XXXV
IULTCS CONGRESS 2019

“BENIGN BY DESIGN”
LEATHER — THE FUTURE THROUGH
SCIENCE AND TECHNOLOGY

JUNE 25–28, 2019
DRESDEN – GERMANY

International Congress Centre Dresden

SCIENTIFIC PROGRAMME*

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*Please note, the scientific programme might be subject to change.
DAY 1  
JUNE 25 — TUESDAY

10:00 a.m.—12:00 a.m.  Seminar 3/4  
IUE MEETING

12:00 a.m.—1:00 p.m.  Seminar 5/6  
AICLST MEETING

1:00 p.m.—2:00 p.m.  Seminar 3/4  
IUR MEETING

2:00 p.m.—3:00 p.m.  Seminar 5/6  
IUT MEETING

3:00 p.m.—5:00 p.m.  Seminar 3/4  
IULTCS EC MEETING

4:00 p.m.—8:00 p.m.  Foyer  
START REGISTRATION

6:00 p.m.—8:10 p.m.  Hall 1/2  
IULTCS OPENING CEREMONY

6:00 p.m.  Doors open

6:30 p.m.  Start Opening Ceremony

8:15 p.m.—10:00 p.m.  Terrace Level with Foyer  
WELCOMING RECEPTION

DAY 2  
JUNE 26 — WEDNESDAY

8:00 a.m.—9:00 a.m.  Foyer – Hall 1/2  
REGISTRATION — DOORS OPEN

9:00 a.m.—9:15 a.m.  Hall 1/2  
GREETINGS

9:15 a.m.—10:00 a.m.  Hall 1/2  
HEIDEMANN LECTURE

9:15 a.m.  As tough as leather: Macro to nano scale perspectives of collagen stability (#48)  
K. L. Goh

10:00 a.m.—10:30 a.m.  Exhibition Hall  
COFFEE BREAK

10:30 a.m.—11:30 a.m.  Hall 1/2  
SESSION 1

10:30 a.m.  Fine hair on American bovine leathers (#108)  
L. A. Zugno / A. Rhein

10:45 a.m.  Biotechnology for environmently-friendly leather production (#297)  
J. Y. Liu / G. Holmes

11:00 a.m.  The Hunt for Red Microba: Identifying the microbial agents in “red heat” contamination of salt-cured bovine hide (#300)  
S. Grace / M. Ahn / M. L. Patchett / G. E. Norris

11:15 a.m.  Structure and tanning properties of dialdehyde carboxymethyl cellulose: Effect of degree of substitution (#94)  
Y. Yi / W. Ding / C. Huang / Y.-N. Wang / B. Shi

11:30 a.m.  Investigation on Reducing Chromium Quantity in Chromium Containing Wastes of Leather Industry Using Oyster Mushroom (Pleurotus ostreatus) (#289)  
E. E. E. Bayramoglu / A. Özelik / M. Çetin / E. Eren
11:45 a.m. – 1:00 p.m. Restaurant – Exhibition Hall

**LUNCH BREAK**

**POSTER SESSION 1 (INDEX)**

1:00 p.m. – 1:20 p.m. Hall 1/2

**KEY NOTE**

1:00 p.m. Sulfide unhairing: rethinking the received wisdom (#228)
W. R. Wise / A. D. Ballantyne / A. D. Covington

1:20 p.m. – 2:20 p.m. Hall 1/2

**SESSION 2**

1:20 p.m. Modern unhairing technologies for effective control of H2S release from Beamhouse operations (#55)
J. Fennen / C. Gabagnou / D. Herta

R. R. Jonnalagadda / S. Murali / A. Rathinam / T. Palanisamy

1:50 p.m. Unhairing and Fiber bundle-opening of Cowhides using KCl and LiBr/[AMIm]Cl Assisted Neutral Protease for Leather Making (#223)

2:05 p.m. Adsorptive removal of sulfate, phosphate and chloride by Mg-Al and Zn-Al Layered Double Hydroxides from aqueous solutions (#241)
M. Maia / O. Perez-Lopez / M. Gutterres

2:20 p.m. – 2:45 p.m. Hall 1/2

**SPEED SCIENCE**

2:20 p.m. Constructive application of marine algae for collagen stabilization: Molecular insight on its interaction with leather protein (#232)
G. C. Jayakumar / A. Tamil Selvi / V. J. Sundar / S. V. Kanth

2:23 p.m. Investigation on the release kinetics of chrome from finished chrome tanned leather (#138)

2:26 p.m. Preservation of Bovine Hide using Less Salt with Low Concentration of Antiseptic (#265)

2:32 p.m. A Novel Microspheres Composite Hydrogels Cross-linked by Methacrylated Gelatin Nanoparticles: Enhanced Mechanical Property and Biocompatibility (#45)
C. Wang / C. Mu / W. Lin

2:38 p.m. Review of the scientific and technological literature of fungicides in tannery industry: reducing the use and increasing the efficiency of fungicides in the leather industry (#195)
Z. Biehl

2:41 p.m. Analysis of the Functional Components of Acid Protease and Investigation of Bating Mechanism of Wet-blue (#36)

2:45 p.m. – 3:30 p.m. Exhibition Hall

**COFFEE BREAK**

**POSTER SESSION 2 (INDEX)**

3:30 p.m. – 3:50 p.m. Hall 1/2

**KEY NOTE**

3:30 p.m. Brazilian Leather Certification of Sustainability (#32)
A. Flores

3:50 p.m. – 5:05 p.m. Hall 1/2

**SESSION 3**

3:50 p.m. Biopolymers for a more sustainable leather (#154)

4:05 p.m. Lignin-Modified Phenolic Syntan: A Contributor to Our Bio-Based Solutions (#129)
DAY 2  JUNE 26 — WEDNESDAY

4:20 p.m. Acrylic resins in wet white (#147) O. Ballus

4:35 p.m. Comparative Studies on Effect of cationic and anionic finishing agents on Surface Property of Finished Leather (#243) M. W. Wajino / A. D. Dhathathreyan / S. V. K. V. Kanth

4:50 p.m. High Exhaustion System (HES) for leather process: Role of biocatalyst as an exhaustive aid for wet-end (#235) G. C. Jayakumar / V. Karthik / A. D. Asan Fathima / A. Tamil Selvi / C. Muralidharan / S. V Kanth

7:00 p.m.–0:00 midnight  Terrassenufer – Elbe River

RIVER CRUISE NIGHT

7:00 p.m. Boarding

7:30 p.m. Departure

10:30 p.m. Arrival back in Dresden Terrassenufer

DAY 3  JUNE 27 — THURSDAY

8:00 a.m.–9:00 a.m. Foyer – Hall 1/2

REGISTRATION — DOORS OPEN

Freiberg Leather Days Participants joining

9:00 a.m.–10:15 a.m. Seminar 1

SESSION 4

9:00 a.m. Ageing processes and characterization methods for historical bookbinding leather (#23) M. Anders / K. Marcula / K. Schuhmann

9:15 a.m. Towards a molecular level understanding of chrome tanning: Interplay between collagen structure and reactivity (#2) Y. Zhang / J. Buchanan / G. Holmes / S. Prabakar

9:30 a.m. Denoising and Segmentation of MCT Slice Images of Leather Fiber (#170) Y. Hua / J. Lu / H. Zhang / J. Cheng / W. Liang / T. Li

9:45 a.m. Strong skin, not always thick: Comparative structural and molecular analysis of deer skin and cow hide (#30) R. Naffa / C. Maidment / G. Holmes / G. Norris

10:00 a.m. 3D Image Based Structural Analysis of Leather for Macroscopic Structure-Property Simulation (#226) S. Dietrich / H. Schulz / K. Hauch / K. Schladitz / M. Godehardt / J. Orlik / D. Neusius

10:15 a.m.–11:05 a.m. Exhibition Hall

COFFEE BREAK

POSTER SESSION 3 (INDEX)

11:05 a.m.–12:05 p.m. Seminar 1

SESSION 5

11:05 a.m. Traceability of hides and skins: from field to leather (#212) T. Poncet / C. Vigier
11:20 a.m. False Positives II – Chlorophenols identification towards HPLC-DAD-MS analysis compared with ISO 17070:2015 technique (#236) G. A. Defeo / M. Borgheresi / M. De Cicco / B. Carpignani

11:35 a.m. Extraction of New Vegetable Tanning Agent from Coriaria nepalensis Bark and Its Application in Tanning (#145) L. Guo / T. Qiang / Y. Ma / X. Wang

11:50 a.m. Modelling charge across pH and the iso-electric point of bovine collagen during leather manufacture (#256) A. D. Ballantyne / S. J. Davis

11:05 a.m. – 12:30 p.m. Hall 1/2

ENGINEERING SESSION 2

11:05 a.m. COLD MILLING: innovative temperature/humidity control on milling operation (#39) A. Peruzzi / A. Galiotto

11:20 a.m. Premium class leather quality – From tanning over embossing to perforating (#302) J. P. Hildebrand


11:50 a.m. Personal Assistant vs basic sewing machine – The new generation of intelligent sewing systems (#306) M. Schäfer

12:05 p.m. Go Digital: Accelerate Industry 4.0 in the Leather Cutting Room (#254) H. Max-Lang

12:05 p.m. – 12:30 p.m. Seminar 1

SPEED SCIENCE

12:05 p.m. Sound absorbing nanofibers from tannery solid waste: Trash to treasure (#255) S. Selvaraj / R. R. Jonnalagadda / N. N. Fathima

12:08 p.m. Does post tanning chemicals influence sewability of leathers: An approach towards re-instigating the post tanning process (#249) G. C. Jayakumar / K. Phebe Aaron / A. Fathima / V. Swarna

12:11 p.m. Chemical Safety and Occupational Safety and Health under the banner of REACH, CLP and National Occupational Safety and Health Legislation (#22) T. Martin

12:14 p.m. Use of different pre-treated chromium leather shavings to produce biogas in continuous scale (#244) C. S. Gomes / J.-U. Repke / M. Meyer

12:17 p.m. Keratin derived from tannery cattle hair waste used for the preparation of waterborne polyurethane (#113) J. Liu / F. F. Zhang / Z. C. Liu / H. Li / X. S. Li

12:20 p.m. Closed loop systems for liming and tanning hides and skins at large and cottage-scale (#57) R. P. Daniels

12:30 p.m. – 1:35 p.m. Restaurant – Exhibition Hall

LUNCH BREAK

POSTER SESSION 4 (INDEX)

1:35 p.m. – 1:55 p.m. Hall 1/2

KEY NOTE

1:35 p.m. Automotive leathers – evaluating the performance limits (part II) (#66) S. De Vecchi / J. Christner / S. Summa / A. Rama / R. Ampuero / D. Rinaldi

1:55 p.m. – 2:55 p.m. Hall 1/2

SESSION 6

1:55 p.m. Investigation on VOC Content from Car Interior Finishing Systems and Its Influence on Leather Performances (#61) R. Pasquale / D. Cisco / T. Pellegrini

2:10 p.m. Development of sustainable Re-Tanning Agents from Fungal Degradation of Lignosulfonates (#77) L. Ammenn

2:25 p.m. Chrome tanning process and the leather properties under microwave irradiation (#92) J. Zhang / J. Wu / W. Chen

2:40 p.m. Study on the antibacterial properties of leathers tanned with natural tannins and their interactions with shoes inhabiting bacteria (#15) E. Poles / A. Polissi / A. Battaglia / S. Giovando / M. Gotti
2:55 p.m. – 3:20 p.m.  Hall 1/2

SPEED SCIENCE

2:55 p.m.  Study on the application of a new multi-epoxy reinforcement agent for sheep leather (#246)  X. Pang / N. Liu / W. Ding / X. Liao / Z. Ding

2:58 p.m.  A pragmatic Approach towards the Manufacture of wet-white Leathers using a bio-polymeric Tanning System (#240)  P. N. Kariuki / A. Yasothai / G. C. Jayakumar / S. V. Kanth

2:58 p.m.  Cleaner Chrome Tanning – Technology of low-chrome tanning without salt, pickling and short procedure (#146)  L. Jianxun / F. Yanjuan / M. Hewei

3:07 p.m.  Advanced diagnostics and innovative solutions for leather defects: the problem of yellowing (#78)  C. Florio / R. Aveta / G. Calvanese / B. Naviglio

3:20 p.m. – 3:50 p.m.  Exhibition Hall

COFFEE BREAK

POSTER SESSION 5 (INDEX)

4:00 p.m. – 5:00 p.m.  Seminar 1

VGCT MEETING

7:00 p.m. – 11:55 p.m.  Large Hall

CONGRESS DINNER

DAY 4  JUNE 28 – FRIDAY

8:00 a.m. – 9:00 a.m.  Foyer – Hall 1/2

REGISTRATION – DOORS OPEN

Freiberg Leather Days Participants joining

9:00 a.m. – 9:20 a.m.  Hall 1/2

KEY NOTE

9:00 a.m.  Minimizing Emissions of automotive leather (#187)  V. Rabe / R. Graupner von Wolff / M. Kleban

9:20 a.m. – 10:20 a.m.  Hall 1/2

SESSION 7

9:20 a.m.  Sustainable Value Creation from Leather Solid Wastes: Preparation of Shoe Soling Material using Nano Fillers (#26)  S. Gupta / S. Ponsubbiah / S. K. Gupta / S. Mandal

9:35 a.m.  Extended Surfactants for Leather (#218)  A. Kilikli / I. Reetz

9:50 a.m.  Factors affecting penetration of acrylic resin in crust leather during retanning process (#179)  Y. Song / Y. Zeng / M. Cao / B. Shi


10:20 a.m. – 10:50 a.m.  Exhibition Hall

COFFEE BREAK

10:50 a.m. – 11:10 a.m.  Hall 1/2

KEY NOTE

10:50 a.m.  Capturing the Environmental Impact of Leather Chemicals (#190)  M. P. Costello
11:10 a.m. – 12:25 p.m.  
**SESSION 8**

**11:10 a.m.** Novel blades for shaving – a new approach to understanding the shaving process (#242)  
P. Küchler / T. Witt / A. Nikowski / E. Kliver / M. Meyer

**11:25 a.m.** Automation in Leather Making – A Cleaner Production Approach (#271)  
R. C. Panda / J. Kanagaraj

**11:40 a.m.** Synthesis and Application of Dendritic-linear Polymer PAMAM-Si for Leather Fatliquoring Process (#120)  
X. Wang / S. Sun / H. Wang / J. Li

**11:55 a.m.** Synthesis of Cationic Protein with High Quaternary Ammonium Coefficient for Adsorption Dyes Application in Leather Retanning (#150)  
J. Xu / J. M. Lu / T. D. Li

**12:10 a.m.** Mesoporous Hollow SiO2 Spheres Stabilized Pickering Emulsion to Improve Water Vapor Permeability and Water Resistance for Leather Finishing Agent (#199)  
Y. Bao / Y. Zhang / J. Ma

12:25 p.m. – 1:00 p.m.  
**LUNCH BREAK**

1:00 p.m. – 1:45 p.m.  
**SESSION 9**

**1:00 p.m.** Sustainability 4.0 – the passport to our future  
D. Tegtmeyer

**1:20 p.m.** “Zirkeltraining” – a Recycling/Upcycling example for Leather  
B. Dörra / M. Kreykenbohm

**1:35 p.m.** Image campaign Leather Naturally!  
E. Dikkers

1:45 p.m. – 2:20 p.m.  
**CLOSING CEREMONY**

**INDEX**

**POSTER SESSION 1**

P1-01 Effects of graphene oxide on the thermal properties of bovine hide powders (#214)  
L. Luo

P1-02 Biocolorant for leather post tanning applications: An eco-benign study (#216)  
T. Alagumuthu

P1-03 Preparation and properties of a wood adhesive based on leather wastes modified by blocked waterborne polyurethane (#141)  
X. Wang

P1-04 Measurement of leather surface variability in the measurement using electronic pin wheel devices on different kind of leathers (#308)  
R. Mascolo

P1-05 Primary Treatment of Tannery Wastewater using biopolymer Chitosan (#309)  
P. R. Burusa

P1-06 Study on the preparation and characterization of nonionic silicone wetting agent used in waterborne polyurethane (#103)  
F. F. Zhang

P1-07 Preparation and Properties of Collagen/Sodium Humate Blend Solution (#112)  
Z. Tian

P1-08 Evaluation of ecotoxicity of typical surfactants for leather manufacture by luminescent bacteria (#121)  
W. M. Han

P1-09 Novel method for preparing fish collagen gels with excellent physicochemical properties via the dehydration of ethanol (#122)  
L. Shen

P1-10 Development of poly[(Styrene-b-sodium acrylate) for cleaner wet end application (#123)  
M. S. Alam

P1-11 Application of Vegetable Bark Extract as Alternative Retanning Agent for Leather Processing (#124)  
A. E. Musa

P1-12 Influence of Photoperiod on Biomass Production and Removal of Nutrients from Tannery Effluents with microalgae Consortium (#19)  
A. D. C. C. Penas

P1-13 Modified Polymers as a new Leather Retanning Agents (#20)  
M. Canudas

P1-14 Development and Investigation of Low collagen degradability Unhairing Enzyme (#21)  
S. Cao

P1-15 Enhancing performance properties of conventional leather finishing topcoat by incorporating metal oxide based formulations (#31)  
S. Gupta

P1-16 Polymeric bio-composites: Cleaner leather processing and its role in property enhancement of tanned leather (#34)  
S. Sharmila

P1-17 Dissolution of Collagen Fibers from Tannery Wastes in Ionic Liquid and Regenerative Morphology (#41)  
Y. Pei

P1-18 Minus salt goat skin preservation: Extreme chloride reduction in tannery wastewater (#43)  
M. A. Hashem

P1-19 Characteristics Analysis of High Mechanical Strength Gymnastic Leather and Its Producing Process Optimization (#44)  
J. Song

P1-20 Quality of Leather Products as Seen from the Consumer’s Standpoint (#46)  
D. Tegtmeyer

P1-21 The Effect of Molecular Size of Plasticizer and Crosslinking Agents on the Properties of Gelatin films (#47)  
X. Zheng

P1-22 Sorption comparison of trivalent chromium on various Ficus carica charcoal from tannery wastewater (#54)  
M. A. Hashem

P1-23 Sustainable Tannery Effluent Treatment System with TDS Management (#58)  
S. Rajamani

P1-24 LIFE GOAST Green Organic Agents for Sustainable Tanneries (GOAST) (#62)  
R. Pasquale

P1-25 A new system to measure leather shrinkage temperature (#68)  
J. M. Morera

P1-26 Optimization of chamois oxidation process of leather using benzoyl per oxide as oxidizing agent (#70)  
B. Sahu

**POSTER SESSION 2**

SPSC1-01 Constructive application of marine algae for collagen stabilization: Molecular insight on its interaction with leather protein (#232)  
A. Tamil Selvi

SPSC1-02 Investigation on the release kinetics of chrome from finished chrome tanned leather (#38)  
J. W. Long

P2-01 Biodegradation of chrome shavings using Bacillus Sp. (MG995009), a chrome resistant Bacterium (#277)  
A. Sindhuja

P2-02 Preparation of Prussian Blue Nanoparticles / Polycrylate Composite for Self-healing Leather Finishing Agent (#142)  
J. Zhang

P2-03 Study on the Difference of Collagen Fibre Structure Caused by Epoxy Resin Embedding (#43)  
J. Lu

SPSC1-03 Preservation of Bovine Hide using Less Salt with Low Concentration of Antiseptic (#265)  
M. I. Sarker

SPSC1-05 A Novel Microspheres Composite Hydrogels Cross-linked by Methacrylated Gelatin Nanoparticles: Enhanced Mechanical Property and Biocompatibility (#45)  
C. Wang

SPSC1-07 Review of the scientific and technological literature of fungicides in tannery industry: reducing the use and increasing the efficiency of fungicides in the leather industry (#195)  
Z. Biehl