WOUND HEALING SOCIETY PROGRAM

DAY 1: WEDNESDAY, APRIL 5, 2017

WHS WELCOME AND INTRODUCTION
8:00 A.M. - 8:15 A.M. Upper Level - Ballroom 6D/6E

WHS SESSION A: WHF THOMAS K HUNT LECTURE (non-accredited)
8:15 AM - 9:15 AM Upper Level - Ballroom 6D/6E

Moderators: Elof Eriksson, MD, PhD; Laura Parnell, BS, MS, CWS, Marjana Tomic-Canic, PhD
Speaker: Napoleone Ferrara, MD

In the spirit of the pioneering work of its namesake, the speaker of the Thomas K. Hunt Endowed Lecture is chosen by the Wound Healing Foundation for his/her major contributions to scientific inquiry that are likely to advance the field of wound healing. This one-hour session will provide an overview of the inspiration for the speaker's work, discuss how the research might impact the field of wound healing, and conclude with a vision for the future of the speaker's research.

BREAK
9:15 A.M. - 9:30 A.M.

WHS SESSION B: MOLECULAR MECHANISMS OF WOUND REPAIR
9:30 A.M. - 11:00 A.M. Upper Level - Ballroom 6D/6E

Moderators: Ardeshir Bayat, MB, BS, PhD; Traci Wilgus, PhD
Speakers: Bogi Andersen, MD; Anie Philip, PhD; George Sen, PhD

The wound healing process relies on coordinated effort of cell types within multiple layers of the skin, such as epithelial cells in the epidermis as well as fibroblasts in the dermis. In order for this process to be effective, precise molecular regulation of cellular functions such as proliferation, differentiation, migration and extracellular matrix production must exist. This session will highlight molecular mechanisms that control epidermal cell behavior and signaling pathways that regulate the production of extracellular matrix by fibroblasts.

BREAK
11:00 A.M. – 11:15 A.M.

WHS Session C: WOUND IMMUNOLOGY
11:15 A.M. – 12:45 P.M. Upper Level - Ballroom 6D/6E

Moderators: Kara Spiller, PhD
Speakers: Paul Bollyky, MD, PhD; Dan Kaplan, MD, PhD; Anna DiNardo, MD, PhD

Tissue homeostasis, disease, and response to injury are governed by complex interactions between immune cells and other non-immune cells involved in wound healing. These interactions are shaped by microenvironmental factors such as the extracellular matrix or the presence of pathogens. This session will discuss new research on how immune cell behavior modulates tissue repair processes and response to infection, with applications in the development of novel therapies for inflammatory skin disease and chronic wound healing.

LUNCH ON OWN
12:45 P.M. – 2:00 P.M.
WHS Session D: MICROBIOMES, BIOFILMS, AND HOST RESPONSE IN WOUND HEALING
2:00 P.M. – 3:30 P.M. Upper Level - Ballroom 6D/6E

Moderators: Elizabeth Grice, PhD; Lindsay Kalan, PhD
Speakers: Rob Knight, PhD; Manuela Martins-Green, PhD; Irena Pastar, PhD

Interactions between microbes and host cells play a central role in impaired wound healing. Rate of healing and clinical outcomes may be affected by the composition, diversity, and stability of the wound microbiota. This session will discuss the impact of the wound microbiome, biofilms, and host-microbe interactions on wound healing.

BREAK
3:30 P.M. – 3:45 P.M.

WHS Session E: EXPERIMENTAL MODELING THE HUMAN RESPONSE TO INJURY
3:45 P.M. – 5:15 P.M. Upper Level - Ballroom 6D/6E

Moderators: Lisa Gould, MD, PhD; Ivan Jozic, PhD
Speakers: Andrew Baird PhD; Rob Kirsner MD, PhD; Tai-Lan Tuan, PhD (USC Keloids)

No animal model completely recapitulates the complexity and heterogeneity of human wound healing. Translational research relies upon developing platforms that bridge the gap between disease mechanisms and biological targets and therapies that are patient-specific. In this session, distinguished speakers from the Wound Healing Society will demonstrate how they use model systems to identify therapeutic targets that impact wound healing.

BREAK
5:15 P.M. – 5:30 P.M.

SOCIAL EVENT FOR WHS MEMBERS
6:30 P.M.–10:30 P.M.
Registered WHS members are invited to board the Adventure Hornblower at 6:30pm for a memorable dinner cruise around the San Diego Bay. Shuttle bus services are available to and from the Convention Center. This is a WHS Members Only event, but limited guest tickets may be available for purchase. **Tickets are required for entry.**
Please pick up your reserved tickets at the WHS membership booth near the WHS General Session Room on the Upper Level.

DAY 2: THURSDAY, APRIL 6, 2017

WHS COMMITTEE MEETINGS
7:30 A.M. - 9:00 A.M. Marriott Marquis: Catalina, Coronado, LaCosta, LaJolla, Malibu, and Newport Beach

BREAK
9:00 A.M. – 9:15 A.M.

SAWC SPRING OPENING CEREMONY
9:15 A.M. – 9:30 A.M. UPPER LEVEL - Ballroom 20 CD

SAWC SPRING GENERAL SESSION: THE FIRE WITHIN
9:30 A.M. - 10:30 A.M. UPPER LEVEL - Ballroom 20 CD

Moderator: Robert Kirsner, MD, PhD
Speaker: Allison Massari

BREAK
10:30 A.M. – 10:45 A.M.
The European Tissue Repair Society (ETRS) aims to promote knowledge and interchange between scientists, healthcare professionals, industry and other individuals that have an interest in tissue repair of all organs. In this session, three distinguished speakers from the ETRS will present innovative research findings in the area of tissue repair that were recently highlighted at the 2016 Congress of World Union Wound Healing Societies (WUWHS). For more than two decades, the WUWHS Congress has provided a world-wide exchange of information between wound societies and other relevant stakeholders, including international and global agencies, as well as personal-level friendship exchanges.

BREAK
11:45 P.M. – 12:00 P.M.

INDUSTRY-SUPPORTED LUNCH SYMPOSIA
12:00 P.M. - 1:30 P.M.

BREAK
1:30 P.M. – 4:45 P.M.

WHS Session G: YOUNG INVESTIGATORS SYMPOSIUM
1:45 P.M. - 4:00 P.M. Upper Level - Room 6D

Moderators: Magnus Agren, MD; Elof Eriksson, MD, PhD; Marjana Tomic-Canic, PhD

In this session, young investigators involved in cutting-edge research will compete for the WHS Young Investigator Award. The winner will present his/her work at the European Tissue Repair Society’s Annual Congress. Oral presentations will feature the top eight abstracts submitted to the WHS by young investigators.

1:45  G.01 - NOVEL FORMATION OF COMMON WOUND BACTERIAL BIOFILMS ON HUMAN INCISIONAL AND EXCISIONAL CUTANEOUS WOUND MODELS ENABLES IDENTIFICATION OF BACTERIAL-SPECIFIC VOLATILE ORGANIC COMPOUND PROFILES WITH CLINICAL TRANSLATABILITY IN WOUND INFECTION THERANOSTICS
M. Ashrafi¹, L. Novak-Frazer¹, M. Bates², M. Baguneid³, T. Alonso-Rasgado¹, R. Rautemaa-Richardson¹, A. Bayat¹
¹ University Of Manchester, Manchester, Greater Manchester, United Kingdom ² MCBA Consulting, Cardiff, WALES, United Kingdom ³ University Hospital Of South Manchester, Manchester, Greater Manchester, United Kingdom

2:00  G.02 - NOVEL MECHANISMS OF COLLAGENASE SANTYL® OINTMENT (CSO) IN WOUND MACROPHAGE POLARIZATION AND RESOLUTION OF WOUND INFLAMMATION
A. Das¹, S. Datta¹, S. Chaffee¹, S. Khanna¹, E. Roche², L. Shi², C. K. Sen¹, S. Roy¹
¹ Ohio State University, Comprehensive Wound Center, Center For Regenerative Medicine And Cell Based Therapies, Department Of Surgery, Davis Heart And Lung Research Institute, The Ohio State University Wexner Medical Center Columbus, OH, USA ² Smith And Nephew, Research & Development, Advanced Wound Management Fort Worth, TEXAS, USA

2:15  G.03 - APPLICATION OF SHOTGUN METAGENOMICS TO STUDY MULTI-KINGDOM MICROBIAL COMMUNITIES OF CHRONIC NON-HEALING WOUNDS AND THEIR ASSOCIATION WITH CLINICAL OUTCOMES
L. Kalan¹, M. Loesche¹, S. Gardner², E. Grice¹
¹ University Of Pennsylvania, Dermatology Philadelphia, PA, USA ² Universisty Of Iowa, Nursing Iowa City, IA, USA

2:30  G.04 - FLUOXETINE AS A POTENTIAL THERAPEUTIC TARGET FOR MESENCHYMAL STEM CELLS- MEDIATED IMPROVEMENT OF WOUND HEALING
C. Nguyen¹, D. Tartar¹, M. So¹, M. Bagood¹, A. Nguyen¹, A. Adams¹, C. Aroha¹, A. Soulika¹, J. Noita², R. R. Isseroff¹
¹ University Of California - Davis, Dermatology Sacramento, CA, USA ² University Of California - Davis, Institute Of Regenerative Cures Sacramento, CA, USA ³ VA Sacramento, Dermatology Sacramento, CA, USA
G.05 - STAPHYLOCOCCUS AUREUS TRIGGERS INDUCTION OF MIR-15B-5P TO DIMINISH DNA REPAIR AND DE-REGULATE INFLAMMATORY RESPONSE IN DIABETIC FOOT ULCERS
H. A. Ramirez¹, I. Pastar¹, I. Jozic¹, O. Stojadinovic¹, R. Stone¹, N. Ojeh¹², R. Kirsner¹, M. Tomic-Canic¹
¹University Of Miami Miller School Of Medicine, Wound Healing And Regenerative Medicine Research Program, Department Of Dermatology And Cutaneous Surgery Miami, FL, USA ²University Of The West Indies, Faculty Of Medical Sciences Bridgetown, Saint Michaels, Barbados

G.06 - MICRORNA-200B-ZEB-1 SIGNALING REGULATES EPIDERMAL WOUND ANGIOGENESIS
K. Singh¹, M. Sinha¹, D. Pal¹, S. Gnyawali¹, F. Soto-Gonzalez¹, S. Khanna¹, S. Roy¹, C. K. Sen¹
¹Ohio State University, Comprehensive Wound Center, Center For Regenerative Medicine And Cell Based Therapies, Department Of Surgery, Davis Heart And Lung Research Institute, The Ohio State University Wexner Medical Center, Columbus, OH, USA

G.07 - THE IMPACT OF PATIENT TRAVEL DISTANCE TO A WOUND CARE CENTER ON OUTCOMES OF CHRONIC WOUNDS
K. Trang¹, D. C. Tran¹, J. Parsley², R. Robertson², E. Fukaya¹, S. K. Sen³, G. C. Gurtner³, V. Chandra¹
¹Stanford University, Division Of Vascular Surgery Stanford, CA, USA ²Stanford Health Care, Advanced Wound Care Center Redwood City, CA, USA ³Stanford University, Division Of Plastics And Reconstructive Surgery Stanford, CA, USA ⁴Stanford University, School Of Medicine Stanford, CA, USA

G.08 - A DOUBLE-BLIND RANDOMIZED CONTROLLED TRIAL DEMONSTRATES FOR THE FIRST TIME EVIDENCE FOR THE ROLE OF TOPICAL EPIGALLOCATECHIN-3-GALLATE IN REDUCING ANGIOGENESIS, INFLAMMATION AND SKIN THICKNESS IN HUMAN SKIN SCARRING: A NON-INVASIVE, MORPHOLOGICAL AND IMMUNOLOGICAL STUDY
S. Ud-Din¹, P. Foden², M. Douglas³, M. Mazhari⁴, S. Al-Habba⁴, M. Baguneid⁵, A. Bayat¹
¹University Of Manchester, Plastic And Reconstructive Surgery Research Manchester, Greater Manchester, United Kingdom ²University Hospital Of South Manchester, Medical Statistics Manchester, Greater Manchester, United Kingdom ³University Hospital Of South Manchester, vascular Surgery Manchester, Greater Manchester, United Kingdom ⁴Central Manchester University Hospitals NHS Foundation Trust, Adult Histopathology Manchester, Greater Manchester, United Kingdom ⁵Grosvenor Nuffield Hospital, Chester, CHESHIRE, United Kingdom

BREAK
4:00 P.M. – 4:15 P.M.

WHS SESSION H: CONCURRENT ORAL ABSTRACTS I (non-accredited)
4:15 P.M. - 5:15 P.M.

Oral abstract presentations will feature the highest scoring abstracts submitted to the WHS.

Acute Wounds (H1) Upper Level - Room 6D
Moderators: Traci Wilgus, PhD; Swathi Balaji, PhD

H1.02 - PERINEAL WOUND HEALING IS SIGNIFICANTLY BETTER WITH THE USE OF COLLATAMP® IN PATIENTS UNDERGOING ABDOMINOPERINEAL EXCISION OF RECTUM OR PROCTECTOMY
A. Jackson¹, G. Kaur¹
¹Scunthorpe General Hospital, Surgery Scunthorpe, N LINCS, United Kingdom

H1.03 - HISTOMORPHIC ASSESSMENT OF NON-INVASIVE QUANTITATIVE IMAGING IN PROGRESSION OF CUTANEOUS HEALING IN HUMAN SKIN: DYNAMIC OPTICAL COHERENCE TOMOGRAPHY VERSUS HIGH FREQUENCY ULTRASOUND
S. Ud-Din¹, P. Foden², M. Mazhari³, S. Al-Habba³, M. Baguneid⁴, A. Bayat¹
¹University Of Manchester, Plastic And Reconstructive Surgery Research Manchester, GREATER MANCHESTER, United Kingdom ²University Hospital Of South Manchester, Medical Statistics Manchester, GREATER MANCHESTER, United Kingdom ³Central Manchester University Hospitals NHS Foundation Trust, Adult Histopathology Manchester, GREATER MANCHESTER, United Kingdom ⁴University Hospital Of South Manchester, Vascular Surgery Manchester, GREATER MANCHESTER, United Kingdom

LATE BREAKING ABSTRACT
4:35
4:45  H1.05 - EQUIPPING THE NEXT GENERATION OF LEADERS IN WOUND CARE  
E. Minior ¹, I. Scomaco ¹, C. Cavaliere ¹  
¹ CLEVELAND CLINIC, PLASTIC SURGERY CLEVELAND, OH, USA

4:55  H1.06 - CAVEOLIN ¹ REGULATES GLUCOCORTICOID-MEDIATED INHIBITION OF KERATINOCYTE MIGRATION AND WOUND HEALING  
I. Jozic ¹, L. Liang ¹, A. P. Sawaya ¹, G. D. Glinos ¹, I. Pastar ¹, M. Tomic-Canic ¹  
¹ University Of Miami Miller School Of Medicine, Dermatology And Cutaneous Surgery, Wound Healing And Regenerative Medicine Research Program Miami, FL, USA

Angiogenesis (H2)  
Upper Level - Room 1A  
Moderators: Luisa DiPietro, PhD; Paul Liu, MD

4:15  H2.01 - SEQUESTRATION OF HYPOXYMIR MIR¹ IMPROVES KERATINOCYTE SURVIVAL AND MIGRATION IN MURINE ISCHEMIC WOUND  
A. Biswas ¹, S. Ghatak ¹, J. Banerjee ¹, D. Pal ¹, S. C. Gnyawali ¹, S. Khanna ¹, S. Roy ¹, C. K. Sen ¹  
¹ Ohio State University, Comprehensive Wound Center, Center For Regenerative Medicine And Cell Based Therapies, Department Of Surgery, Davis Heart And Lung Research Institute, The Ohio State University Wexner Medical Center, Columbus, OH, USA Columbus, OH, USA

4:25  H2.02 - VASCULAR MATURITY AND INTEGRITY IN DIABETIC SKIN WOUNDS  
U. A. Okonkwo ¹, L. Chen ¹, B. Modilevsky ¹, Y. Zhao ¹, L. A. DiPietro ¹  
¹ University Of Illinois At Chicago, Center Of Wound Healing And Tissue Regeneration, College Of Dentistry Chicago, IL, USA ²University Of Illinois At Chicago, Department Of Microbiology And Immunology, College Of Medicine Chicago, IL, USA

4:35  H2.03 - RETOOLING LASER SPECKLE CONTRAST ANALYSIS ALGORITHM TO ENHANCE NON-INVASIVE HIGH RESOLUTION LASER SPECKLE IMAGING OF CUTANEOUS MICROCIRCULATION  
S. Ghatak ¹, S. C. Gnywali ¹, K. Blum ¹, D. Pal ¹, S. Khanna ¹, S. Roy ¹, C. Sen ¹  
¹ Ohio State University, Comprehensive Wound Center, Center For Regenerative Medicine And Cell Based Therapies, Department Of Surgery, Davis Heart And Lung Research Institute Columbus, OH, USA

4:45  H2.04 - THE ROLE OF NRF2 IN DIABETIC FOOT ULCER HEALING DURING HYPERBARIC OXYGEN THERAPY  
V. Hsiao ¹, S. Swartz ¹, B. Johnston ¹, L. Gould ³, D. Ciombor ², P. Liu ²  
¹ Warren Alpert Medical School, Providence, RI, USA ² Rhode Island Hospital, Department Of Plastic And Reconstructive Surgery Providence, RI, USA ³Kent County Memorial Hospital, Wound Recovery And Hyperbaric Medicine Center Warwick, RI, USA

4:55  H2.05 - NON VIRAL MEDIATED TRANSIENT EXPRESSION OF VEGF IN HUMAN ADMSCS ACCELERATES ANGIogenesis FOR CHRONIC WOUND HEALING.  
A. AJIT ¹, T. R. Santhoshkumar ², L. K Krishnan ¹  
¹ Sree Chitra Tirunal Institute For Medical Sciences And Technology, Division Of Thrombosis Research, Department Of Applied Biology Thiruvananthapuram, Kerala, India ² Rajiv Gandhi Centre For Biotechnology, Cancer Research Program Thiruvananthapuram, Kerala, India

5:05  H2.06 - SKIN REDNESS AND COLOUR: DISTINGUISHING BETWEEN CUTANEOUS ERYTHEMA AND PIGMENTATION IN HUMAN SKIN SCARRING USING QUANTITATIVE OBJECTIVE ASSESSMENT CORROBORATED BY IMMUNOHistoCHEMICAL ANALYSIS  
S. Ud-Din ¹, P. Foden ², M. Mazhari ³, S. Al-Habba ³, M. Baguneid ⁴, A. Bayat ¹  
¹ University Of Manchester, Plastic And Reconstructive Surgery Research Manchester, GREATER MANCHESTER, United Kingdom ² University Hospital Of South Manchester, Medical Statistics Manchester, GREATER MANCHESTER, United Kingdom ³ Central Manchester University Hospitals NHS Foundation Trust, Adult Histopathology Manchester, GREATER MANCHESTER, United Kingdom ⁴ University Hospital Of South Manchester, Vascular Surgery Manchester, GREATER MANCHESTER, United Kingdom
Bioengineering (H3)  Upper Level - Room 1B  
Moderators: Rivkah Isseroff, MD; Mithun Sinha, PhD

4:15  H3.01 - SOFT TISSUE REINFORCEMENT WITH ACELLULAR DERMAL MATRIX TO PROTECT IMPLANTED CARDIOVERTERS/DEFIBRILLATORS AND PACEMAKERS  
R. Rudolph ¹, G. Curtis ¹, R. Rudolph ¹  
¹ Scripps Clinic And UCSD, Plastic Surgery La Jolla, CA, USA

4:25  H3.02 - INCREASED RATE OF BIOINTEGRATION OF DERMACELL ACELLULAR DERMAL MATRIX THROUGH THE INCLUSION OF FENESTRATIONS  
P. S. Cottler ¹, B. Ning ², S. A. Seaman ³, J. Thuman ³, L. S. Salopek ¹, G. T. Rodeheaver ¹, A. Pineros-Fernandez ¹, S. Hu ², C. A. Campbell ¹  
¹ University Of Virginia, Plastic Surgery Charlottesville, VIRGINIA, USA ² University Of Virginia, Biomedical Engineering Charlottesville, VA, USA ³ University Of Virginia, School Of Medicine Charlottesville, Virginia, USA

4:35  H3.03 - BIOMIMETIC COMBINATION GRAFT OF AMNION, FIBRIN AND PLGC FOR ACCELERATED BURN WOUND HEALING  
R. R ¹, K. V ¹, P. Varkey ¹, L. K. Krishnan ¹  
¹ Sree Chitra Tirunal Institute For Medical Sciences & Technology, Division Of Thrombosis Research / Department Of Applied Biology, Division Of Dental Products / Department Of Biomaterial Science And Technology, Zumheilen / Ti-Med, Biomedical Technology Wing Trivandrum, Kerala, India

4:45  H3.04 - RE-ENGINEERING A FIBRONECTIN-DERIVED PEPTIDE FOR TOPICAL TREATMENT OF BURNS AND CHRONIC WOUNDS  
R. A. Clark ¹, A. J. Singer ¹, F. Lin ¹, R. A. Clark ¹  
¹ NeoMatrix Therapeutics, Inc., Stony Brook, NY, USA

5:05  H3.05 - COMPLETE REMOVAL OF SDS NECESSARY FOR BIOLOGICALLY-DERIVED SCAFFOLD INTEGRATION IN MUSCLE WOUND REPAIR  
E. E. Friedrich ¹, S. Niknam-Bienia ¹, S. T. Lanier ¹, G. Arenas ¹, S. Hong ¹, J. Wertheim ¹, T.A. Mustoe ¹, R. D. Galiano ¹  
¹ Northwestern University, Surgery Chicago, IL, USA

Burn Wounds (H4)  Upper Level - Room 2  
Moderators: Michael Schurr, MD; Heather Powell, PhD

4:15  H4.01 - QUANTITATIVE ANALYSIS OF BURN SCARS: SELECTING NON-INVASIVE INSTRUMENTS FOR CLINICAL EVALUATIONS  
M. E. Baumann ¹, D. M. DeBruler ², B. N. Blackstone ², R. Coffey ³, S. T. Boyce ⁴, J. K. Bailey ³, H. M. Powell ¹ ² ⁴  
¹ Ohio State University, Department Of Biomedical Engineering Columbus, OH, USA ² Ohio State University, Department Of Materials Science And Engineering Columbus, OH, USA ³ Ohio State University, Wexner Medical Center Department Of Surgery Columbus, OH, USA ⁴ Shriner Hospitals For Children, Research Department Cincinnati, OH, USA

4:25  H4.02 - IMMEDIATE TOPICAL APPLICATION OF MINOCYCLINE HYDROGEL DECREASES BURN WOUND NECROSIS AND REDUCES TISSUE BACTERIAL COUNTS  
K. Nuuttila ¹ ², M. Singh ¹ ², E. Eriksson ²  
¹ Brigham And Women’s Hospital, PLASTIC SURGERY Boston, MA, USA ² Harvard School Of Medicine, Brookline, MA, USA

4:35  H4.03 - MAST CELL TRYPTASE INDUCTION OF POST-BURN FIBROSIS VIA PROTEASE-ACTIVATED RECEPTOR-2  
J. W. Jay ¹, A. Prasai ¹, A. El Ayadi ¹, M. D. Wetzel ², D. N. Herndon ¹ ², C. C. Finnerty ¹ ² ³  
¹ University Of Texas Medical Branch, Surgery Galveston, TX, USA ² Shriner Hospitals For Children, Galveston, TX, USA ³ University Of Texas Medical Branch, Institute For Translational Science Galveston, TX, USA

4:45  H4.04 - EXPRESSION AND FUNCTION OF LAMININ-51 IN WOUND REEPITHELIALIZATION  
D. Castillo ¹, T. Cui ¹, S. Davis ¹, J. Li ¹  
¹ University Of Miami, Dermatology & Cutaneous Surgery/School Of Medicine Miami, Florida, USA
4:55  H4.05 - EARLY APPLICATION OF PRESSURE GARMENTS REDUCES SCARRING FOLLOWING FULL-THICKNESS BURN INJURY
D. M. DeBruler 1, J. C. Zbinden 2, M. E. Baumann 2, B. N. Blackstone 1, M. M. Malara 1, D. M. Supp 4, J. K. Bailey 3, H. M. Powell 1,2
1 Ohio State University, Department Of Materials Science And Engineering Columbus, OH, USA 2 Ohio State University, Department Of Biomedical Engineering Columbus, OH, USA 3 Ohio State University, Wexner Medical Center Department Of Surgery Columbus, OH, USA 4 Shriners Hospitals For Children, Department Of Research Cincinnati, OH, USA

5:05  H4.06 - BETA 2- ADRENORECEPTOR TRAFFICKING IS ALTERED IN POST-BURN DERMAL FIBROBLASTS
A. El Ayadi 1,2, A. Prasai 3, Y. Wang 1, D. N. Herndon 1,2, C. C. Finnerty 1,2,4
1 University Of Texas Medical Branch, Surgery Galveston, TX, USA 2 Shriners Hospitals For Children, Galveston, TX, USA 3 University Of Texas Medical Branch, Neuroscience And Cell Biology Galveston, TX, USA 4 University Of Texas Medical Branch, Institute For Translational Science Galveston, TX, USA

GRAND OPENING OF EXHIBITS/COCKTAIL RECEPTION
5:30 P.M. - 8:30 P.M. Ground Level - Hall B
WHS Exhibit Booth #1011

DAY 3: FRIDAY, APRIL 7, 2017

INDUSTRY-SUPPORTED BREAKFAST SYMPOSIA
7:30 A.M. - 9:00 A.M.

BREAK
9:00 A.M. - 9:15 A.M.

WHS SESSION I: REGENERATION
9:15 A.M. - 10:15 A.M. Upper Level - Room 6D
Moderators: Ardeshir Bayat, MB, BS, PhD; Daria Narmoneva, PhD
Speakers: Alejandro Ocampo, PhD; Alvaro Sagasti, PhD

The goal of repairing tissues with a regenerative phenotype in response to tissue injury has been an active area of scientific investigation. In mature vertebrates, resident stem cells participate in both tissue maintenance and regeneration after injury. These processes can be influenced by genetic mutations, epigenetic changes, and extrinsic factors. Neural degeneration and repair play important roles during injury response and regeneration. This session will focus on the current state-of-the-art science on enhancing stem cell function and modulating critical interactions between skin cells and sensory neurons for regenerative tissue repair.

BREAK
10:15 A.M. - 10:30 A.M.

WHS SESSION J: FIBROSIS AND SCAR
10:30 A.M. - 11:45 A.M. Upper Level - Room 6D
Moderators: Geoff Gurtner, MD, FACS; Thomas Mustoe, MD
Speakers: Geoff Gurtner, MD, FACS; Ester Middlekoop, PhD; Luc Teot, MD, PhD

Members of the Scar Club will highlight advances in the epidemiology, mechanistic studies and translational advances.

BREAK
11:30 A.M. - 11:45 A.M.
LUNCH WITH EXHIBITORS
11:45 A.M. – 2:15 P.M.

WHS Meet the Mentors/Job Fair *(non-accredited)*
12:00 P.M. - 2:00 P.M.  Upper Level - Room 3

**Moderators:** Harvey Himel, MD, MPH, FACS; Mitch Sanders, PhD
**Speakers:** Vickie Driver, DPM; Jignesh Patel, MS; Tom Serena, MD, FACS

After a short presentation and panel discussion, participants break into round table discussions. Those interested in the WHS topics provided exchange views on issues at the forefront of wound healing research and training.

BREAK
2:00 P.M. - 2:15 P.M.

WHS SESSION K: CONCURRENT ORAL ABSTRACTS II *(non-accredited)*
2:15 P.M. - 3:15 P.M.

Oral presentations will feature the highest scoring abstracts submitted to the WHS.

**Chronic Wounds (K1)**  Upper Level - Room 6D

**Moderators:** Anie Phillip, PhD; Lisa Tucker-Kellogg, PhD

2:15 K1.01 - END-STAGE RENAL DISEASE NEGATIVELY IMPACTS PHYSICAL QUALITY OF LIFE AND MAY PREDICT MAJOR AMPUTATION AND MORTALITY IN PATIENTS WITH DIABETIC FOOT COMPLICATIONS
K. M. Raspovic 4,5, J. Ahn 1, J. LaFontaine 3, L. Lavery 3, D. Wukich 1, D. Wukich 1
1 University Of Texas Southwestern Medical Center, Department Of Orthopaedic Surgery Dallas, TX, USA
2 University Of Texas Southwestern Medical Center, Department Of Plastic Surgery Dallas, TX, USA
3 MedStar Georgetown University Hospital, Department Of Plastic Surgery Washington, DC, USA
4 MedStar Washington Hospital Center, Division Of Podiatric Surgery Washington, DC, USA

2:25 K1.02 - COEXPRESSION NETWORK ANALYSIS OF TIME-COURSE TRANSCRIPTIONAL RESPONSE DURING CUTANEOUS WOUND HEALING IN A MURINE MODEL OF DIABETES
S. Nassiri 1,3, E. A. Grice 4, M. De Palma 3, K. Pourrezaei 1, I. Zakeri 2
1 Drexel University, School Of Biomedical Engineering, Science, And Health Systems Philadelphia, PA, USA
2 Drexel University, Dornsife School Of Public Health Philadelphia, PA, USA
3 Ecole Polytechnique Federale De Lausanne, School Of Life Sciences Lausanne, Switzerland
4 University Of Pennsylvania, Perelman School Of Medicine Philadelphia, PA, USA

2:35 K1.03 - TRANSLATIONAL VALUE OF MURINE MODELS OF DIABETIC WOUND HEALING
G. Giatsidis 1, D. Sahin 1, T. Walters 1, H. Wang 1, D. P. Orgill 1
1 Brigham And Women’s Hospital, Plastic Surgery/Surgery Boston, MA, USA

2:45 K1.04 - COMPLEMENT ACTIVATION AND STAT 4 EXPRESSION ARE ASSOCIATED WITH EARLY INFLAMMATION IN DIABETIC WOUNDS
1 Eastern Virginia Medical School, Department Of Pediatrics Norfolk, VA, USA
2 Eastern Virginia Medical School, Department Of Microbiology And Molecular Cell Biology Norfolk, VA, USA
3 Eastern Virginia Medical School, Department Of Physiology Sciences Norfolk, VA, USA
4 Eastern Virginia Medical School, Department Of Dermatology Norfolk, VA, USA
5 Eastern Virginia Medical School, Department Of Pathology Norfolk, VA, USA
6 Eastern Virginia Medical School, Department Of Internal Medicine Norfolk, VA, USA
7 University Of Virginia, Department Of Plastic Surgery Charlottesville, VA, Virgin Islands, U.S.
8 Eastern Virginia Medical School, Department Of Internal Medicine Norfolk, VA, USA

2:55 K1.05 - HYPERBARIC OXYGEN THERAPY EFFECTS ON CHRONIC WOUNDS: ANALYSIS OF PERFUSION USING INDOCYANINE GREEN ANGIOGRAPHY
G. J. Chiu 1, S. Sorice 1, S. Meyer 1, G. Gurtner 1
1 Stanford University, Plastic And Reconstructive Surgery Palo Alto, CA, USA
K1.06 - A NOVEL SYNTHETIC CYCLIC LIPOPEPTIDE CLP SHOWS POTENT ACTIVITY AGAINST MULTIPLE BACTERIAL ISOLATES FROM DIABETIC FOOT ULCERS
K. R. Min 1, B. Williams 2, R. Rayala 2, P. Cudic 2, R. S. Kirsner 1, D. Ajdic 1
1 University Of Miami, Miller School Of Medicine, Dermatology & Cutaneous Surgery Miami, FL, USA 2 Florida Atlantic University, Department Of Chemistry And Biochemistry Jupiter, FL, USA

Chronic Wounds and Inflammation (K2) Upper Level - Room 1A
Moderators: Sundeep Keswani, MD; Mitch Sanders, PhD

2:15 K2.01 - TOPICAL MEVASTATIN PROMOTES WOUND HEALING AND INHIBITS C-MYC VIA BLOCKING SYNTHESIS OF GLUCOCORTICOID RECEPTOR LIGANDS AND ACTIVATION OF LONG NON-CODING RNA GAS5
A. Sawaya 1, I. Pastar 1, O. Stojadinovic 1, S. C. Davis 1, R. Kirsner 1, M. Tomic-Canic 1
1 University Of Miami Miller School Of Medicine, Wound Healing And Regenerative Medicine Research Program, Department Of Dermatology And Cutaneous Surgery Miami, Florida, USA

2:25 K2.02 - REGRANEX® RECRUITS CIRCULATING PERICYTES TO WOUNDS TO ACCELERATE WOUND HEALING
N. Kosaric 1, M. Rodrigues 1, P. Mittermiller 1, E. Roche 2, G. Gurtner 1
1 Stanford University, Surgery Stanford, CA, USA 2 Smith And Nephew, Advanced Wound Management Fort Worth, TX, USA

2:35 K2.03 - CRITICAL ROLE OF CELL-MATRIX INTERACTIONS IN THE IMMUNOMODULATORY EFFECTS OF HUMAN AMNIOTIC MEMBRANE-DERIVED WOUND CARE
C. E. Witherel 1, T. Yu 1, M. Concannon 1, K. L. Spiller 1
1 Drexel University, School Of Biomedical Engineering, Science And Health Systems Philadelphia, PA, USA

2:45 K2.04 - THE CHROMATIN REMODELING COMPLEX CHD4/NURD IS AN EPIGENETIC REGULATOR OF THE INFLAMMATORY RESPONSE IN DIABETIC WOUNDS
C. Zgheib 1, M. M. Hodges 1, J. Xu 1, J. Hu 1, K. W. Liechty 1
1 Laboratory For Fetal And Regenerative Biology, Department Of Surgery, University Of Colorado-Denver School Of Medicine, Anschutz Medical Campus And Children's Hospital Colorado, Aurora, CO, USA

2:55 K2.05 - INHIBITION OF PHD2 BY LOCAL DELIVERY OF A NOVEL RNAI AGENT ACCELERATES WOUND HEALING IN DIABETIC MICE
1 SomaGenics, Inc., Santa Cruz, CA, USA 2 Stanford University, Medicine/Surgery Palo Alto, CA, USA 3 LayerBio, Inc., Arlington, MA, USA 4 Massachusetts Institute Of Technology, Chemical Engineering Cambridge, MA, USA 5 Tecellact, Inc., San Diego, CA, USA

3:05 K2.06 - THE INFLUENCE OF COMORBID CONDITIONS ON THE PERFORMANCE OF ANNUAL COMPREHENSIVE FOOT EXAMINATIONS IN THE US POPULATION WITH DIABETES MELLITUS
T. A. Sando 1, R. Perera 2, J. Lu 1
1 Virginia Commonwealth University, Division Of Epidemiology Richmond, VA, USA 2 Virginia Commonwealth University, Department Of Biostatistics Richmond, VA, USA

ECM, Fibrosis and Scarring (K3) Upper Level - Room 1B
Moderators: Susan Volk, VMD, PhD; Robert Dorschner, MD

2:15 K3.01 - MECHANISTIC TRIGGERS AND POTENTIAL THERAPEUTIC INTERVENTIONS FOR PATHOLOGICAL SCARRING IN TRAUMATIC SKIN WOUNDS
S. Nagaraja 1, L. Chen 2, J. Zhou 2, Y. Zhao 2, D. Fine 2, L. A. DiPietro 2, J. Reifman 1, A. Y. Mitrophanov 1
1 DoD Biotechnology High Performance Computing Software Applications Institute, Telemedicine And Advanced Technology Research Center, U.S. Army Medical Research And Materiel Command Ft. Detrick, Maryland, USA 2 Center For Wound Healing And Tissue Regeneration, University Of Illinois At Chicago, College Of Dentistry Chicago, IL, USA

2:25 K3.02 - CAFFEINE INHIBITS MIGRATION WITHOUT AFFECTING FOCAL ADHESION SIZE IN DUPUYTREN’S FIBROBLASTS IN VITRO
J. C. Pantoja 1, A. Coles 1, M. Bryson 1, N. Alkadhem 1, M. B. Vaughan 1
1 University Of Central Oklahoma, Department Of Biology Edmond, OK, USA 2 AL-Nahrain University, Biotechnology Research Center Baghdad, IRAQ, Iraq
2:35 K3.03 - CHARACTERIZING FETAL SKIN FIBROBLASTS USING COLLAGEN 1A1-GFP TRANSGENIC MICE
B. Wulff 1, O. Branson 1, M. Gardner 1, M. Freitas 1, T. Wilgus 1
1 Ohio State University, Columbus, OH, USA

2:45 K3.04 - MOLECULAR SIGNALING IN DYSPIGMENTED HYPERTROPHIC SCARS: A KERATINOCYTE-MELANOCYTE CO-CULTURE EVALUATION
B. C. Carney 1, J. H. Chen 2,3, A. Alkhali 2, L. T. Moffatt 1,2, J. W. Shupp 3
1 Georgetown University School Of Medicine, Biochemistry And Molecular And Cellular Biology Washington, DC, USA
2 MedStar Health Research Institute, Firefighters’ Burn And Surgical Research Laboratory Washington, DC, USA
3 MedStar Washington Hospital Center, The Burn Center/Department Of Surgery Washington, DC, USA

2:55 K3.05 - ANTIINFLAMMATORY CYTOKINE MEDIATED EXTRACELLULAR MATRIX REGULATION AND ANGIOGENESIS ATTENUATES FIBROSIS IN MULTIPLE ORGAN SYSTEMS
X. Wang 1, S. Balaji 1, P. Duann 1, H. Li 1, M. M. Fahrenholtz 1, M. Rae 1, W. Short 1, M. A. Chandramouli 1, D. Nguyen 1, P. L. Bollyky 1, J. Cheng 1, S. G. Keswani 1
1 Baylor College Of Medicine, Surgery Houston, TX, USA
2 Baylor College Of Medicine, Medicine Houston, TX, USA
3 Stanford University, Medicine Stanford, CA, USA

3:05 K3.06 - CHARACTERIZATION OF FIBROBLAST SUBTYPES AND MACROPHAGES DURING DIFFERENT STAGES OF HYPERTROPHIC SCAR DEVELOPMENT
B. A. Kuehlmann 1, J. Padmanabhan 1, M. Rodrigues 1, G. C. Gurtner 1
1 Stanford University School Of Medicine, Department Of Surgery Palo Alto, CA, USA

Infection and Biofilms (K4) Upper Level - Room 2
Moderators: Elizabeth Grice, PhD; Katherine Radek, PhD

2:15 K4.01 - INHIBITION OF BACTERIAL GROWTH BY HUMAN CRYOPRESERVED VIABLE AMNIOTIC MEMBRANE MEDIATED BY SOLUBLE ANTIMICROBIAL PEPTIDES
Y. Mao 1, T. Hoffman 1,2, A. Singh-Varma 1, A. Lerch 2, M. Moorman 2, A. Danilkovitch 2, J. Kohn 1
1 Rutgers University, New Jersey Center For Biomaterials Piscataway, NJ, USA
2 Osiris Therapeutics Inc., Columbia, MD, USA

2:25 K4.02 - TREATING BIOFILM-ASSOCIATED INFECTION IN DIABETIC ULCERS BY SURGICAL DEBRIDEMENT, SIMULTANEOUS MESHED SKIN GRAFTS, AND NEGATIVE PRESSURE DRESSINGS
S. Han 1, S. Han 1
1 Korea University Guro Hospital, Department Of Plastic Surgery Seoul, SEOUL, South Korea

2:35 K4.03 - TAUROLIDINE IN HIGH MOLECULAR WEIGHT HYALURONIC ACID PREVENTS FORMATION OF PSEUDOMONAS AERUGINOSA BIOFILM ON PIG SKIN EXPLANTS
G. Schultz 1, Q. Yang 1, D. Gibson 1, G. Schultz 1
1 University Of Florida, Institute For Wound Research Gainesville, FL, USA

2:45 K4.04 - IMPACTS OF PATHOGEN COLONIZATION AND INFECTION ON A DERMAL REGENERATION MATRIX
K. W. Monger 1, L. T. Moffatt 1, B. C. Carney 1, J. W. Shupp 2
1 MedStar Health Research Institute, Firefighters’ Burn And Surgical Research Laboratory Washington, DC, USA
2 MedStar Washington Hospital Center, The Burn Center/Department Of Surgery Washington, DC, USA

2:55 K4.05 - BIOFILM CERAMIDASES DISRUPT SKIN LIPID HOMEOSTASIS AND WOUND REPAIR
M. Sinha 1, S. Steiner 1, N. Ghosh 1, S. Khanna 1, D. Wijesinghe 2, D. Wozniak 3, G. Gordillo 1, S. Roy 1, C. K. Sen 1
1 Ohio State University, Surgery Columbus, OH, USA
2 Virginia Commonwealth University, Richmond, VA, USA
3 Ohio State University, Microbiology Columbus, OH, USA

3:05 K4.06 - OVERCOMING ANTIBIOTIC RESISTANCE IN WOUND BIOFILM INFECTION
A. Das 1, S. Dixith 1, K. Ganesh Barki 1, M. Sinha 1, S. Steiner 1, Z. Polcyn 1, P. Ghatak 1, S. Khanna 1, E. Schwab 1, D. J. Wozniak 2, S. Roy 1, C. K. Sen 1
1 Ohio State University, Comprehensive Wound Center, Center For Regenerative Medicine And Cell Based Therapies, Department Of Surgery, Davis Heart And Lung Research Institute, The Ohio State University Wexner Medical Center Columbus, OH, USA
2 Ohio State University, Department Of Microbial Infection And Immunity, Department Of Microbiology, Center For Microbial Interface Biology, The Ohio State University Columbus, OH, USA
3:15 P.M. - 3:30 P.M.

**BREAK**

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**WHS DAY 3 GENERAL SESSION – SYSTEMATIC DISEASE & THE DELAY/IMPAIRMENT OF WOUND HEALING**

3:30 P.M. – 4:30 P.M. Upper Level - Ballroom 20 CD

*Moderators*: Brian Eliceiri, PhD; Rob Galiano, MD

*Speaker*: Ron Evans, PhD

This session will highlight research investigating the role of epidermal stem cells in skin homeostasis and repair. It will also discuss recent work demonstrating a new mechanism by which skin damage induces tumor formation.

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**BREAK**

4:30 P.M. – 4:45 P.M.

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**WHS Session L: Wound Healing Foundation-3M Award Lecture**

4:45 P.M. – 5:45 P.M. Upper Level - Room 6D

*Moderators*: Laura Parnell, BS, MS, CWS; Ivan Jozic, PhD

*Speakers*: Joshua Tam, PhD

This session will announce the 2016 WHSF-3M Fellowship winner and will feature a presentation on the research findings of the 2016 WHSF-3M Fellowship recipient, Joshua Tam, PhD.

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**BREAK**

5:45 P.M. – 6:00 P.M.

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**WHS Business Meeting**

5:45 P.M. – 6:45 P.M. Upper Level - Room 6D

**WHS Session M: RAPID FIRE POSTER TALKS**

6:45 P.M. - 7:15 P.M. Upper Level - Room 6D

*Moderators*: Harriet Hopf, MD

This session will highlight the highest scoring abstracts selected for poster presentations. Presenters will have one slide and two minutes to summarize novel research findings, then one minute to answer questions. This session will immediately precede the poster gala, where all poster presenters will be available to discuss their research.

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6:48  **M1.01 - INTRINSIC PHENOTYPIC DIFFERENCES BETWEEN ADULT AND FETAL DERMAL FIBROBLASTS IN RESPONSE TO MECHANICAL TENSION**

M. Fahrenholtz¹, H. Li¹, M. A. Chandramouli¹, X. Wang¹, M. Rae¹, W. Short¹, P. Duann¹, K. Grande-Allen², P. L. Bollyky³, S. G. Keswani¹, S. Balaji¹

¹ Baylor College Of Medicine, Surgery Houston, TX, USA ² Rice University, Houston, TX, USA ³ Stanford University, Medicine-Infectious Disease Palo Alto, CA, USA

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6:51  **M1.02 - ADULT AND FETAL CARDIAC FIBROBLASTS STIMULATED WITH LIPOPOLYSACCHARIDE DEMONSTRATE DIFFERENTIAL EXPRESSION OF GENES REGULATING EXTRACELLULAR MATRIX**

M. M. Hodges¹, C. Zgheib¹, J. Hu¹, J. Xu¹, K. W. Liechty¹

¹ University Of Colorado-Denver, Anschutz Medical Campus And Children's Hospital Colorado, Laboratory For Fetal And Regenerative Biology, Department Of Surgery Aurora, CO, USA
6:54 M1.03 - ADIPOSE-DERIVED STEM CELLS AND VASCULARIZED LYMPH NODE TRANSFERS SUCCESSFULLY TREAT MOUSE HINDLIMB SECONDARY LYMPHEDEMA THROUGH EARLY RE-CONNECTION OF THE LYMPHATIC SYSTEM AND LYMPHANGIOGENESIS
S. Akita¹, S. Akita¹
¹Fukuoka, Plastic Surgery, Wound Repair And Regeneration Fukuoka, Fukuoka, Japan

6:57 M1.04 - PHENOTYPIC CHARACTERISTICS OF CELLS ISOLATED FROM HUMAN AMNIOTIC AND CHORIONIC MEMBRANES
A. Lerch¹, M. Moorman¹, T. Hoffman¹, J. Kuang¹, M. Sathyamoorthy¹, A. Danilkovitch¹
¹Osiris Therapeutics Inc., Columbia, MD, USA

7:00 M1.05 - IMPROVED QUALITY OF LIFE AFTER TRANSTIBIAL AMPUTATION IN PATIENTS WITH DIABETES RELATED FOOT COMPLICATIONS
D. K. Wukich¹, J. Ahn¹, K. M. Raspovic², J. LaFontaine³, L. Lavery³, D. Wukich¹
¹University Of Texas Southwestern Medical Center, Orthopaedic Surgery Dallas, TX, USA²Georgetown University Medical Center, Plastic Surgery Washington, DC, USA³University Of Texas Southwestern Medical Center, Plastic Surgery Dallas, TX, USA

7:03 M1.06 - COMPARISON BETWEEN HIGHLY AND EARLY HYDROPHILIC POLYURETHANE FOAM DRESSINGS IN THE MANAGEMENT OF SKIN GRAFT DONOR SITES IN DIABETIC PATIENTS
Y. Lee¹, S. Han¹
¹Korea University Guro Hospital, Diabetic Wound Care Center Seoul, Seoul, South Korea

7:06 M1.07 - GUIDELINES TO HARMONIZE WOUND MANAGEMENT ACROSS SETTINGS AND SPECIALTIES
L. L. Bolton¹, S. Girolami², L. Corbett³, K. Couch 4, L. Gould 5, S. Zakhary 6, C. Davey 7, K. LaForet 8,9, K. Napier 10, D. Merkle 11, L. Lavery 12, L. Cowan 13, L. Bolton 1
¹Rutgers Medical University, Surgery Metuchen, NEW JERSEY, USA²IHeal, Nursing Cincinnati, OH, USA³Hartford Hospital, Center For Wound Healing And Hyperbaric Medicine Hartford, CT, USA 4///George Washington...///Cutoff text?///

7:09 M1.08 - IPSC REPROGRAMMING RECOVERS CELLULAR FUNCTIONS OF DIABETIC FOOT ULCER FIBROBLASTS VIA MODULATION OF MICRORNAs
L. Liang¹, R. C. Stone¹, I. Jozic¹, O. Stojadinovic¹, I. Pastar¹, H. Ramirez¹, O. Kashpur 2,3, B. Gerami-Naini³, A. Smith³, R. S. Kirsner¹, A. Veves 4, J. A. Garlick 2,3, M. Tomic-Canic¹
¹University Of Miami, Wound Healing And Regenerative Medicine Research Program, Department Of Dermatology And Cutaneous Surgery Miami, FL, USA²Tufts University, Department Of Cell, Molecular, And Developmental Biology, Sackler School Of Graduate Biomedical Sciences Boston, MA, USA³Tufts University, Department Of Oral Diagnostic Sciences, School Of Dentistry, School Of Medicine, School Of Engineering Boston, MA, USA 4Beth Israel Deaconess Medical Center, Boston, MA, USA

WHS AND SAWC SPRING POSTER GALA/AWARDS
7:15 P.M. – 8:45 P.M. Ground Level - Hall A
**POSTER PRESENTERS SHOULD ATTEND THIS ENTIRE EVENT**

DAY 4: SATURDAY, APRIL 8, 2017

INDUSTRY-SUPPORTED BREAKFAST SYMPOSIA
7:30 A.M. - 9:00 A.M.

BREAK
9:00 A.M. - 9:15 A.M.

WHS SESSION N: CONCURRENT ORAL ABSTRACTS III (non-accredited)
9:15 A.M. - 10:15 A.M.

Oral presentations will feature the highest scoring abstracts submitted to the WHS.
9:15 N1.01 - GENOMIC AND EPIGENOMIC ANALYSIS OF ENGRAILED-1 FIBROBLASTS PREDICT FIBROGENIC ROLE IN SCARRING
M. S. Hu1,2, G. Walmsley1, T. Leavitt1, U. Litzenburger1, C. Marshall1, R. Sinha1, Z. Maan1, L. Barnes1, D. Duscher1, I. Weissman1, G. Gurtner1, H. Chang1, H. P. Lorenz1, M. Longaker1
1 Stanford University, Surgery Palo Alto, CA, USA 2 University Of Hawaii, Surgery Honolulu, HI, USA

9:25 N1.02 - MECHANICAL FORCES AND INFLAMMATION REGULATE FIBROBLAST FUNCTIONAL DIVERSITY THAT IS PROPAGATED BY EXOSOMES
M. Fahrenholtz1, M. Rae1, W. D. Short1, H. Li1, M. A. Chandramouli1, X. Wang1, D. Nguyen1, P. Duann1, K. Grande-Allen3, P. L. Bollyky2, S. G. Keswani1, S. Balaji1
1 Baylor College Of Medicine, Surgery Houston, TX, USA 2 Stanford University, Medicine-Infectious Disease Palo Alto, CA, USA 3 Rice University, Bioengineering Houston, TX, USA

9:35 N1.03 - TARGETING TGF-β PATHWAY TO DECREASE EPITHELIAL TO MESENCHYMAL TRANSITION AND FIBROSIS IN SKIN CELLS
S. Zhou1, A. Bizet1, A. Philip1
1 McGill University, Surgery Montreal, QUEBEC, Canada

9:45 N1.04 - WNT3A-CONDITIONED MEDIA OF HUMAN BONE MARROW-DERIVED MESENCHYMAL STEM CELLS CONTAINS EXTRACELLULAR VESICLE-ASSOCIATED ACTIVITY IN SURROGATE ASSAYS OF DERMIS REPAIR
J. D. McBrady1, L. Rodriguez-Menocal1, A. C.andanedo1, E. Badiavas1
1 University Of Miami, Department Of Dermatology And Cutaneous Surgery Miami, FL, USA

10:05 N1.06 - IMPEDANCE SPECTROSCOPY AS A NEW TOOL TO MONITOR RE-EPITHELIALIZATION IN WOUNDED RECONSTRUCTED HUMAN EPIDERMIS
L. Engelhardt1, F. Groeber-Becker2, J. Hansmann1, H. Walles1,2
1 University Hospital Wuerzburg, Chair Of Tissue Engineering And Regenerative Medicine Wuerzburg, Bavaria, Germany 2 Fraunhofer Institute Of Interfacial Engineering And Biotechnology, Stuttgart, Baden-Wuerttemberg, Germany

Chronic Wounds (N2)                Upper Level - Room 1A
Moderators: Sue Gardner, PhD, RN; Ajdic Dragana, MD

9:15 N2.01 - INFLAMMATION AND NEUROPEPTIDES IN DIABETIC WOUND HEALING
G. Theocharidis1, D. Baltzis1, S. Dangwal1, A. Veves1
1 Beth Israel Deaconess Medical Center, Harvard Medical School Boston, MA, USA

9:25 N2.02 - HEALING OF CHRONIC DIABETIC FOOT ULCERS WITH NATURAL HONEY: AN ALTERNATIVE PARADIGM IN WOUND HEALING
H. Mohamed1, B. A. Lenjawi1
1 Weill Cornell Medical College-Qatar, Family Medicine Doha, QATAR, Qatar

9:35 N2.03 - A DUAL-CELL THERAPY FOR CHRONIC WOUNDS
A. Aijaz1, M. Teryek1, R. Olabisi1
1 Rutgers University, Piscataway, New Jersey, USA

9:45 N2.04 - ADVERSE OUTCOMES IN PATIENTS WITH PRESSURE ULCERS: CHANGING THE PARADIGM FOR PRESSURE ULCER PREVENTION
R. A. Bryant1, K. B. Daratha1
1 Washington State University, College Of Nursing Spokane, WA, USA
9:55 N2.05 - USING A MATHEMATICAL MODEL WITH INDIVIDUAL PATIENT DATA TO QUANTIFY DIFFERENCES BETWEEN PATIENTS WITH DIABETIC FOOT ULCER
R. Schugart 1, R. Schugart 1
1 Western Kentucky University, Mathematics Bowling Green, KY, USA

10:05 N2.06 - PRESSURE INJURY OF MATURE AND IMMATURE MUSCLE CELLS, STUDIED THROUGH THE USE OF 6-WELL AND 24-WELL DEVICES FOR MECHANICAL DEFORMATION IN VITRO
J. Jenkins 1, J. Fong 1, L. Tucker-Kellogg 1
1 Duke-NUS Medical School, Singapore, SG, Singapore

Inflammation and Immunity (N3) Upper Level - Room 1B
Moderators: Corrie Gallant-Brehm, PhD; Joshua Tam, PhD

9:15 LATE BREAKING ABSTRACT

9:25 N3.02 - REGULATORY AND EFFECTOR T-CELLS POTENTIATE WOUND REPAIR BY REGULATING INFLAMMATION AND EXTRACELLULAR MATRIX
X. Wang 1, S. Balaji 1, M. Rae 1, K. Matatall 2, H. Li 1, V. G. Sunkari 3, P. Duann 1, M. M. Fahrenholtz 1, M. Chandramouli 1, K. Y. King 2, M. Butte 4, P. L. Bollyky 3, S. G. Keswani 1
1 Baylor College Of Medicine, Surgery Houston, TX, USA 2 Baylor College Of Medicine, Pediatrics-Infectious Disease Houston, TX, USA 3 Stanford University, Medicine Stanford, CA, USA 4 University Of California, Los Angeles, Pediatric Los Angeles, CA, USA

9:35 N3.03 - SIGNIFICANT OVEREXPRESSION OF 5S RIBOSOMAL RNA AND U4 SMALL NUCLEAR RNA FOLLOWING INTRACELLULAR ATP DELIVERY IN A RABBIT WOUND MODEL
G. J. Kotwal 1, S. Chien 1,2, S. Chien 1
1 University Of Louisville, Surgery Louisville, KY, USA 2 Noveratech LLC, Louisville, KY, USA

9:45 LATE BREAKING ABSTRACT

Acute Wounds (N4) Upper Level - Room 2
Moderators: Marck Granick, MD; Mohamed Ibrahim, MD

9:15 N4.01 - Topical JAG1, a Notch Activator, Accelerates Closure of Splinted Cutaneous Excisional Wounds in K14-Notch2 Knockout Mice
K. Leibl 2, Z. Aburjania 1, B. F. Giertych 2, T. W. King 1
1 University Of Alabama At Birmingham, Plastic Surgery Birmingham, AL, USA 2 University Of Wisconsin-Madison, Medicine Madison, WI, USA

9:25 N4.02 - DELAYED WOUND HEALING IN A MOUSE MODEL OF BLEOMYCIN-INDUCED MULTI-ORGAN FIBROSIS: NEW APPROACH TO PRE-ClinICAL TESTING OF NEW THERAPIES FOR VENOUS LEG ULCERS
T. Wikramanayake 1, G. A. Rubio 2, G. D. Glinos 1, P. Hirt 1, I. Pastar 1, X. Xia 2, M. Tomic-Canic 1, S. Elliot 2, M. K. Glassberg 3,4
1 University Of Miami Miller School Of Medicine, Department Of Dermatology And Cutaneous Surgery Miami, FL, USA 2 University Of Miami Miller School Of Medicine, Department Of Surgery Miami, FL, USA 3 University Of Miami Miller School Of Medicine, Department Of Medicine Miami, FL, USA 4 University Of Miami Miller School Of Medicine, Department Of Pediatrics Miami, FL, USA

9:35 N4.03 - IL-27 PROMOTES INNATE IMMUNITY AND ANTIVIRAL COMPETENCE IN WOUNDS
J. Kwock 1, B. Yang 1, J. Maycock 1, M. McFadden 1, J. Suwanpradid 1, L. Pontius 1, P. Hoang 1, S. Horner 1, S. Abraham 2, A. MacLeod 1,2
1 Duke University Medical Center, Department Of Dermatology Durham, NC, USA 2 Duke University Medical Center, Department Of Immunology Durham, NC, USA 3 Duke University Medical Center, Molecular Genetics And Microbiology Durham, NC, USA
9:45 N4.04 - ECRG4 MEDIATES LEUKOCYTE RECRUITMENT AND WOUND HEALING IN A MURINE MODEL  
R. A. Dorschner 1,2, J. Lee 1, T. Costantini 1, A. Baird 1, B. P. Eliceiri 1  
1 University Of California - San Diego, Division Of Trauma, Burns And Wounds, Department Of Surgery San Diego, CA, USA  
2 University Of California - San Diego, Department Of Dermatology San Diego, CA, USA

9:55 N4.05 - MACROPHAGE IN SITU PROLIFERATION, M2 POLARIZATION AND DIRECT COLLAGEN SYNTHESIS—A NEW PATHWAY FOR FASTER WOUND HEALING  
H. Sarojini 1, S. Eichenberger 1, S. Chien 1  
1 University Of Louisville, Surgery Louisville, KY, USA

10:05 N4.06 - ENRICHMENT OF SKIN STEM CELL POOL BY INDUCIBLE HAIR FOLLICULOGENESIS  
M. S. El Masry 1, S. Ghatak 1, N. S. Ahmed 1, S. C. Gnyawali 1, S. Roy 1, C. K. Sen 1, S. Khanna 1  
1 Ohio State University, Comprehensive Wound Center, CRMCBT, Department Of Surgery, DHLRI, Wexner Medical Center Columbus, OH, USA

BREAK
10:15 A.M. - 10:30 A.M.

WHS Day 4 General Session – Recent Advances in Wound Healing Research & Therapeutics  
10:30 A.M. – 11:30 A.M.  
Upper Level - Ballroom 20 CD

Moderators: WHS President Elect-Elof Eriksson, MD, PhD; WHS President -Marjana Tomic-Canic, PhD
Speaker: Richard Gallo, MD, PhD

This general session will highlight the role of anti-microbial peptides in the skin that relate to skin immunity, health, disease, and basic cellular functions.

WHS MEETING ADJOURNS  
11:30 A.M.

LUNCH WITH EXHIBITORS  
11:45 A.M. – 2:15 P.M.

WHS POSTER PRESENTATIONS  
Poster Gala/Awards Session is Friday, April 7, 2017 from 7:15 P.M. - 8:45 P.M., Ground Level - Hall A

ANGIOGENESIS

P.ANG01 - INDUCTION OF ANGIGENIC PROPERTIES OF FIBROCYTES BY bFGF LEADING TO VASCULAR FORMATION DURING WOUND HEALING  
Y. Akasaka 1,4, M. Nakamichi 2, C. Fujisawa 3, K. Onishi 2, T. Okaneya 2, Y. Akishima-Fukasawa 1, N. Honma 1, T. Mikami 1  
1 Toho University School Of Medicine, Department Of Pathology Ohta-City, Tokyo, OUTSIDE U.S./CANADA, Japan  
2 Toho University Omori Medical Center, Department Of Plastic And Reconstructive Surgery Ohta-City, Tokyo, OUTSIDE U.S./CANADA, Japan  
3 Advanced Research Center, School Of Medicine, Toho University, Division Of Research Promotion And Development Ohta-City, Tokyo, OUTSIDE U.S./CANADA, Japan  
4 Advanced Research Center, School Of Medicine, Toho University, Unit Of Regenerative Disease Research Ohta-City, Tokyo, OUTSIDE U.S./CANADA, Japan

P.ANG02 - FIBRONECTIN PEPTIDE, P1, ENHANCES GROWTH FACTOR DRIVEN ANGIGENESIS  
M. M. McTigue 1, M. G. Tonnesen 2,3, R. A. Clark 1,3  
1 Stony Brook University Medical Center, Biomedical Engineering Stony Brook, NY, USA  
2 Northport Veterans Affairs Medical Center, Dermatology Northport, NY, USA  
3 Stony Brook University Medical Center, Dermatology Stony Brook, NY, USA

P.ANG03 - INFLUENCE OF THE EXTRACELLULAR MATRIX PROTEIN TENASCIN-C ON MESENCHYMAL STEM CELL PARACRINE SIGNALING REGULATES WOUND HEALING AND ANGIGENESIS  
K. Sylakowski 1, A. Nuschke 1,3, A. Wells 1,2,3  
1 University Of Pittsburgh, Pathology Pittsburgh, PA, USA  
2 VA Pittsburgh Healthcare System, Pittsburgh, PA, USA  
3 McGowan Institute Of Regenerative Medicine, Pittsburgh, Pennsylvania, USA
P.ANG04 - RETOOLING LASER SPECKLE CONTRAST ANALYSIS ALGORITHM TO ENHANCE NON-INVASIVE HIGH RESOLUTION LASER SPECKLE IMAGING OF CUTANEOUS MICROCIRCULATION
S. Ghatak 1, S. Gnyawali 1, K. Blum 1, D. Pal 1, S. Khanna 1, S. Roy 1, C. K. Sen 1

1 Ohio State University Wexner Medical Center, Comprehensive Wound Center, Center For Regenerative Medicine And Cell Based Therapies, Dept. Of Surgery, Davis Heart And Lung Research Institute Columbus, OH, USA

ACUTE WOUNDS

P.AW02 - PAIN-RELIEVING CONTINUOUS-CLEANSING DRESSING ALLOWS TRAUMA PATIENTS TO AVOID SURGERY
L. Benskin 1,2, L. Benskin 1,2

1 Independent Nurse Researcher For Tropical Developing Countries, Austin, TX, USA 2 Ferris Mfg. Corp., Fort Worth, TX, USA

P.AW03 - DOES NEGATIVE PRESSURE WOUND THERAPY HAVE A ROLE IN WOUND PROPHYLAXIS IN CLEAN PRIMARILY CLOSED INCISIONS IN PATIENTS UNDERGOING ELECTIVE COLORECTAL SURGERY?
A. Jackson 1, G. Kaur 1

1 Scunthorpe General Hospital, Surgery Scunthorpe, N LINCS, United Kingdom

P.AW04 - THE EFFECT OF A PRE- AND POSTOPERATIVE ORAL SUPPLEMENT OF ARGinine, ZINC AND VITAMIN C ON COLLAGEN SYNTHESIS IN SURGICAL INGUINAL HERNIA PATIENTS
A. K. Frederiksen 1, M. Kjaer 2, L. N. Jorgensen 2, J. R. Andersen 3, M. S. Å...gren 2,3

2 Copenhagen University Hospital, Digestive Disease Center Copenhagen, - Denmark 3Copenhagen University Hospital, Copenhagen Wound Healing Center Copenhagen, Denmark 4 Copenhagen University Hospital, Department Of Nutrition, Exercise And Sports Copenhagen, Denmark

P.AW05 - PHOTOBIOMODULATION THERAPY EFFECT ON EXCISIONAL WOUNDS OF STREPTOZOTOCIN-INDUCED DIABETIC RATS
J. R. De Castro 1,2, F. S. Pereira 1,2, G. C. Magliano 1, L. Chen 1, R. Y. Ballester 2, V. E. Arana-Chavez 2, L. A. DiPietro 1, A. Simoes 2

1 University Of Illinois At Chicago, Periodontics/College Of Dentistry Chicago, IL, USA 2 University Of Sao Paulo, Department Of Biomaterials And Oral Biology/College Of Dentistry Sao Paulo, SP, Brazil

PA W06 - DIFFERENTIAL EXPRESSION OF GLYCOSYLATION RELATED GENES IN DIABETIC AND NON- DIABETIC WOUND HEALING
V. A. Haywood 1, A. Nairn 3, K. Colley 2, L. Chen 1, L. A. DiPietro 1

1 University Of Illinois At Chicago, Center For Wound Healing & Tissue Regeneration, Periodontics, College Of Dentistry Chicago, IL, USA 2 University Of Illinois At Chicago, Department Of Biochemistry, College Of Medicine Chicago, IL, USA 3 University Of Georgia, Complex Carbohydrate Research Center Athens, GA, USA

BIOFILMS

PB IO02 - ULTRATHIN HYDROGEL DRESSINGS CONTAINING GALLIUM IONS AND SILVER NANOPARTICLES FOR THE ELIMINATION OF BIOFILMS
G. Pranami 1, T. B. Nelson 1, E. C. Crawford 1, J. L. Dalsin 1, M. Herron 2, C. J. Czuprunski 2, N. L. Abbott 2, A. Agarwal 1,3

1 Imbed Biosciences Inc., Madison, WI, USA 2 University Of Wisconsin-Madison, Department Of Chemical Engineering Madison, WI, USA 3 University Of Wisconsin-Madison, School Of Veterinary Medicine Madison, WI, USA

P.BIO04 - UNUSUAL PRESENTATION OF VARICELLA ZOSTER IN A PATIENT WITH MYLEOFIBROSIS AND POLycyTHEMIA VERA TREATED WITH A JAK INHIBITOR
M. C. Bosworth 1, H. Chung 1, T. Phillips 1

1 Boston University, Dermatology Boston, MA, USA

P.BIO05 - ASSESSMENT OF IN VITRO DISRUPTION OF METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS BIOFILMS AND CYTOTOXICITY WITH COMMON SKIN CLEANSING AGENTS
A. Day 1, A. Alkhalil 1, B. C. Carney 1, L. T. Moffatt 1, J. W. Shupp 2

1 MedStar Health Research Institute, Firefighters’ Burn And Surgical Research Laboratory Washington, DC, USA 2 MedStar Washington Hospital Center, The Burn Center/Department Of Surgery Washington, DC, USA 3 Georgetown University School Of Medicine, Biochemistry And Molecular And Cellular Biology Washington, DC, USA
**BURN WOUNDS**

**P.BW04 - DISCONCORDANCE BETWEEN HISTOLOGIC AND VISUAL ASSESSMENT OF TISSUE VIABILITY IN EXCISED BURN WOUND TISSUE**
A. L. Gibson¹, L. D. Faucher¹, D. D. Bennett², S. Shatadal¹, A. L. Gibson¹
¹University Of Wisconsin School Of Medicine And Public Health, Surgery Madison, WI, USA ²University Of Wisconsin School Of Medicine And Public Health, Dermatology Madison, WI, USA

**P.BW05 - SMOOTHING SPLINES MIXED-EFFECTS MODELING OF LONGITUDINAL TRANSCRIPTIONAL RESPONSE DURING CUTANEOUS SCARIFICATION**
S. Nassiri¹, K. Pourrezaei¹, I. Zakeri²
¹Drexel University, School of Biomedical Engineering, Science, And Health Systems Philadelphia, PA, USA ²Drexel University, Dornsife School Of Public Health Philadelphia, PA, USA

**P.BW06 - PRECLINICAL PORCINE MAXILLOFACIAL MODEL TO STUDY LONG-TERM CONSEQUENCES OF BURN TRAUMA**
S. S. Steiner¹, S. Ghatak¹, B. Rhea¹, M. El Masry¹, E. Schwab¹, S. Gnyawali¹, S. Roy¹, K. Leung², C. K. Sen¹
¹Ohio State University, Comprehensive Wound Center, Center For Regenerative Medicine And Cell Based Therapies, Dept. Of Surgery Columbus, OH, USA ²San Antonio Military Medical Center, US Army Dental And Trauma Research Detachment Fort Sam Houston, Texas, USA

**P.BW07 - SUPERPULSED 904 NM LASER-INDUCED PHOTOBIOMODULATION ALLEVIATES PAIN AND PREVENTS NITROXIDATIVE STRESS IN FULL-THICKNESS BURN WOUND HEALING**
A. Yadav¹, G. K. Keshri¹, A. Gupta¹, A. Gupta¹
¹Defence Institute Of Physiology And Allied Sciences (DIPAS), DRDO, Delhi-110054, India, Pharmacology DELHI, DELHI, India

**P.BW08 - THE RISE IN TGF-β3 AND TRANSGLUTAMINASE-1 EXPRESSION IS THE KEY DIFFERENCE BETWEEN AN EPIDERMAL EQUIVALENT AND A SEMISYNTHETIC DRESSING DURING THE TREATMENT OF MID-PARTIAL THICKNESS BURNS IN HUMANS**
R. M. Salgado¹, L. Rodríguez-Rodríguez², E. Flores-Avilés³, E. Krötzsch¹
¹Instituto Nacional De Rehabilitación “Luís Guillermo Ibarra Ibarra”, Laboratory Of Connective Tissue Mexico City, Mexico City, Mexico ²Instituto Nacional De Rehabilitación “Luís Guillermo Ibarra Ibarra”, Department Of Plastic Surgery Mexico City, Mexico City, Mexico

**P.BW09 - UPREGULATION OF miR-429 REDUCES THE PRO-FIBROTIC RESPONSE IN AN IN-VITRO MODEL OF HUMAN DERMAL MYOFIBROBLAST DIFFERENTIATION**
J. Banerjee¹, J. Banerjee¹, S. Natesan¹, R. J. Christy¹
¹US Army Institute Of Surgical Research, San Antonio, TX, USA

**CHRONIC WOUNDS**

**P.BW01 - BROEMLAIN-BASED DEBRIDEMENT OF CONTAMINATED ISCHEMIC WOUNDS IN A PORCINE MODEL**
A. J. Singer¹, J. Toussaint¹, W. T. Chung¹, P. Marino¹, S. A. McClain¹, D. Geblinger³, E. Asculai³, L. Rosenberg²,³
¹Stony Brook University, Emergency Medicine Setauket, NEW YORK, USA ²Ben Gurion University, Plastic Surgery Beer Sheba, NA, Israel ³MediWound Ltd., Yavneh, NA, Israel

**P.CW02 - MATRIX METALLOPROTEINASE DETECTION AND INHIBITION**
D. J. Gibson¹, G. S. Schultz¹, D. J. Gibson¹
¹University Of Florida, Institute For Wound Research Gainesville, FL, USA

**P.CW03 - THE ROLE OF FETAL BOVINE DERMIS COMBINED WITH THE USE OF NEGATIVE PRESSURE THERAPY FOR THE CLOSURE OF CHRONIC WOUNDS WITH EXPOSED TENDONS IN THE DIABETIC POPULATION.**
J. E. Hidalgo¹, J. E. Hidalgo¹
¹CovenantHealth, Wound Care And Hyperbaric Medicine Lubbock, TX, USA

**P.CW04 - TOTAL CONTACT CAST (TCC) FOR RECALCITRANT FULL THICKNESS WOUNDS ON PATIENTS WITH BELOW THE KNEE AMPUTATION.**
J. E. Hidalgo¹, J. E. Hidalgo¹
¹CovenantHealth, Wound Care And Hyperbaric Medicine Lubbock, Texas, USA
P.CW05 - Long non-coding RNA GAS5 promotes M1 macrophage by upregulating STAT1 through miR-222
J. Xu¹, J. Hu¹, C. Liechty¹, C. Zgheib¹, M. Hodges¹, K. W. Liechty¹
¹Laboratory For Fetal And Regenerative Biology, Children’s Hospital Colorado And The University Of Colorado Anschutz Medical Campus, Department Of Surgery Aurora, CO, USA

P.CW06 - FUNCTIONAL GENE SET ANALYSIS PREDICTS NOVEL CELLULAR AND MOLECULAR IMMUNE MEDIATORS OF IMPAIRED DIABETIC WOUND HEALING
S. Nassiri¹, E. A. Grice⁴, M. De Palma³, K. Pourrezaei¹, I. Zakeri²
²Drexel University, School Of Biomedical Engineering, Science, And Health Systems Philadelphia, PA, USA³Drexel University, Dornsife School Of Public Health Philadelphia, PA, USA⁴Ecole Polytechnique Federale De Lausanne, School Of Life Sciences Lausanne, VD, Switzerland

P.CW07 - EARLY PREDICTION OF DEEP TISSUE INJURY USING DIFFUSE OPTICAL METHODS
A. Lafontant¹, M. Neidrauer², M. S. Weingarten¹, D. Diaz³, G. Fried³, P. A. Lewin², R. DiMaria-Ghalili³, L. Zubkov²
¹Drexel University College Of Medicine, Surgery Philadelphia, Pa, USA²Drexel University, Biomedical Engineering Philadelphia, PA, USA³Ecole Polytechnique Federale De Lausanne, School Of Life Sciences Lausanne, VD, Switzerland

P.CW08 - FACILITATING HEALING OF FULL-THICKNESS WOUNDS USING A NOVEL HYDROGEL (MESHFILL)
M. Pakyari¹,², A. Pourghadiri¹,², A. Ghahary¹,²,³

P.CW09 - LEG ULCERS IN THE EMERGENCY DEPARTMENT: A NATIONAL PERSPECTIVE.
A. J. Singer¹, J. Kneib¹, H. C. Thode¹
¹Stony Brook University, Emergency Medicine Stony Brook, NEW YORK, USA

P.CW10 - A NOVEL PORCINE MODEL THAT REPLICATES INTRINSIC AGING GENERATES A DELAYED HEALING PHENOTYPE THAT IS REVERSIBLE WITH SURGICAL DEBRIDEMENT.
P. S. Attar¹, S. Korn¹, A. McElwain¹, A. Perry¹, K. Marcos¹, J. Knue¹, A. Janis², K. Lam¹
¹BRIDGE PTS, Inc., San Antonio, TX, USA²Geneva Foundation, Tacoma, WA, USA

P.CW11 - UTILITY OF A NEW CHRONIC WOUND MODEL IN DIABETIC MICE FOR EVALUATION OF WOUND CARE PRODUCTS
S. Dhall¹, T. Hoffman¹, J. Kuang¹, M. Moorman¹, A. Lerch¹, M. Sathyamoothy¹, A. Danilkovitch¹
¹Osiris Therapeutics Inc., Columbia, MD, USA

P.CW12 - NIH FUNDING OPPORTUNITIES AND RESOURCES
A. C. Pawlyk¹, A. C. Pawlyk¹
¹National Institute Of Diabetes And Digestive And Kidney Disease, Diabetes, Endocrinology, And Metabolic Disorders Bethesda, MD, USA

P.CW13 - CELL-SPECIFIC ROLE OF ANTIMICROBIAL PROTEIN PERFORIN-2 IN WOUND HEALING
N. Strbo¹, V. Chen², G. D. Glinos², L. Liang², S. Drakulich², L. I. Romero¹, A. P. Sawaya², I. Pastar², M. Tomic-Canic²
¹University Of Miami Miller School Of Medicine, Department Of Microbiology And Immunology Miami, FL, USA²University Of Miami Miller School Of Medicine, Department Dermatology And Cutaneous Surgery, Wound Healing And Regenerative Medicine Research Program Miami, FL, USA

P.CW14 - DOSE- RESPONSE OF BIOFILM SECRETED PRODUCTS ON FIBROBLAST LATTICE HEIGHT AND CORRELATED CONTRACTION.
P. Kshetri¹, R. Brennan¹, M. B. Vaughan¹
¹University Of Central OKlahoma, Biology Edmond, OK, USA

P.CW15 - PREVENTING PRESSURE ULCERS: AN EDUCATIONAL APPROACH
C. Baldwin¹, S. Baus², C. Bier², K. Hendricks², L. Leon², M. Poje², A. Wingstad², C. Baldwin¹,²
¹The University Of Arizona, College Of Nursing Tucson, AZ, USA²Tucson Medical Center, Nursing Tucson, AZ, USA

P.CW16 - CHALLENGE BEYOND THERAPEUTIC COMPRESSION-TIME TO BRIDGE THE GAP: A CASE STUDY OF VENOUS LEG ULCER MANAGEMENT
W. Zhu¹, X. Zhu¹
¹National Healthcare Group Polyclinics Singapore, Nursing Services Singapore, Singapore, Singapore
(Rapid Fire Poster Talk M1.06)
P.CW19 - COMPARISON BETWEEN HIGHLY AND EARLY HYDROPHILIC POLYURETHANE FOAM DRESSINGS IN THE MANAGEMENT OF SKIN GRAFT DONOR SITES IN DIABETIC PATIENTS
X. Lee 1, S. Han 1
1 Korea University Guro Hospital, Diabetic Wound Care Center Seoul, Seoul, South Korea

(Rapid Fire Poster Talk M1.07)
P.CW20 - GUIDELINES TO HARMONIZE WOUND MANAGEMENT ACROSS SETTINGS AND SPECIALTIES
L. L. Bolton 1, S. Girolami 2, L. Corbett 3, K. Couch 4, S. A. Davey 5, K. LaForet 6, K. Napier 7, D. Merkle 8, L. Lavery 9, L. Cowan 10, L. Bolton 1
1 Rutgers Medical University, Surgery, Metuchen, NJ, USA; 2 iHeal, Nursing, Cincinnati, OH, USA; 3 Hartford Hospital, Center For Wound Healing and Hyperbaric Medicine, Hartford, CT, USA; 4 George Washington University School of Medicine and Health Sciences, Department of Rheumatology, Wound Healing and Limb Preservation Center, Washington, D.C., USA; 5 Kent Hospital, Wound Recovery and Hyperbaric Medicine Center, Warwick, RI, USA; 6 Valley Vein and Vascular Surgeons, Phoenix, AZ, USA; 7 Medical Arts Building, Surgery, FL, USA; 8 Canadian Association of Enterostomal Therapy Nurses, Ontario, Canada; 9 Calea, Clinical Services, Ontario, Canada; 10 Home Living Program, Alberta, Canada; 11 Bridgeport Hospital, Center for Wound Healing and Hyperbaric Medicine, Bridgeport, CT, USA; 12 University of Texas Southwestern Medical Center, University Hospital Wound Care Clinic, Dallas, TX, USA; 13 University of Florida, College of Nursing, Department of Adult and Elderly Nursing, Gainesville, FL, USA

(Rapid Fire Poster Talk M1.08)
P.CW2' - IPSC REPROGRAMMING RECOVERS CELLULAR FUNCTIONS OF DIABETIC FOOT ULCER FIBROBLASTS VIA MODULATION OF MICRORNA
L. Liang 1, R. C. Stone 1, I. Jozic 1, O. Stojadinovic 1, I. Pastar 1, H. Ramirez 1, O. Kashpur 2,3, B. Gerami-Naini 3, A. Smith 1, R. S. Kirns 1, A. Veves 4, J. A. Garlick 5, M. Tomic-Canic 1
1 University Of Miami, Wound Healing And Regenerative Medicine Research Program, Department Of Dermatology And Cutaneous Surgery Miami, FL, USA; 2 Tufts University, Department Of Cell, Molecular, And Developmental Biology, Sackler School Of Graduate Biomedical Sciences Boston, MA, USA; 3 Tufts University, Department Of Oral Diagnostic Sciences, School Of Dentistry, School Of Medicine, School Of Engineering Boston, MA, USA; 4 Beth Israel Deaconess Medical Center, Boston, MA, USA

FIBROSIS & SCARRING

P.FS02 - ABLATIVE LASER PENETRATION DEPTH AS FUNCTION OF SCAR PROPERTIES
M. E. Baumann 1, J. Walters 2, P. M. Warner 5, J. K. Bailey 1, H. M. Powell 1,2,4
1 Ohio State University, Department Of Biomedical Engineering Columbus, OH, USA; 2 Ohio State University, Department Of Materials Science And Engineering Columbus, OH, USA; 3 Ohio State University, Wexner Medical Center Department Of Surgery Columbus, OH, USA; 4 Shriners Hospitals For Children, Research Department Cincinnati, OH, USA; 5 Shriners Hospitals For Children, Department Of Surgery Cincinnati, OH, USA

P.FS04 - ACETYLCHOLINE REGULATES EXPRESSION OF LUMICAN AND COLLAGEN I IN KERATOCYTES IN QUIESCENT STATE AND AFTER TRANSITIONING TO FIBROBLASTS AND MYOFIBROBLASTS
M. U. Sloniecka 1, P. Danielson 1
1 Umeå University, Department Of Integrative Medical Biology Umeå, N/A, Sweden

P.FS05 - THE ROLE OF ATYPICAL SODIUM CHANNEL NAX IN FIBROBLAST SIGNALING IN THE WOUND BED
E. E. Friedrich 1, W. Xu 1, K. P. Leung 2, R. D. Galiano 1, S. J. Hong 1, T. A. Mustoe 1
1 Northwestern University, Surgery Chicago, IL, USA; 2 US Army Institute Of Surgical Research, San Antonio, TX, USA

(Rapid Fire Poster Talk M1.01)
P.FS09 - INTRINSIC PHENOTYPIC DIFFERENCES BETWEEN ADULT AND FETAL DERMAL FIBROBLASTS IN RESPONSE TO MECHANICAL TENSION
M. Fahrenholtz 1, H. Li 1, M. A. Chandramouli 1, X. Wang 1, M. Rae 1, W. Short 1, P. Duann 1, K. Grande-Allen 2, P. L. Bollyky 3, S. G. Keswani 1, S. Bajaj 1
1 Baylor College Of Medicine, Surgery Houston, TX, USA; 2 Rice University, Houston, TX, USA; 3 Stanford University, Medicine-Infectious Disease Palo Alto, CA, USA
P.FS10 - Adult and fetal cardiac fibroblasts stimulated with lipopolysaccharide demonstrate differential expression of genes regulating extracellular matrix
M. M. Hodges¹, C. Zgheib¹, J. Hu¹, J. Xu¹, K. W. Liechty¹
¹University Of Colorado-Denver, Anschutz Medical Campus And Children’s Hospital Colorado, Laboratory For Fetal And Regenerative Biology, Department Of Surgery Aurora, CO, USA

NOVEL THERAPIES & OTHER APPROACHES

P.OTH02 - THE SODIUM CHANNEL NAX MEDIATES ENDOTHELIAL INFLAMMATION IN RESPONSE TO HIGH NaCl
D. Bogdanovic¹, S. J. Hong¹, K. P. Leung², R. Galiano¹, T. Mustoe¹
¹Northwestern University, Surgery Chicago, IL, USA²Army Institute Of Surgical Research, San Antonio, Texas, USA

P.OTH03 - EVALUATION OF THE MIRRAGENTM ADVANCED WOUND CARE DRESSING IN A PARTIAL AND FULL THICKNESS PORCINE WOUND MODEL
S. B. Jung¹, S. B. Jung¹
¹MO-SCI Corporation, Healthcare Rolla, MO, USA

P.OTH04 - EUKARYOTIC CELL TREATMENT WITH ELECTROLYZED ACIDIC WATER MAINTAIN VIABILITY AND DIMINISHES SUPEROXIDE ANION LEVELS, MEANWHILE IMPAIRES BACTERIAL BIOFILM FORMATION
A. Cabrera-WUpper Level - Rooman¹, S. Ortega-PeÁza¹, E. KrÁ¶tzsch¹
¹Instituto Nacional De Rehabilitacion, Laboratory Of Connective Tissue Mexico, DF, Mexico²Instituto Nacional De Rehabilitacion, Laboratory Of Infectology Mexico, DF, Mexico

P.OTH06 - PROTEOMIC AND CYTOKINE PROFILES FROM WOUND EXUDATE IN PERSONS WITH ADVANCED INJECTION-RELATED VENOUS DISEASE
B. Pieper¹, C. Viola¹, P. R. Burghardt¹, T. N. Templin¹, P. Stemmer¹
¹Wayne State University, Detroit, MI, USA

P.OTH07 - GENETIC DEFICIENCIES AND SKIN WOUND HEALING
L. Chen¹, S. Fagen¹, A. Johnson¹, W. Cerny¹, H. Kim², X. Gao², L. A. DiPietro¹
¹University Of Illinois At Chicago, Center For Wound Healing And Tissue Regeneration Chicago, IL, USA²University Of Illinois At Chicago, Ophthalmology And Visual Sciences Chicago, IL, USA

P.OTH08 - IT IS MORE THAN JUST A HEALING: A CASE STUDY OF NECROTIC DIABETIC FOOT WOUND MANAGEMENT
X. Zhu¹, X. Zhu¹
¹National Healthcare Group Polyclinics Singapore, Nursing Services Singapore, Singapore, Singapore

P.OTH09 - UNDERSTANDING EUROPEAN BIOCIDAL PRODUCTS COMMITTEE OPINION TOWARDS USE OF POLYHEXANIDE IN HUMAN HYGIENE PRODUCTS
M. Sopata¹, E. Tomaszewska¹, M. Bartoszewicz²
¹University Of Medical Sciences, Chair And Department Of Palliative Care Poznan, WLKP, Poland²Medical University, Department Of Pharmaceutical Microbiology And Parasitology Wroclaw, DOLNASLASKIE, Poland

STEM CELLS

P.SC01 - COMPARISON BETWEEN EFFECTS OF HUMAN UMBILICAL CORD BLOOD-DERIVED MESENCHYMAL STEM CELLS AND HEALTHY FIBROBLASTS ON WOUND HEALING ACTIVITY OF DIABETIC FIBROBLASTS
J. Jung¹, S. Han¹
¹Korea University College Of Medicine, Department Of Plastic Surgery Seoul, Seoul, South Korea
P.SC04- VITAMIN E IMPROVES THE EFFICACY OF ADIPOSE DERIVED STEM CELLS FOR THE REPAIR OF CHEMICAL WOUNDS
A. Mehmood 1, A. Afzal 1, S. N. Khan 1, S. Riazuddin 1,2,3
1 Centre Of Excellence In Molecular Biology (CEMB), University Of Punjab, Lahore, PUNJAB, Pakistan 2 Allama Iqbal Medical College, University Of Health Sciences, Lahore, PUNJAB, Pakistan 3 Shaheed Zulfiqar Ali Bhutto Medical University, Islamabad, ISLAMABAD, Pakistan

P.SC06 - HUMAN BONE MARROW-_DERIVED MESENCHYMAL STROMAL CELLS ENGINEERED TO OVEREXPRESS PDGF-B USING CRISPR/CAS9/AAV-BASED TOOLS ACCELERATE WOUND HEALING IN THE MURINE DB/DB DIABETIC MODEL
W. Srifa 1,2, N. Kosaric 2,3, G. C. Gurtner 1, M. H. Porteus 1
1 Stanford University, Division Of Stem Cell Transplantation, Department Of Pediatrics Stanford, CA, USA 2 Stanford University, Stem Cell Biology And Regenerative Medicine PhD Program Palo Alto, CA, USA 3 Stanford University, Division Of Plastic And Reconstructive Surgery, Department Of Surgery Stanford, CA, USA

P.SC07 - PRECLINICAL EVALUATION OF REGENERATIVE TISSUE MATRICES IN A DELAYED HEALING DEEP TISSUE DEFECT WOUND HEALING MODEL.
N. Kabaria 1, P. J. Leamy 1, J. Lombardi 1, M. R. Hayzlett 1, H. Xu 1
1 LifeCell, R&D Bridgewater, NJ, USA

(Rapid Fire Poster Talk M1.03)
P.SC08 - ADIPOSE-DERIVED STEM CELLS AND VASCULARIZED LYMPH NODE TRANSFERS SUCCESSFULLY TREAT MOUSE HINDLIMB SECONDARY LYMPHEDEMA THROUGH EARLY RE-CONNECTION OF THE LYMPHATIC SYSTEM AND LYMPHANGIOGENESIS
S. Akita 1, S. Akita 1
1 Fukuoka, Plastic Surgery, Wound Repair And Regeneration Fukuoka, Fukuoka, Japan

(Rapid Fire Poster Talk M1.04)
P.SC09 - PHENOTYPIC CHARACTERISTICS OF CELLS ISOLATED FROM HUMAN AMNIOTIC AND CHORIONIC MEMBRANES
A. Lerch 1, M. Moorman 1, T. Hoffman 1, J. Kuang 1, M. Sathyamoothy 1, A. Danilkovitch 1
1 Osiris Therapeutics Inc., Columbia, MD, USA

INDUSTRIAL RESEARCH & DEVELOPMENT
P.IRD01 – RE-ENGINEERING A FIBRONECTIN-DERIVED PEPTIDE FOR TOPICAL TREATMENT OF BURNS AND CHRONIC WOUNDS
A. Clark 1, A. J. Singer 1, F. Lin 1, R. A. Clark 1
1 NeoMatrix Therapeutics, Inc., Stony Brook, NY, USA

P.IRD02  - INHIBITION OF BACTERIAL GROWTH BY HUMAN CRYOPRESERVED VIABLE AMNIOTIC MEMBRANE MEDIATED BY SOLUBLE ANTIMICROBIAL PEPTIDES
Y. Mao 1, T. Hoffman 1, A. Singh-Varma 1, A. Lerch 1, M. Moorman 1, A. Danilkovitch 1, J. Kohn 1
1 Rutgers University, New Jersey Center For Biomaterials Piscataway, NJ, USA 2 Osiris Therapeutics Inc., Columbia, MD, USA

LATE BREAKING ABSTRACTS
P.LB01 - UNDERSTANDING EUROPEAN BIOCIDAL PRODUCTS COMMITTEE OPINION TOWARDS USE OF POLYHEXANIDE IN HUMAN HYGIENE PRODUCTS
M. Sopata, E. Tomaszewska1, M. Bartoszewicz2
1 University Of Medical Sciences, Poznan, WLKP Poland 2 Medical University, Wroclaw, DOLNASLASKIE Poland

P.LB02 - INFLAMMATORY HYPOXIA - A COMMON BARRIER TO OXYGEN DELIVERY TO TISSUES
George A. Perdrizet, MD, PhD
Emergency Medicine, UC San Diego Health System

P.LB03 - DANCING WITH EPIDERMAL STEM CELLS AND ADIPOCYTES: A TALE OF TWO HEALING PARTNERS IN OBESITY WOUND
Ji LIN1, Xiao-ning GA02, Wei-dong HAN1, Xiao-bing FU1
1 Institute of Basic Medicine, Chinese PLA General Hospital, 28 Fuxing Road, Beijing 100853, China; 2 Department of Hematology, Chinese PLA General Hospital, 28 Fuxing Road, Beijing 100853, China.
P.LB04 - FIDGETIN LIKE 2 ACCELERATES EXCISIONAL WOUND HEALING IN PIGS
Brian O'Rourke, Ph.D.1; Rabab Charafeddine, Ph.D.1, Joshua Nosanchuk, M.D.1, David Sharp, Ph.D.1
1MicroCures, Inc.

P.LB05 - EFFICACY OF CHITOSAN-BASED DRESSING FOR CONTROL OF BLEEDING IN EXCISIONAL WOUNDS
Zahra Alikhassy MD1, Anne-Heloise Stricker-Krongrad1, Frank Lay1, Louis J. Born1, Nicolette Matsangos1, Raul Sebastian MD1, Guy Marti MD2, John Harmon MD FACS1
1John Hopkins University School of Medicine, Baltimore, MD; 2Clinique St Jean, Melun, France

P.LB06 - TOPICAL APPLICATION OF MESENCHYAL STEM CELL-DERIVED CONDITIONED MEDIA PREVENTS BURN PROGRESSION
Jason H. Chen*, MD, Stephen E. Epstein*, MD, Yuri Kudinov, PhD, Bonnie C. Carney§, BS, Mariana Vigiola Cruz*, MD, Lauren T. Moffat§, PhD, Sergey Sikora*, PhD, Jeffrey W. Shupp*, MD
*The Burn Center, Department of Surgery, MedStar Washington Hospital Center §Firefighters™ Burn and Surgical Research Laboratory, MedStar Health Research Institute *MedStar Cardiovascular Research Network, MedStar Health Research Institute *CardioCell LLC, Stemcella Cell Technologies Inc.

P.LB07 - USE OF AN ANTIMICROBIAL MICROFILM WOUND DRESSING IN SPONTANEOUS WOUNDS IN ANIMALS
Jonathan F. McCullough DVM, Ph.D.(1) and Michael J. Schurr M.D.(2)
School of Veterinary Medicine, University of Wisconsin-Madison, WI(1) and Mission Hospital, Asheville NC(2)

P.LB08 - ULTRATHIN DISSOLVABLE ANTIMICROBIAL WOUND DRESSING IS SAFE AND EFFECTIVE IN PATIENTS WITH COMPLEX CHRONIC WOUNDS
David Humphrey, MD(1), Michael J. Schurr, MD(2), William Shillinglaw MD(1)
1Mission Hospital, Asheville NC 2MAHEC Department of Surgery, Asheville, NC

P.LB09 - A CASE REVIEW SERIES OF NEGATIVE PRESSURE WOUND THERAPY WITH INSTILLATION AND DWELL TIME (NPWTI-D) USING HYPOCHLOROUS ACID (HOCL) VERSUS SODIUM HYPOCHLORITE (NAOCL) OR 0.9% NORMAL SALINE INSTILLATION IN COMPLEX INFECTED WOUNDS
R. Felle, K. Gallagher, L. Cardenas, M. Cipolle
ChristianCare Health System

P.LB10 - UNIQUE CONTRACTILE PHENOTYPE OF FETAL FIBROBLASTS PREVENTS MYOFIBROBLAST DIFFERENTIATION
Aron Parekh (1,2,3,4*), Rachel Jerrell (1), Mitchell Leih (5)
1 Department of Otolaryangology, Vanderbilt University Medical Center, Nashville, TN 37232 USA, 2Department of Biomedical Engineering, Vanderbilt University, Nashville, TN 37232 USA, 3Department of Cancer Biology, Vanderbilt University, Nashville, TN 37232 USA, 4Vanderbilt-Ingram Cancer Center, Vanderbilt University Medical Center, Nashville, TN 37232 USA, 5Department of Science and Mathematics, Trevecca Nazarene University, Nashville, TN 37210
* Presenting and senior author

P.LB11 - COMPARISON OF INTRADERMAL AND SUBCUTANEOUS TISSUE OXYGEN TENSION MONITOR TO DETECT FLAP COMPROMISE
Mohamed M. Ibrahim, MD, Hyesem Eldik, BS, Mahmoud M. Mohammed, BEng, Zi-Jun Wu, MD, Bruce Klitzman, PhD
The Division of Plastic, Maxillofacial, and Oral Surgery, Department of Surgery, Duke University School of Medicine, Durham, NC

P.LB12 - RAPID DETECTION OF ACUTE VASCULAR OCCLUSION USING OXYGEN MONITORING IN A RAT MYOCUTANEOUS FLAP MODEL
Mohamed M. Ibrahim, MD1, Jennifer S. Chien, BSE1, Mahmoud M. Mohammed, BEng1, Timothy King, MD, PhD2, Bruce Klitzman, PhD1
1The Division of Plastic, Maxillofacial, and Oral Surgery, Department of Surgery, Duke University School of Medicine, Durham, NC, USA, 2The Division of Plastic Surgery, Department of Surgery, University of Alabama, Birmingham, AL, USA.

P.LB13 - NOVEL IMPLANTABLE OXYGEN BIOSENSORS FOR DETECTION OF VASCULAR PERFUSION AND ISCHEMIA
Mohamed M. Ibrahim, MD1, Ryan M. Schweller, PhD2, Mahmoud M. Mohammed, BEng1, David B. Powers, MD, DMD1, Bruce Klitzman, PhD1
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P.LB14 - EXPRESSION OF MARKERS FOR PERICYTES AND MYOFIBROBLASTS IN BLEOMYCIN-INDUCED DERMAL FIBROSIS: POTENTIAL ROLE OF NEUROPEPTIDE RECEPTORS IN A MOUSE MODEL FOR SCLERODERMA
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P.LB15 - NOVEL APPLICATION OF HIGH-THROUGHPUT CHROMATIN IMMUNOPRECIPITATION SEQUENCING IN FORMALIN FIXED PARAFFIN EMBEDDED DIABETIC FOOT ULCERS
Linsey E. Lindley, Ph.D1, Rikka C. Stone, M.D. Ph.D1, George Glins1, Andrew Sawaiya1,4, Irena Pastar, Ph.D1, and Marjana Tomic-Canic Ph.D1, 2, 3, 4
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P.LB16 - AMBIENT TEMPERATURE VIABLE AMNION PROCESSED VIA NOVEL LYOPRESERVATION METHOD RETAINS PROPERTIES OF FRESH TISSUE
Sandeep Dhall, Malathi Sathyamoorthy, Jin-Qiang Kuang, Tyler Hoffman, Mathew Moorman, Anne Lerch, Michael Sinclair, and Alla Danilkovitch
Osiris Therapeutics Inc.

P.LB17 - A FIRST-IN-CLASS ANTIBIOFILM TOPICAL WOUND THERAPY TO TREAT AND PREVENT BIOFILM-RELATED INFECTIONS
Jeffery C. Rogers,1,2,3 Brooke Kawaguchi,2,3 Nicholas B. Taylor,2,3 Mattias B. Nielsen,2,3 Marissa A. Badham,2,3 Brittany R. Peterson,2,3 Seungah Goo,2,3 Ryan E. Looper,4,5 Paul R. Sebahar,4,5 Travis J. Haussener,4,5 Han K. Reddy,4,5 Dustin L. Williams1,2,3,4,5
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P.LB18 - PLACENTAL CONNECTIVE TISSUE MATRIX FOR THE TREATMENT OF RECALCITRANT CHRONIC WOUNDS
Catherine J. Sinnott MD, Malack Hamade BS, Hassan Hamade BS, Thomas A. Davenport MD
Long Island Plastic Surgical Group, Garden City, New York

P.LB19 - THE USE OF DEHYDRATED HUMAN AMNIOTIC CHORIONIC MEMBRANE (DHACM) PRODUCTS FOR TISSUE MODULATION
Malack Hamade BS, Catherine J. Sinnott MD, Hassan Hamade BS, Thomas A. Davenport MD
Long Island Plastic Surgical Group, Garden City, New York

P.LB20 - CELL THERAPY OF BURNS: PRESENT AND FUTURE
Lataillade Jean-Jacques1, Trouillas Marina1, Nivet Muriel1, Busson Elodie1, Duhamel Patrick2, Michel Brachet2, Amabile Jean-Christophe3, and Bey Eric2
1Hôpital d’Instruction des Armées Percy, Institut de Recherche Biomédicale des Armées, Unité de Thérapies Cellulaires et Réparations Tissulaires, BP 410, 92141 Clamart, France; 2Hôpital d’Instruction des Armées Percy, Service de Chirurgie Plastique, Avenue Henri Barbusse, 92141 Clamart, France; 3Service de Protection Radiologique des Armées, HIA Percy, 92141 Clamart cedex, France