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ISOPE-2011 Maui Conference

This 21st annual conference features **149 technical and opening general sessions**, and **6 keynote presentations** with top experts from industry, academia and government. After **peer review of the manuscripts** selected from **1,350 abstracts**, some **750 papers** will be presented and discussed by researchers, engineers and managers from more than **51 countries**.

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All indexed by Engineering Index (EI).

* Continue to next session.

To view the **full ISOPE-2011 Maui conference and symposia program**, click on www.isopec.org >meetings or www.isopec2011.org

ISOPE FRICTION STIR WELDING SYMPOSIUM

112. FSW I: Process Application (V. 4)
Thursday June 23 08:00 Room 5

Chair: TW Nelson, Brigham Young Univ, USA

Evaluation of Economic Incentives and Weld Properties for Welding Steel Pipelines Using Friction Stir Welding

A Kumar, DP Fairchild, ML Macia, TD Anderson, ExxonMobil Upstream Research; HW Jin, R Ayer, N Ma, A Ozekcin, RR Mueller, ExxonMobil Research & Engineering, USA

Friction Stir Welding /Processing for Hardbanding in Oil and Gas Applications

S Sanderson, RJ Steel, K Keshevan, C Roth, S Packer, P Higgens, MegaStir Technologies, USA

Aluminum Alloys Pipes Welding and Repairing by Friction Stir Welding

G Buffa, L Filice, L Fratini, F Micari, Univ of Palermo, Italy

Friction Stir Processing of 4140 Steel for Friction and Wear Performance Enhancement

CB Smith, Friction Stir Link; O Ajayi, C Lorenzo-Martin, Argonne National Lab; SJ Krol, Friction Stir Link, USA

FSW Tool Designs for High Melting Temperature Materials

RJ Steel, J Peterson, S Packer, M Mahoney, MegaStir Technologies, USA

Challenges of FSW Thick Section Steel

JM Seaman, EWI, USA

122. FSW II: Microstructure & Properties: Ferrous (V. 4)
Thursday June 23 10:30 Room 5

Chair: E. Almanza-Casas, Instituto Tecnológico de Saltillo, Mexico

Friction Stir Welding of Highly Alloyed ISO 3183 X80M Steel for Application in Oil and Natural Gas Pipelines - Insight into the Microstructural Evolution

AJ Ramirez, TF Hermenegildo, DM Benati, TFA Santos, Brazilian Synchrotron Light Lab; RR Marinho, MTP Paes, Petrobras, Brazil

Effect of Heat Input on Post-Weld Microstructure and Mechanical Properties in FSW HSLA-65
TW Nelson, Brigham Young Univ; LY Wei, Welding Alloys; M Abbasi, Brigham Young Univ, USA

Microstructure and Mechanical Properties of Friction Stir Welded High-strength Steel for Drilling Pipe
YS Sato, SCK Lee, H Kokawa, Tohoku Univ; JS Lee, WB Lee, MH Cho, POSCO, Korea

The Effect of Process Parameters on Thermal Cycles and Microstructure Development on Friction Stir Welds in Shipbuilding Steel Grades
JF dos Santos, GKSS Forschungszentrum, Germany

Microstructure and Toughness of Friction Stir Weld of 12mm Thick Structural Steel
M Matsushita, Y Kitani, R Ikeda, S Endo, JFE Steel, Japan

Friction Stir Welding of Highly Alloyed (Cr-Mo) Steels
AJ Ramirez, ADS Bruno Costa, TFA Santos, Brazilian Synchrotron Light Lab; HFG Abreu, Univ of Ceara, Brazil

132. FSW III: FSW of Stainless & Dissimilar Metals (V. 4)
Thursday June 23 14:00 Room 5

Chair: A Kumar, ExxonMobil Upstream Research Co., USA

Material Flow in Aluminum Friction Stir Welds
RW Fonda, AP Reynolds, CR Feng, DJ Rowenhorst, Naval Research Lab, USA

Application of Diffusional Models to Predict Tool Wear
BT Thompson, Edison Welding Inst; SS Babu, Ohio State Univ, USA

Mixing of Materials and Process Parameters during Friction Stir Spot Welding of Dissimilar Aluminum Alloys
JW Park, YW Lee, ST Hong, YJ Yum, KY Park, Univ of Ulsan, Korea

Evaluation of Mechanical Properties of 304L and 316L Stainless Steels Friction Stir Welded
E Almanza-Casas, MJ Perez-López, Inst Tecnológico de Saltillo, Mexico; R Steel, Sii Megadiamond; S Packer, Advanced Metal Products, USA

Effect of Grain Boundary Character Distribution on the Mechanical Properties and Corrosion Resistance of Superduplex Stainless Steel Friction Stir Welds
AJ Ramirez, TFA Santos, Brazilian Synchrotron Light Lab, Brazil

Interfacial Microstructure and Mechanical Properties of the Friction Stir Welds between Titanium and Aluminum Alloys
KJ Lee, KS Bang, Korea Inst of Industrial Tech, Korea

140. FSW IV: FSW Stainless & Non-Ferrous Alloys (V. 4)
Thursday June 23 16:20 Room 5

Chair: R Steel, Megastir, USA

The Effects of Tool Features on Texture, Macrostructure, and Extended Plasticity Mechanisms in 304L Stainless Steel
CD Sorenson, Brigham Young Univ; BD Nelson, Manufacturing Technology; TW Nelson, Brigham Young Univ, USA

The Examination of Nugget Formations for Friction Stir Lap Welding of Dissimilar Al Alloys Using 3-D Exit Hole Observation Technique
TJ Yoon, SJ Kim, Pusan National Univ; NK Kim, SW Song, Korea Inst of Materials Science; CY Kang, Pusan National Univ, Korea

Effect of Tool Offset on Dissimilar Copper-Stainless Steel Friction Stir Welding
AJ Ramirez, Brazilian Synchrotron Light Lab, Brazil; HC Fals, Univ of Oriente, Cuba; DM Benati, Brazilian Synchrotron Light Lab, Brazil

Advances in Solid State Joining of High Temperature Alloys
J Ding, NASA; J Schneider, Mississippi State Univ, USA

Image-Based Finite Element Simulation of Mechanical Response of AA 5456 Friction Stir Welds
AC Lewis, RW Fonda, HN Jones, Naval Research Lab, USA

