanning Waste Water
Cheng Baozhen, Cao Shan, Liu Na, Niu Yan
- E9. Removal of sulfate in tannery wastewater through combining anaerobic with aerobic activated sludge
Changqing Zhao, WuYong Chen, Hao Zhang, Bo Teng
- E10. Preparation of bio-adhesive based on poly(acrylic ester) grafted hydrolysates from leather waste
Yang Wei, Liu Wentao, Li Guoying



- E16. Cleaner production and treatment of leather industry wastewater by two-phase anaerobic and humic filler bed process
Hongrui Ma, Li Hua, Jun wu
- E26. Contributions to the biological degradation of tannery solid waste.
Cavello Ivana, Galarza Betina, Garro Laura, Hours Roque, Cavalitto Sebastián, Cantera Carlos
- E27. Oxidative chromium recovery from tannery sludge
Eylem Kiliç, Joaquim Font, Rita Puig, Selime Çolak, Deniz Gürler
- E28. Utilization of sustainable resources in leather processing
Maryann M. Taylor, Eleanor M. Brown and Cheng-Kung Liu
- E30. Surfactants obtained by acylation of the protein fraction recovered from tannery effluent
M^a Elena Bautista, Lourdes Pérez, Sara Cuadros, M. Teresa García, Albert M^a Manich, Agustín Marsal
- E31. Environmental Costs in Beamhouse Tannery
Luis Sergio Nunes Costa, André Rosa
- E35. Adsorbent materials from solid wastes of vegetable tanning from the leather industry
R.R.Gil, R.P.Girón, B.Ruiz, M.S.Lozano, M.J.Martín, E.Fuente, J.C. Castell, J. Adzet
- E36. Tannery Solid Waste Management: Wealth from Waste
Nishtar Nishad Fathima, S N Jaisankar, Jonnalagadda Raghava Rao, Balachandran Unni Nair
- E37. Catalytic combustion of tannery sewage sludge
Diana Sannino, Vincenzo Vaiano, Paolo Ciambelli, Daniela Caracciolo, Biagio Naviglio, Gianluigi Calvanese
- E38. Use of polysaccharidic industrial wastes for a low-impact treatment of tannery wastewater
Biagio Naviglio, Gianluigi Calvanese, Gelsomina Tortora, Francesco Pirozzi, Massimiliano Fabbicino
- E39. Isolation of Chromium tolerant bacteria from tannery for bioremediation of Cr(VI)
Uthirappan Mani, Dhana Singh Sujatha, Kalimuthu Balasaraswathi, Chellan Rose, Asit Baran Mandal
- E42. Re-I use of water treated about the Leather Industry of the City of León, Guanajuato. México
Sabino José Rodríguez Rendón
- E46. Studies on tolerance and accumulation of salt by *Salicornia brachiata* and its potential for phytoremediation
Deepa Santhana Krishnan, Ramesh Kannan Perumal, Yasothai Arjunan, Swarna Vinodh Kanth, Raghava Rao Jonnalagadda, Chandrasekaran Bangaru
- E48. Modified bentonites as adsorbents for retaining anionic dyes used in tanning industry
Julien Bailly, Cristina Volzone, Carlos Cantera, Alberto Greco
- E50. System for biodegradability evaluation on leather used in the footwear industry
M. Bertazzo, D. Poveda, A. Albert, V Segarra-Orero, M. Roig, N. C. Garrote, M. I. Maestre Lopez, M.A. Martínez-Sanchez



E51. Sustainability and future scenario of small and medium leather tanneries through environmental compliance
Shweta Singh, S Rajamani

Visual displays on: ***“Future technologies in the tanning industry”***

F6. Development of natural oil micro-emulsions for scent infused leathers
Raghava Rao Jonnalagadda, Punitha Velmurugan, Geetha Baskar, Balachandran Unni Nair

F7. Synthesis and characterization of collagen Hydrolysate/poly (vinyl alcohol)/silica Biodegradable Hybrid Composites

Jie Liu, Xuejing Zheng, Fang Wang, Keyong Tang

F9. Application of ultrasound to obtain a high quality grain vegetable leather.
Josep Maria Morera, Felip Combalía, Esther Bartolí

F10. Polyurethane/polyacrylate/silica nanocomposite prepared by seeded emulsion polymerization

Yan Bao, Jianzhong Ma, Junli Liu, Juan Lu

F14. Smart Materials for Stimuli Responsive Leather

Nishtar Nishad Fathima, Selvam Sangeetha, Kalarical Janardhanan Sreeram, Jonnalagadda Raghava Rao, Balachandran Unni Nair

F15. Sisal microfibril/gelatin biomass composite

Xuejing Zheng, Jie Liu, Ying Pei, Junwei Li, Keyong Tang

F16. Instantaneous tanning from dehydrated collagen biomaterial (BCD). An approach to Mass-Customization and Manufacturing Sustainability

Joan Carles Castell, Rosa Sabé, Federico Brugnoli, José M^a Adzet

F17. Development of Collagen based Smart Drug Delivery Systems

Ivy Kanungo, N. Nishad Fathima, J. Raghava Rao, B. U. Nair

16:20-16:40 Coffee Break

SESSION 11. Oral lectures on: ***“Use of advanced techniques for leather analysis”***

Chairman: Dr. Thierry Poncet & Mr. Vicente Segarra

16:40-17:00 C1. Infrared spectroscopy (FTIR and NIR) possibilities to determine the tanning degree of the vegetable leather

Trini Canals, Josep Maria Morera, Felip Combalía y Esther Bartolí

17:00-17:20 C3. Advanced approaches in leather research using SEM microscopy X-ray probe equipped

Claudia Florio, Roberta Aveta, Gelsomina Tortora, Biagio Naviglio, Gianluigi Calvanese

17:20-17:40 C16. APEOs in leather processing – A survey

He-Wei Ma, Xin-Xia Huang, Hui-Min Zhang

17:40-18:00 E53. Production of Calendula Flower (*Calendula officinalis* L) and keratin containing cream from leather industry wastes

Eser Eke Bayramoglu, Ali Yorgancioglu, Gülzinat Yeldigar, Ersin Onem

18:10-19:15 **Council of IULTCS delegates**

19:30 **Closing Ceremony**