



University of Michigan  
Health System

# RHEUMINATIONS

News from Around the Joint



Autumn 2016  
Edition

## Division of Rheumatology

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### Want more information?

[www.med.umich.edu/  
intmed/rheumatology](http://www.med.umich.edu/intmed/rheumatology)

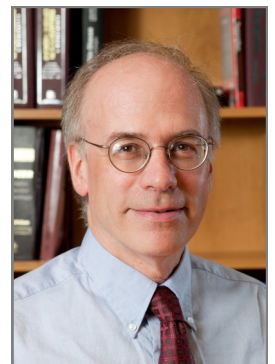
### We want to hear from you!

email us at  
[quader@umich.edu](mailto:quader@umich.edu)

### The past, present and future of our Division of Rheumatology – links that we treasure.

In the past year we have lost two of our Michigan rheumatology faculty colleagues, Bill Jourdian and Joe Weiss, and a graduate of our fellowship program, Wendy Eider. Bill Jourdian was a direct link to the heyday of the Rackham Arthritis Research Unit in the 1960's, when it was directed by Saul Roseman and emphasized biochemical approaches to understanding connective tissue biology. Bill's subsequent career as a "rheumatologic biochemist" featured the discovery of the phosphomannosyl receptor, and the development of a 3-dimensional bead-based system for culturing chondrocytes. Bill was also a noted teacher, mentor, raconteur and fly fisherman. Joe Weiss trained in the Rackham Unit and went on to a distinguished career as a clinical rheumatologist, for many years on the Michigan faculty and for several decades in solo practice in Livonia. As a community practitioner, Joe attended and contributed to our Division's rheumatology grand rounds almost every week, often accompanied by a student or resident who was rotating through his office. Joe was an advocate like no other for the field of rheumatology and for his rheumatology colleagues. His legacy carries forward into the future with a fund designated from his estate to support training of rheumatology fellows. Meanwhile, the legacies of Giles Bole and one of his fellows—Dorothy Mulkey—have been merged to create a new endowed chair in our Division of Rheumatology, which will be used in perpetuity to support a member of our faculty. This chair has tentatively been designated for a new Chief of the Ann Arbor VA Section of Rheumatology—a recruitment that is currently underway. Special thanks to our alumni who have contributed to the Giles Bole chair, now the Bole/Mulkey Chair.

Our present and our future are also embodied in our new rheumatology fellows – currently our training program includes 4 first year and 4 second year fellows, along with 2 lecturers who have just completed fellowship and are acquiring additional research training. The academic diversity and strength of rheumatology at Michigan is brilliantly reflected in the research presentations and other roles of our faculty, trainees and staff at the 2016 ACR meeting. The near-90 entries from Michigan on this year's program, which you can find elsewhere in this newsletter, are the product of our laboratory research, clinical research, educational innovation, and ACR leadership roles. This is a record number of Michigan items on the ACR program, and our faculty, trainees and staff deserve congratulations for the hard work and creativity that has led to each of these presentations. I hope that many of you will be able to attend some of these talks and poster presentations, so that you can see in detail what we are up to! And I hope to see all of you at our Robinson Alumni Society reception on Saturday evening after the opening session of the ACR meeting.



David Fox, M.D.

David A. Fox, M.D.  
Chief, Division of Rheumatology



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## Promotions



**M. Asif Amin MD**  
Associate Research Scientist



**Steven K. Lundy PhD**  
Research Associate Professor



**April L. Marquardt OD, MD**  
Adjunct Clinical Assistant Professor

## Legislative Action



Front row: Lisa Gigliotti, Patient Advocate. Second row: Kathy Stepnitz, Patient Advocate; Senator Gary Peters; Cindy Bourke, Patient Advocate; Shannon Bourke, Advocate. Back Row: Laura Wroblewski, Patient Advocate; Sue Olsson, Rheumatology Nurse, Dr. Timothy Laing, Rheumatologist.

### Advocates for Arthritis 2016 Recap

On September 13, 2016, nearly 100 ACR advocates representing 31 states and the District of Columbia educated 116 Capitol Hill offices on the policy issues affecting rheumatology. This annual event brings together rheumatologists, health professionals, and patients to advocate on behalf of the rheumatology community.

The core issues on which the advocates focused were 1) advocating to stop or dramatically change the Centers for Medicare and Medicaid Services (CMS) Medicare Part B Drug Reimbursement Project, 2) support of funding research that benefits rheumatology professionals and patients, and 3) the repeal of Medicare "therapy caps."

**UPDATE 20 Sept 2016**, from the office of Senator Gary Peters: "Thanks so much for your note Lisa [Gigliotti]. I'm happy to let you know that Senator Gary Peters has agreed to cosponsor S. 539!" (S. 539 is the Medicare Access Rehabilitation Services Act. Passing this Act will repeal the cap set on outpatient rehabilitation services currently in place.)

[\*Advocates for Arthritis\*](#) is an annual event that brings together rheumatology professionals and patients to advocate on behalf of the rheumatology community. During the event, attendees will hear from top representatives from key legislative and regulatory agencies and meet with their members of Congress to discuss current issues affecting the rheumatology community. Participating in *Advocates for Arthritis* is a great way for ACR and ARHP members to engage in the legislative process and increase awareness of rheumatology on Capitol Hill.

## SUPPORTING RHEUMATOLOGY FELLOWSHIPS

The Division of Rheumatology wholly embraces the University of Michigan's standards of excellence in education. Supporting fellowships in this field is more important than ever. As our country's population rapidly ages, there simply are not enough physicians to meet the growing need. We know how critical our work is to the health of our community — they are counting on our ability to train up-and-coming leaders in medicine and science. Access to fellowships will encourage early career physicians to consider rheumatology as a field, and afford them the opportunity to receive the best possible instruction by our faculty who work tirelessly to provide them with the tools they need to succeed as incomparable stewards of care.

To learn more, please contact Lori Hirshman, Associate Director of Development, Department of Internal Medicine at:

734-763-6080 or email [hirshmal@umich.edu](mailto:hirshmal@umich.edu).

## Gifts & Endowments

### A Gift to Prepare the Next Generation of Leaders in Rheumatology

Joseph J. Weiss MD, MACP was educated at the University of Michigan and went on to study at the medical school. Following his internal medicine residency and a rheumatology fellowship, Dr. Weiss became U-M faculty from 1971-1981 in the Department of Internal Medicine. Dr. Weiss and his colleagues in training, practice and teaching — Ivan Duff MD and George Thompson MD — shared a commitment to cultivating rheumatology fellows to excel in their field, and become knowledgeable physicians, prepared to treat patients with expertise and compassion.

Dr. Weiss recognized the value of his Michigan training, as well as the constant evolution of medicine, research and technology. To meet the challenges of today and the future, he felt it was critical to continue the training of clinicians, teachers and scientists to support their contributions to research and clinical care and to stimulate the interest of young physicians to enter into the practice of rheumatology and the investigation of rheumatic diseases. This is why he decided early on that he wanted to leave a legacy that would provide an opportunity for those committed to a career in rheumatology.

Long before his passing in October 2015, Dr. Weiss allocated \$300,000 of his estate to create a permanent fund. **The Ivan F. Duff—George Thompson—Joseph J. Weiss Research and Training Endowment** honors his respect for his colleagues and the enthusiasm of these three physicians. The fund will support the advancement of the field of rheumatology through the instruction and mentorship of the next generation and/or support the pursuit of medical or scientific research in the area of rheumatic diseases.

### Dryer Foundation Aims to Accelerate Arthritis Research Through Support of Early Career Faculty

Ellen K. Dryer faced the challenges of arthritis late in her life. It was one of several health issues she and her husband overcame as they accomplished their goals and acted as advocates for others. The Detroit couple passed away within months of each other in 2001, creating the Edward T. and Ellen K. Dryer Charitable Foundation to continue to advance their values and the causes they cared about.

Today the Foundation is stewarded by trustees Lisa M. and Jon B. Gandelot and Judith L. and Joseph A. Drobot, Jr. After years of stalwart support for arthritis research at the University of Michigan, the trustees recently voted to establish the **Edward T. and Ellen K. Dryer Early Career Professorship in Rheumatology**.

"We are excited about this opportunity to make a long-term impact on research that will benefit people with arthritis and other diseases," says Jon Gandelot, Foundation trustee. "We have been impressed with the progress that has been made and have enjoyed meeting the dedicated faculty at U-M who are pushing this area of science forward."

The Division of Rheumatology is grateful for the Foundation's foresight and commitment to progress, says David Fox MD, Division Chief and Professor of Internal Medicine. "This professorship will give faculty members a solid footing from which to push their discoveries forward and build their careers. It will ensure that promising work toward curing arthritis continues."

## Gifts & Endowments

### **Dryer Foundation**, continued from previous page

The **Edward T. and Ellen K. Dryer Early Career Professorship in Rheumatology** will exist at U-M in perpetuity and will be awarded to junior faculty members for five-year terms. Such support can solidify the ability of a new assistant professor to dedicate their work to a particular disease or area of study, Dr. Fox says.

Ellen Dryer was an advertising pioneer who served as W.B. Doner & Company's first female media director, while Edward, who was struck by blindness as an international banking executive, made a living as an investor. They would have been pleased to support arthritis research in this way, says Jon Gandelot, a Foundation trustee and founder and senior member of Gandelot Hartmann, a law firm specializing in estate planning and trust administration. Lisa Gandelot is director of special events and projects at the firm.

### **The Giles G. Bole MD and Dorothy Mulkey MD Research Professorship in Rheumatology: A Legacy of Enduring Leadership**

Often, when we develop a passion for something—a hobby, a cause, a career—it is in part because of our experience with someone who has encouraged us and added valuable dimension to our pursuit. In 1972, it was Giles Bole MD who championed an early career rheumatology fellow, and was the catalyst for her future in health care.

Dr. Bole retired as dean of the University of Michigan Medical School in 1996, after serving as a highly regarded faculty member and administrator throughout his 37-year tenure. He was more than a brilliant educator and clinician—for Dorothy Mulkey MD, he was her mentor and advocate. Under his skilled guidance, Dr. Mulkey was among the first women to train in rheumatology at the University of Michigan. Her experience opened the door to a successful career as assistant dean at Michigan State University Medical School and a flourishing 30-year private practice.

Inspired by the mentorship of Dr. Bole, Dr. Mulkey was moved to dedicate an endowed estate gift to the Division of Rheumatology to support a professorship. A perfect pairing, Dr. Mulkey's bequest now merges with generous alumni contributions made to the Giles G. Bole MD Collegiate Professorship to establish a fund that recognizes the impact of his leadership in rheumatology and the commitment that Dr. Mulkey—and students who came after her—have made to build upon his legacy. Because of the participation, interest, and resources of past rheumatology fellows, this new endowment will live on in perpetuity.

**The Giles G. Bole MD and Dorothy Mulkey MD Research Professorship in Rheumatology** creates an opportunity for the Department of Internal Medicine to attract and retain world class talent who will preserve U-M's mission by embarking upon pioneering research and the training of future generations. It exemplifies the influence that faculty have on the career of up-and-coming physicians.

"Dr. Bole had expertise and vision—he was able to recognize and foster the potential of rheumatology fellows such as Dr. Mulkey. He was genuinely invested in his fellows," says David A. Fox MD, Chief, Division of Rheumatology. "They experienced first-hand Dr. Bole's mastery of the field of rheumatology, and we now have an endowment that not only honors one of our most distinguished division chiefs, it will also have a lasting impact on the field that we are all proud to serve."

**CONGRATULATIONS**  
to our 2016  
Graduates!

**Jasmine Stannard MD**

Rheumatologist,  
Integrated Healthcare  
Associates  
Ypsilanti, MI

**Nayef Kazzaz MB BS**

Consultant,  
Security Forces Hospital  
Riyadh, Kingdom of  
Saudi Arabia

**Viju Moses MB BS**

Assistant Professor,  
University of Florida  
College of Medicine

**Beth Wallace MD**

Clinical Research Fellow/  
Lecturer,  
University of Michigan  
Division of Rheumatology

**Amber Young MD**

Clinical Research Fellow/  
Lecturer,  
University of Michigan  
Division of Rheumatology

*Please don't forget to  
pay your annual dues.*

**William D. Robinson  
Alumni Society**

\$75

pay online



**New Fellows**



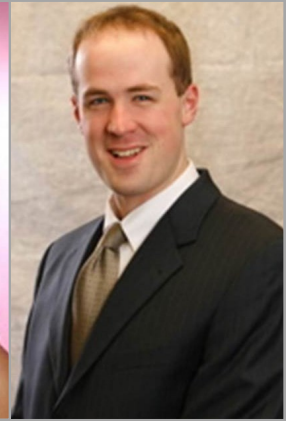
**Jessie Alperin MD**  
Residency:  
Beaumont Health  
System



**Danielle Barnes MD**  
Residency:  
Beaumont Health  
System



**Amrita Padda MD**  
Residency:  
Washington University/  
Barnes Jewish Hospital



**Andrew Vreede MD**  
Residency:  
University of Wisconsin

**Ultrasound with Dr. Bob Ike**

After dabbling with musculoskeletal ultrasound for over a decade, Bob Ike has finally begun to turn out fellows proficient in the technique. Sara McCoy was the first, as she moved on to Wisconsin last year capable of performing US guided procedures independently. Sara blazed this trail in January 2015 when she offered up, with her trademark enthusiasm unknown to mankind, her assistance to the wounded Dr. Ike to keep injection clinic and lip biopsies going.

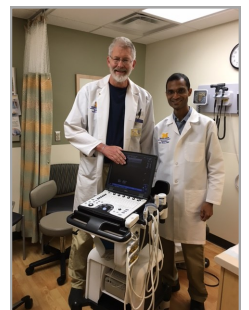


First year fellows sensed Sara was having a good time at this, and 2 signed up to follow. Nayef Kazzaz carved Fridays away from his lab time with Jason Knight while Viju Moses was encumbered only by 2 clinical projects, leaving him more time to remind Bob of his own surgical experience in India while suggesting directions in which the Interventional Rheumatology Program might be expanded. Viju also participated in the REASON (Rheumatoid Arthritis SynOvial tissue Network) program and learned how to do US-guided synovial biopsies. Both Nayef and Viju became proficient at percutaneous muscle biopsies, following Ruben Peredo, who took up this procedure while Bob was laid up. Nayef and Viju both took extramural US courses from the ACR and will be eligible to sit for the ACR US credentialing exam this fall. Navya Parsa will begin along this track in June, taking the same path as Sara, balancing time in Michelle



**Bob Ike, Ruben Peredo,  
Nayef Kazzaz**

Kahlenberg's lab with procedures. New faculty member Zeinab Saleh is in the process of getting credentialed for US-guided procedures at U-M, joining Vladimir Ognenovski as rheumatologists Bob has proctored. Bob will spend a 3 month sabbatical at UCSD this winter with old fellow ex-arthroscopist Ken Kalunian. Bob occasionally offers vague teasers at new twists to Interventional Rheumatology that might arise out of this time. Whatever the changes, it is likely that Navya and other fellows to come will embrace them under Bob's tutelage.



**Bob Ike, Viju Moses**

## Welcome to Our New Faculty!



**Zeinab Saleh MD**  
Clinical Assistant Professor



**Beth Wallace MD**  
Clinical Research Fellow/  
Lecturer

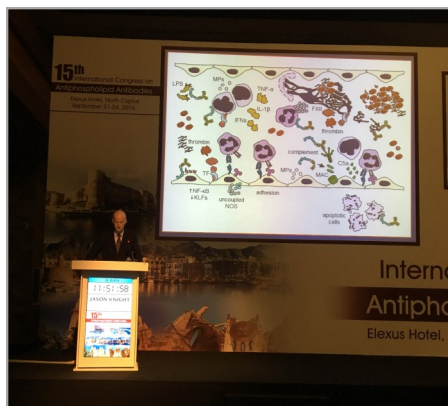


**Amber Young MD**  
Clinical Research Fellow/  
Lecturer

## Faculty News

**Jason Knight MD, PhD**, Assistant Professor, was an invited speaker at the 15th International Congress on Antiphospholipid Antibodies conference held in September in North Cyprus. His talk, entitled "The Central Role of Inflammation in Antiphospholipid Antibody-Mediated Thrombosis," was part of Main Session 1: Mechanisms of Antiphospholipid Antibody-Mediated Thrombosis.

**Follow Jason on Twitter @JasonSKnight**



Jason Knight



Jason Knight with Professor Nigel Harris

In an episode of [Arthritis Now: Interviews About Science](#), 2015 ANRF (Arthritis National Research Foundation) grant recipient, **Michelle Kahlenberg, MD, PhD**, Assistant Professor, talks about her research into the correlation of skin and kidney involvement in lupus. "Research like Dr. Kahlenberg's provides a better understanding of why lupus patients flare when exposed to sunlight and how we might treat those flares in the future."

**Follow Michelle on Twitter @KahlenbergLab**



**Amr Sawalha MD**, Professor of Internal Medicine and Marvin and Betty Danto Research Professor of Connective Tissue Research, was invited to present a year in review about "Genetics & Genomics" during the Plenary Session at the recent Lupus 2016 meeting in Armonk, NY.

**Follow Amr on Twitter @asawalha**



**Mariana Kaplan MD**, Adjunct Professor and Chief, Systemic Autoimmunity Branch, NIAMS, National Institutes of Health received the Charles L. Christian Award at Lupus 2016 in Armonk, NY. The award recognizes a mid-career investigator who has made a significant advance in understanding the pathogenesis, impact, or treatment of lupus.



## Faculty News: Grants and Funding

### Rheumatology Research Foundation-Funding Study Shows Promise for New RA Treatments



**Joseph Holoshitz MD**, Professor of Internal Medicine and Associate Chief for Research in the Division of Rheumatology, and his laboratory have made significant advances in understanding a genetic risk factor of rheumatoid arthritis (RA). This knowledge has grown into discoveries that could lead to new RA treatments in just a few years. "There was a critical point in time when we had a big idea, but funding was a concern," says Dr. Holoshitz. "Without the [Rheumatology Research] Foundation's funding, it is unclear to me if the big project would have been viable."

In 2007, Dr. Holoshitz received an award from the Foundation for his research focused on RA. He used the funding to study the mechanistic basis of the association between RA and an amino acid sequence in MHC proteins that contain what is called the shared epitope. Because the concept was so new to the scientific community, Dr. Holoshitz believes it likely would not have received funding from any other sponsor.

"The Foundation took a chance at letting us look at these out-of-the-box hypotheses," says Dr. Holoshitz. "With that early data, we were able to establish the first set of findings that pushed us forward significantly in the years that followed." Dr. Holoshitz's laboratory eventually identified a new mechanism of action of the *shared epitope*, which is the single most significant genetic risk factor in RA. Today, Dr. Holoshitz is building on his initial Foundation-funded research. With the help of an Innovative Research Grant, he is studying new chemical compounds that potentially inhibit the shared epitope's effect on RA patients and determine their effectiveness. He plans to begin clinical trials as early as 2020. [\*The Rheumatologist, March 2016\*](#)

### Inaugural MCTI Therapeutic Innovation Fund Selects Six Teams

Five teams from the Medical School and one from the College of Pharmacy have won funding to take their research on potential new medicines to the next level. The funding, announced by the Michigan Center for Therapeutic Innovation (MCTI) and Fast Forward Medical Innovation, (FFMI) comes from the new MCTI Therapeutic Innovation Fund, a five-year, \$2.5 million fund to accelerate the discovery and translation of therapeutic candidates at the University of Michigan. **Dr. Joseph Holoshitz leads one of the 6 teams.**

The projects these teams will pursue span a broad therapeutic range from rheumatoid arthritis, intestinal fibrosis, and diabetes to cancer. "We were very impressed with the high quality of the 17 projects submitted for funding consideration," says Shaomeng Wang, founding director of MCTI and WarnerLambert/ParkeDavis Professor of Medicine, and professor of internal medicine, pharmacology and medicinal chemistry. "Through a rigorous review process by our Advisory Board of external industry experts and internal UM personnel experienced in drug development, these six outstanding projects were selected for funding in this cycle. We look forward to helping these teams advance their projects from laboratory to clinical development."

The MCTI Therapeutic Innovation Fund supports the discovery and optimization of small molecule lead compounds for projects with specific, novel, and testable drug discovery hypotheses. The fund is jointly administered by MCTI and FFMI. MCTI was launched to accelerate the discovery and translation of new small molecule therapeutics for the treatment of human disease through innovation and scientific collaboration. [\*The University Record 26 October 2016\*](#)

### Late breaking...

**Dr. Joseph Holoshitz** (Principal Investigator) and **Dr. Amr Sawalha** (Co-Investigator) have recently been awarded a \$1.7M, 5-year research grant titled *Immune modulating HLA-coded ligands in rheumatoid arthritis* from the National Institutes of Health to study novel mechanisms that facilitate or prevent disease development in individuals with genetic susceptibility for this disease.

## Faculty News: Grants and Funding

### **RESCUE: A multi-center randomized, double blind, placebo-controlled, pilot study to assess the efficacy and safety of riociguat in scleroderma-associated digital ulcers.**



Riociguat has recently been approved in the US and Canada for two forms of pulmonary hypertension, namely pulmonary arterial hypertension and treatment of chronic thromboembolic pulmonary hypertension. Riociguat is the first-in-class soluble guanylate cyclase stimulator that directly stimulates soluble guanylate cyclase independently of nitric oxide. Both the vascular effects of riociguat and the direct antifibrotic effects could be beneficial for the treatment of patients with systemic sclerosis.

**Dr. Dinesh Khanna** at U-M is leading an investigator-initiated, multi-site, phase II study designed to investigate the efficacy and safety of riociguat in patients with scleroderma-associated digital ulcers (Clinicaltrials.gov NCT02915835).

If you have patients or need more information, please contact: Jennelle Shaw/734-936-4555; Erica Bush/734-936-5615; or by email: [ssc-coordinator@umich.edu](mailto:ssc-coordinator@umich.edu).

## **Chronic pain researchers to expand work with \$7.5 M award from NIH**

### ***Funding to span 5 years, focus on role the brain plays in acute and chronic pain***

In order to better understand the disparity between identifiable damage and chronic pain, the National Institutes of Health has awarded \$7.5 million over five years to physician-scientists at the University of Michigan Health System. We want to increase understanding of how peripheral damage or inflammation, and central nervous system factors, interact to cause acute and chronic pain," says co-principal investigator **Daniel Clauw MD**, U-M Professor of Anesthesiology, Psychiatry and Rheumatology and Director of U-M's [Chronic Pain and Fatigue Research Center](#).



The University of Michigan Fibromyalgia CORT, or Center of Research Translation, launches this fall and will study 800 subjects with chronic musculoskeletal pain, including inflammatory (rheumatoid arthritis), non-inflammatory (osteoarthritis) and neuropathic pain (carpal tunnel syndrome). Each cohort of subjects will undergo the latest fibromyalgia survey, developed in part by Clauw, to self-report the severity and location of their pain. They'll also take part in experimental pain testing and brain imaging to help determine each subject's volume control setting on pain processing.



We hope to demonstrate similarities in neuroimaging among those who suffer from high levels of chronic pain, including signs of centralized pain," says **Chad Brummett MD**, co-principal investigator, U-M Associate Professor of Anesthesiology and Pain Management and Director of the Department of Anesthesiology's [Division of Pain Research](#).

See the full story at [UMHS News](#).



## Faculty News: Grants & Funding



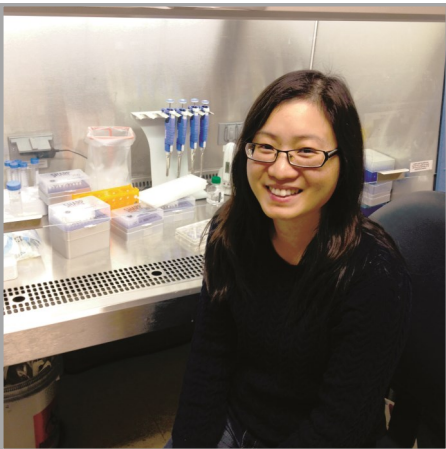
### RRF Career Development Bridge Funding: K Supplement

**Jason Knight MD, PhD** and **Michelle Kahlenberg, MD, PhD** are among the recipients of the 2016 Rheumatology Research Foundation's Bridge Funding K Supplement program designed to encourage junior investigators to expand promising research by providing additional support to cover research costs and help investigators become independent.

The Foundation awarded only three K Supplements this year.

**Jason's project:** Lupus neutrophils as instigators of thrombosis and autoimmunity

**Michelle's project:** Interferon kappa as a novel target in cutaneous lupus



### Scleroderma Foundation, Marta Marx Fund for the Eradication of Scleroderma

**Pei-Suen (Eliza) Tsou PhD** received a New Investigator Award for her project, Histone deacetylases in scleroderma: investigation of their roles in dysregulated angiogenesis. This award program is designed for promising new investigators who hold faculty or equivalent positions and who wish to pursue a career in research related to scleroderma. This grant supports promising research that is likely to lead to individual research project grants. The Foundation has designated the Marta Marx Fund for the Eradication of Scleroderma Award to be presented to a recipient of a research grant whose score ranks among the top two scored proposals.

### American Association of Immunologists Career Development Award, Immunology Fellowship

The Careers in Immunology Fellowship program, launched in 2014, provides independent research scientists with fellowships supporting one year of salary for a trainee in their labs. Consideration for this award is based on:

- the merit of the PI's proposed project
- the potential of the trainee
- the quality of the training environment

This award will provide funding for Sophina Taitano, a 4th year graduate student in Steve Lundy's lab.



## Staff Recognition

### Susan Olsson Receives the Department of Internal Medicine Staff Award for Excellence in Clinical Support Activities

Exemplary is the word used to describe and nominate Susan Olsson for the Staff Award for Excellence. Sue has spent her nursing career with the U-M and has worked in Department of Internal Medicine clinics since 1998, with Rheumatology since 2012. In that time, she has helped to streamline multiple processes, initiated and provided training services for new employees, restructured how communications are managed, tirelessly and unselfishly



Steve Bearinger, Dr. David Fox, Jan Stevens, **Sue Olsson**, Karen Nairn, Dr. Timothy Laing

worked overtime during staffing shortages, and never complains! Sue rolls with the punches, encourages others, instills confidence, and leads with suggestions for innovation and problem solving.

Customer service is just one of Sue's incredible skills. Patients, referring physicians, and our own physicians, nurses and clinic staff are her customers and she gives them her best, with empathy, respect and attention. Many patients have commented on the mid-evening calls they receive from Sue to make sure that they are OK.

Sue is recognized by faculty and her co-workers for her leadership, efficiency, and commitment to excellence in all that she does, all of the time, with everyone with whom she comes in contact.

## Division of Rheumatology Quality Month Participation

October is designated as Quality Month by the National Association for Health Care Quality. Teams throughout University of Michigan Hospitals & Health Centers (UMHHC) have been using the Plan-Do-Check-Act (PDCA) cycle year-round to make their work more collaborative, (B) functional, defined communication workflows, and use education, and process implementation and sustainability.

### Gaining Workflow Efficiencies in Triaging New Patients

Rheumatology Team: Claudette Peterson, Elaine St. Amie, David Fox, Steve Bearinger, Jan Stevens

### Identifying MiChart InBasket Workflows in Rheumatology

Rheumatology Team: Various representation over the length of the two-year project from all groups involved in the patient care experience. Physicians, nursing, clinic staff, schedulers, administration.

Rheumatology Leadership: Steve Bearinger, Jan Stevens

### Enhancing the Experience for Drug-Monitored Patients

Rheumatology Staff: Holly Bulger, Barb Pietila, Caitlyn Kormos, Christine Poppy, Sherry Brant, Kelly Brower  
Rheumatology Leadership: Karen Nairn, Steve Bearinger

**PLAN: Background**  
In December 2015 the Division of Rheumatology expanded the In Basket process improvement initiative to the new patient coordinators. These efforts focused on the improved use of In Basket (IB) functionality, defined communication workflows, and use education, and process implementation and sustainability.

While the new patient coordinators already had a well-defined process in place for the triage and scheduling of new patients, there were inefficiencies to be reduced. The following process problems were identified:

- Delayed communication to patients regarding their referral to Rheumatology
- Process not integrated fully with MiChart (printing of patient records and physician doing paper-based triage process)
- Patient records and scheduling status not easy to access or refer to off staff involved (due to paper-based triaging)
- No clear identification of referral urgency to scheduling staff for prioritization
- Misplaced records

**PLAN: Goals Established**  
Ultimately, the project aimed to utilize In Basket functionality to transition the new patient triage workflow from paper to MiChart in order to:

**Improve Efficiency & Patient Safety**  
**Measurable Goals:**

- Convert all paper/email communication around new patient triage instructions to the InBasket
- Utilize "High Priority" message status to indicate urgency of referral for prioritizing
- Reduce unnecessary communication between provider and scheduler by eliminating handwritten/paper triage instructions
- Reduce time spent waiting for providers to triage referrals and provide scheduling instructions
- Maintain the Referral Work Queue in MiChart

**DO: Analysis and Interventions to Improve our Processes**

**Improve Efficiency & Patient Safety**  
Additional Outcomes Achieved through Implementing the Process with MiChart:

- Better data integration in printing the referral and patient records for physician review (all that information is available in MiChart)
- Easy coverage! When the triaging physician is out/away, we can simply assign another physician to review, and the coordinator can sign triage through the InBasket (rather than having to transfer paper to another triage location)
- Better represented! Communication is faster and more efficient through the InBasket. All staff have the ability to see the referral status and notes on triage in real-time to provide information to the patient without transferring notes.
- Increased accuracy & prioritization! Simplified the format when scheduling. Understood the priority of referrals to be worked as indicated by InBasket message status.

**CHECK: Results, Outcomes Achieved**  
The new patient coordinators successfully transitioned all paper triaging instructions to "Referral Message" in InBasket communication as of January 1st, 2016. The graph depicts the increase in the volume of incoming messages to the new pool over the last 8 months (IC Referral Work Queue).

After implementing the new standard work, the new patient coordinators were able to better manage the Referral Work Queue in MiChart (shown in yellow circle). They significantly reduced the overall volume in the queue in February - April. Recently, volume has increased again due to other operational factors (provider's no-shows, etc.).

**ADJUST: Sustain & Spread**  
This improvement work is ongoing - it needs continuous cycles of PDCA to assess new challenges and address new workflow education needs. We plan to sustain the efforts of the project by responding to Lean in Daily Work from the clinic in the Taubman Center to the support staff located in IB.

**ACT: Keys to Success**

- Developing standard work so that all staff communications are seamless and efficient
- Training faculty and staff on the InBasket functionality and the new process developed
- Follow-up with faculty and staff on process improvement needs and support to sustain the efforts
- Empowering employees to improve processes
- Leadership support and engagement in implementing change

**Team Members and Contacts**  
**Rheumatology Team:** Claudette Peterson, Elaine St. Amie, Dr. David Fox, Steve Bearinger, Jan Stevens  
**InBasket Training & Support:** Linda Roth, ACS Project Manager  
**Project Management & Lean Coaching:** Kelle Schwam, Internal Medicine

## Alumni News



A multi-year U-M fellows group at the ABIM exam writing committee meeting in October, left to right:

**Hilary Haftel MD, MHPE (1995)** Professor of Pediatrics and Communicable Diseases, C.S. Mott Children's Hospital, Division of Rheumatology, University of Michigan, Ann Arbor, MI

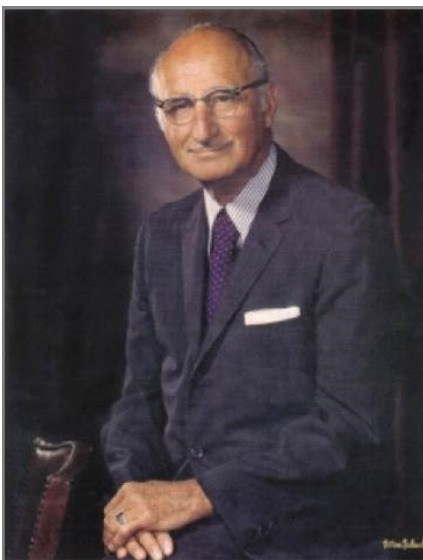
**Kenneth O'Rourke MD (1992)** Professor of Internal Medicine-Rheumatology and Immunology, Wake Forest Baptist Medical Center, Winston-Salem, NC

**Mary Chester Wasko MD, MSc (1990)** Professor of Internal Medicine, Western Pennsylvania Allegheny Health Network, Pittsburgh, PA

**Jay B. Higgs MD (1987)** has been promoted to Professor of Medicine at the Uniformed Services University of the Health Sciences, Bethesda, MD. Congratulations!

While looking for something else in the [University of Michigan Men's Track & Field Record Book](#) Dr. Bob Ike came across some interesting information about Richard Freyberg MD, the first director of the Rackham Arthritis Research Unit (1937-1944).

As an undergraduate student at the University of Michigan Richard Freyberg was an All-Time Letterwinner 1924 - 1926 and he was the captain of the U-M Men's Track & Field Team in 1925.



**Richard Freyberg MD**



Richard Freyberg: first row, second from the left

## In Memoriam

### George W. Jourdian PhD

04/21/1929 - 11/28/2015



George William Jourdian  
[full obituary](#)

Bill received his Master's degree in Bacteriology, and then moved to Purdue (1954) to complete his PhD in Biochemistry. He completed postdoctoral training at the University of Michigan Rackham Arthritis Research Unit (1958) under the guidance of Saul Roseman. In 1961, Bill became a faculty member at the University of Michigan in the biological chemistry department and was promoted to associate professor in 1965. Bill's research focused on the biochemistry of glycoproteins and carbohydrates in cartilage. In the early 1980s, Bill discovered a receptor involved in intracellular and extracellular trafficking of lysosomal enzymes called the phosphomannosyl receptor. This landmark discovery was reported in the Proceedings of the National Academy of Science in 1981. Bill was a member of the editorial board of the Journal of Biological Chemistry for 5 years, president of the Society for Glycobiology for three years, and served on the Physiological Sciences Study Section of the National Institutes of Health. Academically, Bill is remembered for his teaching skill, innovative research, collegial nature, and enthusiasm for science. (*Ann Arbor News, 06 December 2015*)

### Joseph J. Weiss MD, MACP

03/22/1934 - 10/25/2015



Joseph J. Weiss  
[full obituary](#)

A graduate of the University of Michigan in 1955 and its Medical School in 1961, Joseph interrupted his training to serve in the US Public Health Service, which took him to many rural regions of the United States. Dr. Weiss joined Care-Medico to provide medical services in pre-Soviet Afghanistan for two years, and then went to what was then South Vietnam to care for civilian casualties of the war. Upon his return to the US, he completed an internal medicine residency and a rheumatology fellowship. From 1971 to 1981, Dr. Weiss served as a member of the faculty of the University of Michigan Medical School and as a staff physician at Wayne County General Hospital, where he was Director of Emergency services for five years. Since 1981 until less than a week before his death, he ran a rheumatology practice as a solo private practitioner and was an active medical staff member of St. Mary Mercy Hospital in Livonia. In 1998, Dr. Weiss was a recipient of the Michigan Chapter of the American College of Physicians' Laureate Award; some years later, he received their Lifetime Achievement Award; and earlier in 2015, the national organization honored him with the title of Master of the American College of Physicians. Joe was a tireless advocate for rheumatologists, and maintained close ties with the U-M Division of Rheumatology. (*The Detroit News, 27 October 2015*)

### Wendy Eider MD

03/28/2016



Wendy Eider  
[full obituary](#)

Wendy was a proud graduate of the NYC public school system and received her B.S. in Biochemistry from Queens College (City University of New York). She started graduate school in Biochemistry at Washington University in St. Louis and transferred to its medical school, from which she graduated in 1976. She stayed in St. Louis to complete her residency in Internal Medicine before moving to Browning, Montana for two years to serve as a General Medical Officer on the Blackfeet Reservation, followed by a rheumatology fellowship at the University of Michigan Medical Center. In 1984, Wendy moved to Yakima, Washington, where she began a long, distinguished career as a rheumatologist. As a physician, she was respected by her colleagues and beloved by her patients. After closing her Yakima practice in 2010, Wendy continued to provide patient care on both sides of the Cascades, splitting her time among the V.A. Hospital Puget Sound, V.A. Clinic at American Lake, Farm Workers Clinics in Yakima and Toppenish, and Yakima Indian Health Service. She also taught residents and fellows as a Clinical Associate Professor at the University of Washington Medical School. Wendy was devoted to her patients, serving as both a compassionate provider and committed advocate for improving access to healthcare services. (*Yakima Herald, 17 April 2016*)



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@JasonSKnight

@ASawalha

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Track **#ACR16** while  
you're at the  
annual meeting.

## William D. Robinson Alumni Society Reception

**Saturday, November 12<sup>th</sup>**

The Henley Park Hotel  
926 Massachusetts Avenue, NW  
The Blue Bar • 7:00 - 9:00 pm

### University of Michigan William D. Robinson Alumni Society Annual Dues for 2016 - \$75

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***RheUMinations* Editor: Gail Quaderer**

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## ACR National Meeting, November 11 - 16, 2016

Opening Ceremony, William D. Robinson Alumni Society Reception, Oral Presentations, Moderators,  
Guided Poster Tour, & Abstracts

### *Saturday, Nov 12*

Opening Reception: 6:30 - 8:00 PM • Marriott Marquis - Marquis Ballroom

University of Michigan Alumni & Robinson Society Reception: 7 - 9:00 PM  
The Henley Park Hotel, The Blue Bar 1 & 2 • 926 Massachusetts Avenue, NW

#### Oral Presentations

##### **Laing, Timothy, MD**

Title: Keynote Address: MACRA: Putting Together the Pieces for Your Practice

Session: ACR Practice Management Course: The Next Generation of Business Devt for Rheumatology Practices

Date: Saturday, Nov 12 8:00 AM

Duration: 75 minutes

Location: 140 A

##### **Khanna, Dinesh, MD, MS**

Title: Lung Disease in Systemic Sclerosis (SSc): Current (and Future) Therapies for SSc-Interstitial Lung Disease: Review Clinical Therapies for SSc-ILD and On-Going Clinical Trials

Session: ACR Clinical Research Conference: Lung Disease in Rheumatology - Day 2/2

Date: Saturday, Nov 12 9:25 AM

Duration: 35 minutes

Location: Ballroom C

##### **Glick, Gary D., PhD**

Title: Systemic Autoimmunity: I Immunometabolism Regulation of Graft vs. Host Disease

Session: ACR Basic Research Conference: Cellular Metabolism and Stress Response in Immune-Mediated Inflammatory Disease - Day 2/2

Date: Saturday, Nov 12 3:40 PM

Duration: 40 minutes

Location: Ballroom A

### *Sunday, Nov 13*

##### **Khanna, Dinesh, MD, MS**

Title: Safety and Efficacy of Subcutaneous Tocilizumab in Early Systemic Sclerosis: Results from the Open Label Period of a Phase 2 Randomized, Controlled Trial

Session: Systemic Sclerosis, Fibrosing Syndromes, and Raynauds' – Clinical Aspects and Therapeutics I

Date: Sunday, Nov 13 2:30 PM

Duration: 15 minutes

Location: 151 A

##### **Kahlenberg, J. Michelle, MD, PhD**

Title: Interferon Regulatory Factor 1 Is the Key Driver of Inflammasome Activity in Systemic Lupus Erythematosus

Session: Innate Immunity and Rheumatic Disease

Date: Sunday, Nov 13 5:00 PM

Duration: 15 minutes

Location: 146 A

**Monday, Nov 14**

**Sawalha, Amr H., MD**

Title: Genetics and Pathogenesis of Takayasu's Arteritis  
Session: Advances in Takayasu's Arteritis  
Date: Monday, Nov 14 2:30 PM  
Duration: 30 minutes  
Location: Hall D

**Gensterblum, Elizabeth, BS (Sawalha Lab)**

Title: Identification of Novel Genetic Susceptibility Loci in Primary Antiphospholipid Syndrome  
Session: Antiphospholipid Syndrome  
Date: Monday, Nov 14 2:30 PM  
Duration: 15 minutes  
Location: 150 A

**Monrad, Seetha, MD**

Title: 2016 CARE: MOC Sessions 2 of 3: Nonarticular & Regional Musculoskeletal Disorders  
Session: 2016 CARE: MOC Sessions 2 of 3: Nonarticular & Regional Musculoskeletal Disorders  
Date: Monday, Nov 14 2:30 PM  
Duration: 15 minutes  
Location: 146 A

**Stevens, Jan, BA**

Title: Current Topics for Advocacy in Rheumatology that Impact Patient Care, Teaching and Research  
Session: The Power of Arthritis Advocacy  
Date: Monday, Nov 14 2:30 PM  
Duration: 30 minutes  
Location: 143 A

**Knight, Jason S., MD, PhD**

Title: Antiphospholipid Syndrome Neutrophils are Characterized by Overexpression of P-Selectin Glycoprotein Ligand 1, A Potential Therapeutic Target  
Session: Antiphospholipid Syndrome  
Date: Monday, Nov 14 2:45 PM  
Duration: 15 minutes  
Location: 150 A

**Dodge, Carole V., OT, CHT**

Title: Opportunities for Advocacy in Rheumatology  
Session: The Power of Arthritis Advocacy  
Date: Monday, Nov 14 3:00 PM  
Duration: 30 minutes  
Location: 143 A

**Khanna, Dinesh, MD, MS**

Title: Performance of Modified Rodnan Skin Score in Early Diffuse Cutaneous Scleroderma – Analysis from 4 International Cohorts  
Session: Systemic Sclerosis, Fibrosing Syndromes, and Raynauds' – Clinical Aspects and Therapeutics II  
Date: Monday, Nov 14 3:15 PM  
Duration: 15 minutes  
Location: 145 A

**Wolf, Sonya, BS (Kahlenberg Lab)**

Title: TLR-7-Mediated Lupus Nephritis Flares are Independent of Type 1 Interferon Signaling  
Session: Systemic Lupus Erythematosus – Animal Models  
Date: Monday, Nov 14 4:45 PM  
Duration: 15 minutes  
Location: 140 A

**Knight, Jason S., MD, PhD**

Title: Ectonucleotidase-Mediated Protection of Lupus Mice from Exaggerated Immune Responses and Arterial Vasculopathy  
Session: Systemic Lupus Erythematosus – Animal Models  
Date: Monday, Nov 14 5:00 PM  
Duration: 15 minutes  
Location: 140 A

***Tuesday, Nov 15*****Clauw, Daniel J., MD**

Title: Fibromyalgia 2016: Update on Management (066)  
Session: Meet the Professor  
Date: Tuesday, Nov 15 7:45 AM  
Duration: 15 minutes  
Location: 158 A

**Khanna, Dinesh, MD, MS**

Title: Pulmonary Hypertension in the Rheumatic Diseases  
Session: Pulmonary Hypertension in the Rheumatic Diseases  
Date: Tuesday, Nov 15 12:45 PM  
Duration: 15 minutes  
Location: 155

**Renauer, Paul, BS (Sawalha Lab)**

Title: Dense Genotyping of Immune Related Loci in a Multi-Ethnic Behçet's Disease Cohort Identifies Genetic Associations in a Long Noncoding RNA Near QSOX2, RASIP1/FUT2, and IL12A-AS1  
Session: Vasculitis III: Pathogenic Mechanisms  
Date: Tuesday, Nov 15 3:00 PM  
Duration: 15 minutes  
Location: Salon B

**Ohara, Ray A., BS (Fox Lab)**

Title: Citrullination of Inhibitor of DNA Binding-1 at Specific Locations Leads to Autoantigenicity in Rheumatoid Arthritis  
Session: Rheumatoid Arthritis – Human Etiology and Pathogenesis I  
Date: Tuesday, Nov 15 3:15 PM  
Duration: 15 minutes  
Location: 145 A

**Dodge, Carole V., OT, CHT**

Title: Evolution of Occupational Therapy Practiced in Adult Rheumatology, Past, Present and Future  
Session: Physical and Occupational Therapies Through the Lifespan in the Biologic Era  
Date: Tuesday, Nov 15 5:30 PM  
Duration: 30 minutes  
Location: 140 A

***Wednesday, Nov 16*****Clauw, Daniel J., MD**

Title: Fibromyalgia: Central or Peripheral? Primary and Secondary?  
Session: Fibromyalgia  
Date: Wednesday, Nov 16 9:00 AM  
Duration: 60 minutes  
Location: Ballroom A



**Khanna, Puja, MD, MPH**

Title: Development and Pilot Testing of an Online Educational Tool for Gout Patients — Mygoutcare®  
Session: Metabolic and Crystal Arthropathies II: Clinical Practice  
Date: Wednesday, Nov 16 10:15 AM  
Duration: 15 minutes  
Location: 202 B

**Kahlenberg, J. Michelle, MD, PhD**

Title: Interferon Kappa Is a Novel Type I IFN That Drives Cutaneous Inflammation in Systemic Lupus  
Session: Systemic Lupus Erythematosus – Human Etiology and Pathogenesis II  
Date: Wednesday, Nov 16 11:15 AM  
Duration: 15 minutes  
Location: 147 A

**Namas, Rajaie, MD**

Title: Efficacy of Mycophenolate Mofetil and Oral Cyclophosphamide on Skin Thickness: Post-Hoc Analyses from the Scleroderma Lung Study I and II  
Session: Systemic Sclerosis, Fibrosing Syndromes, and Raynaud's – Clinical Aspects and Therapeutics III  
Date: Wednesday, Nov 16 11:45 AM  
Duration: 15 minutes  
Location: 146 A

**Moderator****Kahlenberg, J. Michelle, MD, PhD**

Session: Innate Immunity and Rheumatic Disease  
Date: Sunday, Nov 13 4:30 PM  
Duration: 90 minutes  
Location: 146 A

**Phillips, Kristine, MD, PHD**

Session: Rheumatoid Arthritis – Clinical Aspects II: Risk and Impact of Comorbidity  
Date: Monday, Nov 14 2:30 PM  
Duration: 90 minutes  
Location: Ballroom C

**Phillips, Kristine, MD, PHD**

Session: ACR/ARHP Combined Abstract Session: Epidemiology and Public Health  
Date: Monday, Nov 14 4:30 PM  
Duration: 90 minutes  
Location: 145 A

**Monrad, Seetha, MD**

Session: The Rheumatology Workforce: Present & Future (Business/Administration & Educator Tracks)  
Date: Monday, Nov 14 4:30 PM; panel discussion begins at 5:20 PM  
Duration: 90 minutes  
Location: 143 A

**Gewurz-Singer, Ora, MD, MS**

Session: Orthopedics, Low Back Pain and Rehabilitation  
Date: Tuesday, Nov 15 2:30 PM  
Duration: 90 minutes  
Location: 209 A

**Sawalha, Amr H., MD**

Session: Genetics, Genomics and Proteomics II (Basic Science Track)

Date: Wednesday, Nov 16 9:00 AM

Duration: 90 minutes

Location: 146 A

**Guided Poster Tour**

**Sawalha, Amr H., MD**

Date: Monday, Nov 14 9:00 AM

Duration: 45 minutes

Location: Poster Hall – Hall C

**University of Michigan Abstracts**

**Sunday, November 13**

**Session: Fibromyalgia, Soft Tissue Disorders, Regional and Specific Clinical Pain Syndromes –  
Poster 1: Basic Science Focus**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session A

**Abstract Number: 34**

**Differential Analgesic Pharmacological Effects on Brain Connectivity in Fibromyalgia (FM)**

Eric Ichesco<sup>1</sup>, Johnson Hampson<sup>2</sup>, Lynne Pauer<sup>3</sup>, Andrew Clair<sup>4</sup>, Tobias Schmidt-Wilcke<sup>5</sup>, David Williams<sup>6</sup>, Daniel J. Clauw<sup>6</sup> and Richard E. Harris<sup>7</sup>,<sup>1</sup>Chronic Pain and Fatigue Research Center, University of Michigan, Ann Arbor, MI, <sup>2</sup>Anesthesiology, University of Michigan, Ann Arbor, MI, <sup>3</sup>Pfizer Inc, New London, CT, <sup>4</sup>Pfizer, New York, NY, <sup>5</sup>Bergmannsheil, Bochum, Germany, <sup>6</sup>Chronic Pain & Fatigue Research Center, University of Michigan, Ann Arbor, MI, <sup>7</sup>Anesthesiology, U. Michigan, Ann Arbor, MI

**Abstract Number: 46**

**Novel Composite Responder Endpoints for Fibromyalgia Therapy Assessment**

R Michael Gendreau<sup>1</sup>, Lesley Arnold<sup>2</sup>, Daniel J. Clauw<sup>3</sup>, Judith Gendreau<sup>4</sup>, Bruce Daugherty<sup>4</sup> and Seth Lederman<sup>4</sup>,<sup>1</sup>Gendreau Consulting LLC, Poway, CA, <sup>2</sup>University of Cincinnati, Cincinnati, OH, <sup>3</sup>Chronic Pain & Fatigue Research Center, University of Michigan, Ann Arbor, MI, <sup>4</sup>Tonix Pharmaceuticals, New York, NY

**Session: Genetics, Genomics and Proteomics - Poster 1**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session A

**Abstract Number: 71**

**A Rare Coding Allele in IFIH1 is Protective for Psoriatic Arthritis**

Ashley Budu-Aggrey<sup>1,2</sup>, John Bowes<sup>2</sup>, Philip E. Stuart<sup>3</sup>, Matthew Zawistowski<sup>4</sup>, Lam C. Tsoi<sup>4</sup>, Rajan P. Nair<sup>5</sup>, Eleanor Korendowych<sup>6</sup>, Neil J McHugh<sup>6</sup>, James T. Elder<sup>5</sup>, Anne Barton<sup>1,7,8</sup> and Soumya Raychaudhuri<sup>9</sup>,<sup>1</sup>NIHR Manchester Musculoskeletal Biomedical Research Unit, Central Manchester Foundation Trust and University of Manchester, Manchester Academy of Health Sciences, Manchester, United Kingdom, <sup>2</sup>Arthritis Research UK Centre for Genetics and Genomics, Centre for Musculoskeletal Research, University of Manchester, Manchester, UK, Manchester, United Kingdom, <sup>3</sup>Department of Dermatology, University of Michigan Medical School, Ann Arbor, MI, <sup>4</sup>Department of Biostatistics and Center for Statistical Genetics, University of Michigan, Ann Arbor, MI, <sup>5</sup>University of Michigan Medical School, Ann Arbor, MI, <sup>6</sup>Royal National Hospital for Rheumatic Diseases and Dept Pharmacy and Pharmacology, University of Bath, Bath, United Kingdom, <sup>7</sup>Arthritis Research UK, Centre for Genetics and Genomics, Centre for Musculoskeletal Research, Manchester Academic Health Sciences Centre, The University of Manchester, Manchester, United Kingdom, <sup>8</sup>The Kellgren Centre for Rheumatology, Central Manchester Foundation Trust, NIHR Manchester Biomedical Research Centre, Manchester, United Kingdom, <sup>9</sup>Brigham and Women's Hospital, Boston, MA

**Session: Health Services Research - Poster 1**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session A

**Abstract Number: 89**

**2015 ACR/ARHP Workforce Study (WFS): Adult Rheumatology Specialists in the United States: Effect of Gender and Generation**

**Chad Deal**<sup>1</sup>, Marcy B. Bolster<sup>2</sup>, Jonathan S. Hausmann<sup>3</sup>, Daniel Battafarano<sup>4</sup>, Seetha Monrad<sup>5</sup> and Marcia Ditmyer<sup>6</sup>, <sup>1</sup>Orthopedic and Rheumatology Institute, Cleveland Clinic Foundation, Cleveland, OH, <sup>2</sup>Massachusetts General Hospital, Boston, MA, <sup>3</sup>Rheumatology, Beth Israel Deaconess Medical Center, Boston, MA, <sup>4</sup>Medicine, San Antonio Military Medical Center, San Antonio, TX, <sup>5</sup>Internal Medicine/Rheumatology, University of Michigan, Ann Arbor, MI, <sup>6</sup>University of Nevada, Las Vegas, NV

**Abstract Number: 93**

**2015 ACR/ARHP Workforce Study in the United States: Adult Rheumatologist Supply and Demand Projections for 2015-2030**

**ABSTRACT NUMBER: 93**

**2015 ACR/ARHP Workforce Study in the United States: Adult Rheumatologist Supply and Demand Projections for 2015-2030**

**Daniel Battafarano**<sup>1</sup>, Seetha Monrad<sup>2</sup>, John Fitzgerald<sup>3</sup>, Marcy Bolster<sup>4</sup>, Chad Deal<sup>5,6</sup>, Anne R. Bass<sup>7</sup>, Rodolfo Molina<sup>8</sup>, Alan R. Erickson<sup>9</sup>, Benjamin J. Smith<sup>10</sup>, Karla B. Jones<sup>11</sup>, Jonathan S. Hausmann<sup>12</sup>, Val Gokenbach<sup>13</sup>, Kamilah Lewis<sup>14</sup> and Marcia Ditmyer<sup>15</sup>, <sup>1</sup>Medicine, San Antonio Military Medical Center, San Antonio, TX, <sup>2</sup>Internal Medicine/Rheumatology, University of Michigan, Ann Arbor, MI, <sup>3</sup>Medicine, UCLA, Los Angeles, CA, <sup>4</sup>Rheumatology, Allergy and Immunology, Massachusetts General Hospital, Boston, MA, <sup>5</sup>Orthopedic and Rheumatology Institute, Cleveland Clinic Foundation, Cleveland, OH, <sup>6</sup>Dept of Rheum & Imm Dis /A 50, Cleveland Clinic Foundation, Cleveland, OH, <sup>7</sup>Rheumatology, Hospital for Special Surgery, New York, NY, <sup>8</sup>Arthritis Associates PA, San Antonio, TX, <sup>9</sup>Omaha VA Medical Center and University of Nebraska Medical Center, Omaha, NE, <sup>10</sup>Rheumatology, McIntosh Clinic, P.C., Thomasville, GA, <sup>11</sup>Rheumatology, Nationwide Children's, Columbus, OH, <sup>12</sup>Rheumatology, Beth Israel Deaconess Medical Center, Boston, MA, <sup>13</sup>Academy for Academic Leadership, Detroit, MI, <sup>14</sup>American College of Rheumatology, Atlanta, GA, <sup>15</sup>Academy for Academic Research, Las Vegas, NV

**Abstract Number: 99**

**Academic and Non-Academic Rheumatology: Practice Trends and Common Barriers to Practice from the 2015 ACR/ARHP Workforce Study Survey**

Seetha Monrad<sup>1</sup>, Daniel Battafarano<sup>2</sup> and Marcia Ditmyer<sup>3</sup>, <sup>1</sup>Internal Medicine/Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Medicine, San Antonio Military Medical Center, San Antonio, TX, <sup>3</sup>Academy for Academic Research, Las Vegas, NV

**Abstract Number: 102**

**The 2015 American College of Rheumatology (ACR) Workforce Study: A Snapshot of Academic Division Directors**

**Marisa S. Klein-Gitelman**<sup>1</sup>, Daniel Battafarano<sup>2</sup>, Seetha Monrad<sup>3</sup> and Marcia Ditmyer<sup>4</sup>, <sup>1</sup>Div of Pediatric Rheumatology/PDD, Lurie Children's Hospital of Chicago/NW University, Chicago, IL, <sup>2</sup>Medicine, San Antonio Military Medical Center, San Antonio, TX, <sup>3</sup>Internal Medicine/Rheumatology, University of Michigan, Ann Arbor, MI, <sup>4</sup>Academy for Academic Research, Las Vegas, NV

**Session: Metabolic and Crystal Arthropathies - Poster I: Clinical Practice**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session A

**Abstract Number: 207**

**Integrated Safety of Lesinurad, a Novel Uric Acid Reabsorption Inhibitor for the Treatment of Gout**

**Michael A. Becker**<sup>1</sup>, Robert T. Keenan<sup>2</sup>, Puja Khanna<sup>3</sup>, Raymond Malamet<sup>4</sup>, Kathleen Bos<sup>4</sup>, Jingyi Li<sup>4</sup>, Jia Hu<sup>5</sup> and William White<sup>6</sup>, <sup>1</sup>University of Chicago, Chicago, IL, <sup>2</sup>Rheumatology, Duke University, Durham, NC, <sup>3</sup>Rheumatology, University of Michigan, Ann Arbor, MI, <sup>4</sup>AstraZeneca Pharmaceuticals, Wilmington, DE, <sup>5</sup>Ardea Biosciences, Inc., San Diego, CA, <sup>6</sup>University of Connecticut School of Medicine, Farmington, CT

**Abstract Number: 222**

**Role of Synovial Biopsy in Diagnosis of Crystal Arthropathies**

Viju Moses<sup>1</sup>, Jaya Asirvatham<sup>2</sup>, Jonathan McHugh<sup>2</sup> and Robert Ike<sup>1</sup>, <sup>1</sup>Division of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Department of Pathology, University of Michigan, Ann Arbor, MI

**Abstract Number: 226**

**Comparing the Burden of Illness of Patients with Tophaceous and Non-Tophaceous Gout in France, Germany, Italy, Spain, UK, and USA**

**Puja Khanna**<sup>1</sup>, Eskinder Tafesse<sup>2</sup>, Scott Baumgartner<sup>3</sup>, Anna Walker<sup>4</sup> and Robert Morlock<sup>3,1</sup>Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>AstraZeneca Pharmaceuticals, Gaithersburg, MD, <sup>3</sup>Ardea Biosciences, Inc., San Diego, CA, <sup>4</sup>AstraZeneca Pharmaceuticals, Luton, United Kingdom

**Session: Pain – Basic and Clinical Aspects - Poster**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session A

**Abstract Number: 370**

**Relationship between Alcohol Consumption and Symptom Severity in Chronic Pain Patients**

**J. Ryan Scott**<sup>1</sup>, Steven E. Harte<sup>2</sup>, Chad M. Brummett<sup>1</sup>, Richard E. Harris<sup>1</sup>, Afton L. Hassett<sup>1</sup> and Daniel J. Clauw<sup>1</sup>, <sup>1</sup>Anesthesiology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Department of Anesthesiology, University of Michigan, Ann Arbor, MI

**Session: Pain – Clinical Aspects - AHRP Poster**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session A

**Abstract Number: 379**

**Pain Catastrophizing Decreases in RA Patients Starting, Adding or Switching a DMARD**

**Ezra Cohen**<sup>1</sup>, Alyssa Wohlfahrt<sup>2</sup>, Robert R. Edwards<sup>3</sup>, Clifton Bingham III<sup>4</sup>, Marcy Bolster<sup>5</sup>, Larry W. Moreland<sup>6</sup>, Tuhina Neogi<sup>7</sup>, Kristine Phillips<sup>8</sup> and Yvonne C. Lee<sup>9</sup>, <sup>1</sup>Boston Children's Hospital, Boston, MA, <sup>2</sup>Rheumatology, Immunology and Allergy, Brigham and Women's Hospital, Boston, MA, <sup>3</sup>Anesthesiology, Brigham & Womens Hospital, Chestnut Hill, MA, <sup>4</sup>Divisions of Rheumatology and Allergy, Department of Medicine, Johns Hopkins University, Johns Hopkins University, Baltimore, MD, <sup>5</sup>Rheumatology, Allergy and Immunology, Massachusetts General Hospital, Boston, MA, <sup>6</sup>Rheumatology & Clinical Immunology, University of Pittsburgh, Pittsburgh, PA, <sup>7</sup>Clinical Epidemiology, Boston University School of Medicine, Boston, MA, <sup>8</sup>Rheumatology, University of Michigan, Ann Arbor, MI, <sup>9</sup>Rheumatology Immunology & Allergy, Brigham and Women's Hospital and Harvard Medical School, Boston, MA

**Session: Pediatric Rheumatology – Clinical and Therapeutic Aspects - Poster 1**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session A

**Abstract Number: 393**

**Association of Sex, Race and Ethnicity on Disease Outcomes in Juvenile Idiopathic Arthritis Patients**

**Vivek Joseph**<sup>1</sup>, Tracy R. Andrews<sup>2</sup>, Esi Morgan<sup>3</sup>, Ronald Laxer<sup>4</sup>, Cagri Toruner<sup>5</sup>, Tzielan Lee<sup>6,7</sup>, Beth S. Gottlieb<sup>8</sup>, C. April Bingham<sup>9</sup>, Sheetal S. Vora<sup>10</sup>, Jon M. Burnham<sup>11</sup>, Judyann C. Olson<sup>12</sup>, Murray H. Passo<sup>13</sup>, Michelle Batthish<sup>14</sup>, Meredith Riebschleger<sup>15</sup> and Jennifer E. Weiss<sup>16</sup>, <sup>1</sup>Internal Medicine, Rutgers New Jersey Medical School, Bloomfield, NJ, <sup>2</sup>Biostatistics, David & Alice Jurist Institute, Hackensack University Medical Center, Hackensack, NJ, <sup>3</sup>Pediatric Rheumatology, Cincinnati Children's Hospital, Cincinnati, OH, <sup>4</sup>Div of Rheumatology, The Hospital for Sick Children, Toronto, ON, Canada, <sup>5</sup>Rheumatology, Nationwide Children's Hospital, Columbus, OH, <sup>6</sup>Dept of Pediatric Rheumatology, Stanford Univ School of Med, Palo Alto, CA, <sup>7</sup>Pediatric Rheumatology, Stanford University School of Medicine, Palo Alto, CA, <sup>8</sup>Pediatric Rheumatology, The Steven and Alexandra Cohen Children's Medical Center of New York, The Hofstra North Shore-LIJ School of Medicine, New Hyde Park, NY, <sup>9</sup>Penn State Health Children's Hospital, Hershey, PA, <sup>10</sup>Pediatric Rheumatology, Medical College of Wisconsin, Milwaukee, WI, <sup>11</sup>Pediatric Rheumatology, Children's Hospital Philadelphia, Philadelphia, PA, <sup>12</sup>Ped/MACC Fund Research Ctr, Medical College of Wisconsin, Milwaukee, WI, <sup>13</sup>Division of Rheumatology PTD, Medical University of South Carolina, Charleston, SC, <sup>14</sup>Division of Pediatric Rheumatology, McMaster Children's Hospital, Hamilton, ON, Canada, <sup>15</sup>Pediatric Rheumatology, University of Michigan, CS Mott Children's Hospital, Ann Arbor, MI, <sup>16</sup>Hackensack Univ Med Ctr, Hackensack, NJ

**Abstract Number: 394**

**Effect of BMI on Symptoms and Outcomes in Juvenile Idiopathic Arthritis Patients**

**Jennifer E. Weiss**<sup>1</sup>, Tracy Andrews<sup>2</sup>, Esi Morgan<sup>3</sup>, Ronald Laxer<sup>4</sup>, Cagri Yildirim-Toruner<sup>5</sup>, C. April Bingham<sup>6</sup>, Beth Gottlieb<sup>7</sup>, Tzielan Lee<sup>8</sup>, Sheetal S. Vora<sup>9</sup>, Jon M. Burnham<sup>10</sup>, Judyann C. Olson<sup>11</sup>, Murray Passo<sup>12</sup>, Michelle Batthish<sup>13</sup> and Meredith Riebschleger<sup>14</sup>, <sup>1</sup>Hackensack Univ Med Ctr, Hackensack, NJ, <sup>2</sup>Biostatistics, David & Alice Jurist Institute, Hackensack University Medical Center, Hackensack, NJ, <sup>3</sup>Pediatric Rheumatology, Cincinnati Children's Hospital, Cincinnati, OH, <sup>4</sup>Div of Rheumatology, The Hospital for Sick Children, Toronto, ON, Canada, <sup>5</sup>Rheumatology, Nationwide Children's Hospital, Columbus, OH, <sup>6</sup>Penn State Health Children's Hospital, Hershey, PA, <sup>7</sup>Pediatric Rheumatology PTD, Cohen Children's Medical Center of New York, Lake Success, NY, <sup>8</sup>Dept of Pediatric Rheumatology, Stanford Univ School of Med, Palo Alto, CA, <sup>9</sup>Pediatric Rheumatology, Medical College of Wisconsin, Milwaukee, WI, <sup>10</sup>Pediatric Rheumatology, Children's Hospital Philadelphia, Philadelphia, PA, <sup>11</sup>Ped/MACC Fund Research Ctr, Medical College of Wisconsin, Milwaukee, WI, <sup>12</sup>Pediatric Rheumatology, Medical University of South Carolina, Charleston, SC, <sup>13</sup>Division of Pediatric Rheumatology, McMaster Children's Hospital, Hamilton, ON, Canada, <sup>14</sup>Pediatric Rheumatology, University of Michigan, CS Mott Children's Hospital, Ann Arbor, MI

**Session: Rheumatoid Arthritis – Human Etiology and Pathogenesis - Poster I**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session A

**Abstract Number: 572**

**Anti-Periodontal Bacteria Antibody Titers Are Inversely Correlated with ACPA in RA-Free Individuals with Periodontal Disease Compared to Community Controls**

Emma Weeding<sup>1</sup>, Londyn Robinson<sup>2</sup>, Jeremy Sokolove<sup>3</sup>, Julie Marchesan<sup>4</sup>, Steven Offenbacher<sup>4</sup>, William H. Robinson<sup>3</sup>, Ryan Demmer<sup>5</sup>, Bryan Michalowicz<sup>6</sup> and Jerry A. Molitor<sup>7</sup>, <sup>1</sup>Department of Internal Medicine, University of Michigan, Ann Arbor, MI, <sup>2</sup>University of Minnesota, Minneapolis, MN, <sup>3</sup>Stanford University School of Medicine, Stanford, CA, <sup>4</sup>Department of Periodontology, Dental School, University of North Carolina at Chapel Hill, Chapel Hill, NC, <sup>5</sup>Epidemiology, Columbia University Mailman School of Public Health, New York, NY, <sup>6</sup>Department of Developmental and Surgical Sciences, University of Minnesota, Minneapolis, MN, <sup>7</sup>Rheumatic/Autoimmune Diseases, University of Minnesota, Minneapolis, MN

**Abstract Number: 573**

**Synovial Fibroblast-Neutrophil Interactions Promote Pathogenic Adaptive Immunity in Rheumatoid Arthritis**

Carmelo Carmona-Rivera<sup>1</sup>, Erica Moore<sup>2</sup>, Nithya Lingampalli<sup>3</sup>, Hannes Uchtenhagen<sup>4</sup>, Eddie James<sup>5</sup>, Kevin L. Bicker<sup>6</sup>, Heidi Wähämaa<sup>7</sup>, Victoria Hoffmann<sup>8</sup>, Anca I Catrina<sup>7</sup>, Paul Thompson<sup>9</sup>, Jane H. Buckner<sup>5</sup>, William Robinson<sup>10</sup>, David Fox<sup>11</sup> and Mariana Kaplan<sup>2</sup>, <sup>1</sup>Systemic Autoimmunity Branch/ NIAMS, National Institutes of Health, Bethesda, MD, <sup>2</sup>Systemic Autoimmunity Branch, National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health, Bethesda, MD, <sup>3</sup>Division of Immunology and Rheumatology, Stanford University School of Medicine, Stanford, CA, <sup>4</sup>Translational Research Program, Benaroya Research Institute at Virginia Mason, Seattle, WA, <sup>5</sup>Benaroya Research Institute at Virginia Mason, Seattle, WA, <sup>6</sup>Middle Tennessee State University, Murfreesboro, TN, <sup>7</sup>Rheumatology Unit, Department of Medicine, Karolinska Institute, Karolinska University Hospital, Stockholm, Sweden, <sup>8</sup>Division of Veterinary Resources, National Institutes of Health, Bethesda, MD, <sup>9</sup>University of Massachusetts, Worcester, MA, <sup>10</sup>Stanford University School of Medicine, Stanford, CA, <sup>11</sup>Department of Medicine [Division of Rheumatology], University of Michigan, Ann Arbor, MI

**Session: Systemic Sclerosis, Fibrosing Syndromes, and Raynaud's – Clinical Aspects and Therapeutics - Poster I**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session A

**Abstract Number: 820**

**EZH2 Modulates Angiogenesis and Fibrosis in Scleroderma**

Pei-Suen Tsou, Patrick Coit, Dinesh Khanna and Amr H Sawalha, Division of Rheumatology, University of Michigan, Ann Arbor, MI

**Abstract Number: 824**

**Mycophenolate versus Placebo for the Treatment of Systemic Sclerosis-Related Interstitial Lung Disease**

Elizabeth R. Volkman<sup>1</sup>, Donald P. Tashkin<sup>2</sup>, Ning Li<sup>3</sup>, Michael Roth<sup>4</sup>, Dinesh Khanna<sup>5</sup>, Anna-Maria Hoffmann-Vold<sup>6</sup>, Philip J. Clements<sup>4</sup>, Daniel E. Furst<sup>1</sup>, Robert Elashoff<sup>7</sup> and Scleroderma Lung Study II Group, <sup>1</sup>University of California, Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>2</sup>David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, CA, <sup>3</sup>UCLA, Los Angeles, CA, <sup>4</sup>Medicine, University of California, Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>5</sup>University of Michigan, Ann Arbor, MI, <sup>6</sup>Oslo University Hospital, Oslo, Norway, <sup>7</sup>Biomathematics, University of California, Los Angeles, Los Angeles, CA

**Abstract Number: 832**

**Defining Skin Ulcers in Systemic Sclerosis: A Systematic Literature Review of Skin Ulcer Definitions and a Preliminary Consensus-Based New SSc Skin Ulcer Definition**

Yossra A Suliman<sup>1</sup>, Cosimo Bruni<sup>2</sup>, Sindhu R. Johnson<sup>3</sup>, Emanuela Praino<sup>4</sup>, Mohamed Alemam<sup>5</sup>, Nabeel Borazan<sup>6</sup>, Laura Cometi<sup>7</sup>, Bethany Myers<sup>8</sup>, Dinesh Khanna<sup>9</sup>, Yannick Allanore<sup>10</sup>, Murray Baron<sup>11</sup>, Thomas Krieg<sup>12</sup>, Ariane L. Herrick<sup>13</sup>, Suzanne Kafaja<sup>14</sup>, Christopher Denton<sup>15</sup>, Marco Matucci Cerinic<sup>16</sup> and Daniel E. Furst<sup>17</sup>, <sup>1</sup>Rheumatology and Rehabilitation dept., Rheumatology and Rehabilitation Dept. Assiut University Hospital, Assiut Egypt, Assiut, Egypt, <sup>2</sup>Department of Biomedicine, Division of Rheumatology AOUC, Excellence Centre for Research, Florence, Italy, <sup>3</sup>Rheumatology, Mount Sinai Hospital and University Health Network, Toronto, ON, Canada, <sup>4</sup>DIM, Rheumatology Unit, Bari, Italy, <sup>5</sup>Clinical Pathology and Laboratory Medicine Department, Assistant Lecturer, Qena, Egypt, <sup>6</sup>Medicine, David Geffen School of Medicine, Los Angeles, CA, <sup>7</sup>Division of Rheumatology, Department of Experimental and Clinical Medicine,, Florence, Italy, <sup>8</sup>UCLA Louise M. Darling Biomedical Library, Research Informationist, Los Angeles, CA, <sup>9</sup>University of Michigan, Ann Arbor, MI, <sup>10</sup>Immunogenetics, Cochin Institute, Paris, France, <sup>11</sup>Rheumatology, McGill University, Jewish General Hospital, Montreal, QC, Canada, <sup>12</sup>Universität zu Köln, Köln, Germany, <sup>13</sup>Centre for Musculoskeletal Research, University of Manchester, MAHSC, Salford Royal Hospital, Manchester, United Kingdom, <sup>14</sup>Medicine/Rheumatology, University of California Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>15</sup>Division of Medicine, Centre for Rheumatology and Connective Tissue

Disease, University College London, London, United Kingdom, <sup>16</sup>Department of BioMedicine, Division of Rheumatology, Transition Unit, University of Florence, Firenze, Italy, <sup>17</sup>University of California, Los Angeles, Los Angeles, CA

**Abstract Number: 833**

**A Small Proportion of Patients with Systemic Sclerosis with Suspected Pulmonary Hypertension Meet the Published Inclusion/Exclusion Criteria for Two Systemic Sclerosis Associated Pulmonary Arterial Hypertension Screening Algorithms– Results from a Single Center Cohort**

**Amber Young**<sup>1</sup>, Victor Moles<sup>2</sup>, Vivek Nagaraja<sup>3</sup>, Scott H. Visovatti<sup>4</sup>, Vallerie McLaughlin<sup>4</sup> and Dinesh Khanna<sup>5</sup>, <sup>1</sup>Department of Internal Medicine, Division of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Department of Internal Medicine, Division of Cardiology, University of Michigan, Ann Arbor, MI, <sup>3</sup>Department of Medicine [Division of Rheumatology], University of Toledo, Toledo, OH, <sup>4</sup>Internal Medicine, Division of Cardiology, University of Michigan, Ann Arbor, MI, <sup>5</sup>University of Michigan, Ann Arbor, MI

**Abstract Number: 836**

**Comprehensive Characterization of Calcinosis in a Multicenter International Cohort of Patients with Systemic Sclerosis**

**Antonia Valenzuela**<sup>1,2</sup>, Jessica K. Gordon<sup>3</sup>, Tatiana Sofia Rodriguez-Reyna<sup>4</sup>, Susanna Proudman<sup>5,6</sup>, Murray Baron<sup>7</sup>, Monique Hinchcliff<sup>8</sup>, Dinesh Khanna<sup>9</sup>, Amber Young<sup>10</sup>, Flavia V. Castelino<sup>11</sup>, Sara R. Schoenfeld<sup>12</sup>, Virginia D. Steen<sup>13</sup>, David Fiorentino<sup>14</sup> and Lorinda Chung<sup>15</sup>, <sup>1</sup>Division of Immunology and Rheumatology, Stanford University School of Medicine, Palo Alto, CA, <sup>2</sup>Stanford University School of Medicine, Stanford, CA, <sup>3</sup>Rheumatology, Hospital for Special Surgery, New York, NY, <sup>4</sup>Immunology and Rheumatology, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico City, Mexico, <sup>5</sup>Rheumatology Unit, Royal Adelaide Hospital, Adelaide, Australia, <sup>6</sup>Discipline of Medicine, University of Adelaide, Adelaide, Australia, <sup>7</sup>Rheumatology, McGill University, Jewish General Hospital, Montreal, QC, Canada, <sup>8</sup>Northwestern University, Feinberg School of Medicine Scleroderma Program, Chicago, IL, <sup>9</sup>University of Michigan, Ann Arbor, MI, <sup>10</sup>Department of Internal Medicine, Division of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>11</sup>Rheumatology, Allergy, Immunology, Massachusetts General Hospital, Harvard Medical School, Boston, MA, <sup>12</sup>Rheumatology Unit, Massachusetts General Hospital, Harvard Medical School, Boston, MA, <sup>13</sup>Rheumatology, Georgetown University Medical Center, Washington, DC, <sup>14</sup>Department of Dermatology, Stanford University School of Medicine, Palo Alto, CA, <sup>15</sup>Rheumatology, Stanford University Medical Center, Palo Alto, CA

**Session: Systemic Lupus Erythematosus – Clinical Aspects and Treatment - Poster I: Clinical Trial Design and Current Therapies**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session A

**Abstract Number: 752**

**Anti-Ro Positivity Is a Predictor of Responsiveness to Topical Steroids or Hydroxychloroquine in Patients with Discoid but Not Subacute Cutaneous Lupus**

**Rajaie Namas**<sup>1</sup>, Corey Powell<sup>2</sup> and J. Michelle Kahlenberg<sup>3</sup>, <sup>1</sup>Department of Medicine [Division of Rheumatology], University of Michigan, Ann Arbor, MI, <sup>2</sup>Consulting for Statistics, Computing and Analytics Research, University of Michigan, Ann Arbor, MI, <sup>3</sup>Internal Medicine, Division of Rheumatology, Division of Rheumatology, University of Michigan Medical Center, Ann Arbor, MI

**Abstract Number: 789**

**Use of Nominal Group Technique to Determine Candidate Items for SLE Classification Criteria Development**

**Sindhu R. Johnson**<sup>1</sup>, Dinesh Khanna<sup>2</sup>, Ricard Cervera<sup>3</sup>, Nathalie Costedoat-Chalumeau<sup>4</sup>, Dafna D. Gladman<sup>5</sup>, Bevra H. Hahn<sup>6</sup>, Falk Hiepe<sup>7</sup>, Jorge Sanchez-Guerrero<sup>8</sup>, Elena Massarotti<sup>9</sup>, Dimitrios Boumpas<sup>10</sup>, Karen H. Costenbader<sup>11</sup>, David I. Daikh<sup>12</sup>, David Jayne<sup>13</sup>, Thomas Dörner<sup>14</sup>, Diane L. Kamen<sup>15</sup>, Marta Mosca<sup>16</sup>, Rosalind Ramsey-Goldman<sup>17</sup>, Josef S. Smolen<sup>18</sup>, David Wofsy<sup>19</sup> and Martin Aringer<sup>20</sup>, <sup>1</sup>Division of Rheumatology, Toronto Western Hospital, Mount Sinai Hospital, Institute of Health Policy, Management and Evaluation, University of Toronto, Toronto, ON, Canada, <sup>2</sup>University of Michigan, Ann Arbor, MI, <sup>3</sup>Department of Autoimmune Diseases, Hospital Clinic, Barcelona, Spain, <sup>4</sup>Internal Medicine, Cochin University Hospital, Paris, France, <sup>5</sup>Rheumatology, Centre for Prognosis Studies in the Rheumatic Diseases, Toronto Western Hospital and University of Toronto, Toronto, ON, Canada, <sup>6</sup>Division of Rheumatology, UCLA David Geffen School of Medicine, Los Angeles, CA, <sup>7</sup>Charité – Universitätsmedizin, Berlin, Germany, <sup>8</sup>University of Toronto, Toronto, Canada; Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico city, Mexico, <sup>9</sup>Rheumatology, Immunology, & Allergy, Harvard Medical School, Brigham & Women's Hosp, Boston, MA, <sup>10</sup>University of Athens, Athens, Greece, <sup>11</sup>Rheumatology, Immunology and Allergy, Brigham and Women's Hospital and Harvard Medical School, Boston, MA, <sup>12</sup>Rheumatology, UCSF/VA Medical Center, San Francisco, CA, <sup>13</sup>Medicine, Addenbrooke's Hospital, Cambridge, United Kingdom, <sup>14</sup>Department of Medicine/Rheumatology and Clinical Immunology, Charité University Hospital, Berlin, Germany, <sup>15</sup>Medicine/Rheumatology & Immunology, Medical University of South Carolina, Charleston, SC, <sup>16</sup>Clinical and Experimental Medicine, University of Pisa, Rheumatology Unit, Pisa, Italy, <sup>17</sup>FSM, Northwestern University, Chicago, IL, <sup>18</sup>Medical University of Vienna and Hietzing Hospital, Vienna, Austria, <sup>19</sup>University of California, San Francisco, San Francisco, CA, <sup>20</sup>Medicine III, University Medical Center and Faculty of Medicine at the TU Dresden, Dresden, Germany

**Session: Health Services Research I: Workforce and Quality of Care in Rheumatology**

Time: 2:30 - 4:00 PM

Type: ACR Concurrent Abstract Session

**Abstract Number: 928**

**2015 ACR/ARHP Workforce Study in the United States: A Maldistribution of Adult Rheumatologists**

**Katrina Lawrence-Wolff**<sup>1</sup>, Bernard Hildebrand<sup>1</sup>, Seetha Monrad<sup>2</sup>, Marcia Ditmyer<sup>3</sup>, John Fitzgerald<sup>4</sup>, Alan Erickson<sup>5</sup>, Anne R. Bass<sup>6</sup> and Daniel Battafarano<sup>7</sup>, <sup>1</sup>Rheumatology, San Antonio Military Medical Center, San Antonio, TX, <sup>2</sup>Internal Medicine/Rheumatology, University of Michigan, Ann Arbor, MI, <sup>3</sup>University of Nevada, Las Vegas, NV, <sup>4</sup>Rheumatology, UCLA, Los Angeles, CA, <sup>5</sup>University of Nebraska, LaVista, NE, <sup>6</sup>Rheumatology, Hospital for Special Surgery, New York, NY, <sup>7</sup>Medicine, San Antonio Military Medical Center, San Antonio, TX

**Session: Systemic Sclerosis, Fibrosing Syndromes, and Raynaud's – Clinical Aspects and Therapeutics I**

Time: 2:30 - 4:00 PM

Type: ACR Concurrent Abstract Session

**Abstract Number: 969**

**Safety and Efficacy of Subcutaneous Tocilizumab in Early Systemic Sclerosis: Results from the Open-Label Period of a Phase 2 Randomized, Controlled Trial**

**Dinesh Khanna**<sup>1</sup>, Christopher Denton<sup>2</sup>, Helen Spotswood<sup>3</sup>, Angelika Jahreis<sup>4</sup>, Jacob M. van Laar<sup>5</sup>, Laura Burke<sup>6</sup>, Celia J. F. Lin<sup>4</sup>, Janet E. Pope<sup>7</sup>, Yannick Allanore<sup>8</sup>, Ulf Müller-Ladner<sup>9</sup>, Jeffrey Siegel<sup>6</sup>, Daniel E. Furst<sup>10</sup> and faSScinate Clinical Trial Investigators, <sup>1</sup>University of Michigan, Ann Arbor, MI, <sup>2</sup>Division of Medicine, Centre for Rheumatology and Connective Tissue Disease, University College London, London, United Kingdom, <sup>3</sup>Roche Products Ltd., Welwyn Garden City, CA, United Kingdom, <sup>4</sup>Genentech, South San Francisco, CA, <sup>5</sup>University Medical Center Utrecht, Utrecht, Netherlands, <sup>6</sup>Roche Products Ltd., Welwyn Garden City, United Kingdom, <sup>7</sup>University of Western Ontario, St Joseph's Health Care, London, ON, Canada, <sup>8</sup>Rheumatology, Paris Descartes University, Paris, France, <sup>9</sup>Justus-Liebig-University Giessen, Department of Internal Medicine and Rheumatology, Kerckhoff-Klinik, Bad Nauheim, Germany, Bad-Nauheim, Germany, <sup>10</sup>University of California, Los Angeles, Los Angeles, CA

**Abstract Number: 971**

**Reliability and Minimal Clinically Important Differences (MCID) of Forced Vital Capacity: Post-Hoc Analyses from the Scleroderma Lung Studies (SLS-I and II)**

**Suzanne Kafaja**<sup>1</sup>, Philip J. Clements<sup>2</sup>, Holly Wilhalme<sup>3</sup>, Daniel E. Furst<sup>4</sup>, Chi-hong Tseng<sup>2</sup>, Kim Hyun<sup>5</sup>, Jonathan Goldin<sup>3</sup>, Elizabeth R. Volkman<sup>3</sup>, Michael Roth<sup>2</sup>, Donald P. Tashkin<sup>6</sup> and Dinesh Khanna<sup>7,1</sup>, <sup>1</sup>Medicine/Rheumatology, University of California Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>2</sup>Medicine, University of California, Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>3</sup>University of California, Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>4</sup>David Geffen School of Medicine at UCLA, Los Angeles, CA, <sup>5</sup>Radiology, David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, CA, <sup>6</sup>David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, CA, <sup>7</sup>University of Michigan, Ann Arbor, MI

**Session: Health Services Research I: Workforce and Quality of Care in Rheumatology**

Time: 2:30 - 4:00 PM

Type: ACR Concurrent Abstract Session

**Abstract Number: 927**

**2015 ACR/ARHP Workforce Study in the United States: Pediatric Rheumatologist Supply and Demand Projections for 2015-2030**

**Daniel Battafarano**<sup>1</sup>, Seetha Monrad<sup>2</sup>, Marcia Ditmyer<sup>3</sup>, Lisa Imundo<sup>4</sup> and Marisa Klein-Gitelman<sup>5,1</sup>, <sup>1</sup>Medicine, San Antonio Military Medical Center, San Antonio, TX, <sup>2</sup>Internal Medicine/Rheumatology, University of Michigan, Ann Arbor, MI, <sup>3</sup>University of Nevada, Las Vegas, NV, <sup>4</sup>Pediatrics, Columbia University, New York, NY, <sup>5</sup>Pediatrics, Northwestern University, Chicago, IL

**Session: Cytokines, Mediators, Cell-Cell Adhesion, Cell Trafficking and Angiogenesis I**

Time: 2:30 - 4:00 PM

Type: ACR Concurrent Abstract Session

**Abstract Number: 922**

**Negative Regulation of IL-17 Receptor Signaling By Regnase-1 Limits Immunopathology in a Mouse Model of Psoriatic Skin Disease**

**Sarah L. Gaffen**<sup>1</sup>, Leticia Monin<sup>2</sup>, Nicole Ward<sup>3</sup>, Johann Gudjonsson<sup>4</sup>, Abhishek Garg<sup>5</sup>, Alicia Mathers<sup>2</sup> and Pappachan Kolattukudy<sup>6,1</sup>, <sup>1</sup>Division of Rheumatology and Clinical Immunology, Department of Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA, <sup>2</sup>University of Pittsburgh, Pittsburgh, PA, <sup>3</sup>Case Western Reserve University, Cleveland, OH, <sup>4</sup>Dermatology, University of Michigan, Ann Arbor, MI, <sup>5</sup>Rheumatology/Clinical Immun, University of Pittsburgh, Pittsburgh, PA, <sup>6</sup>University of Central Florida, Orlando, FL

**Session: Fibromyalgia, Soft Tissue Disorders, Regional and Specific Clinical Pain Syndromes**

Time: 4:30 - 6:00 PM

Type: ACR Concurrent Abstract Session

**Abstract Number: 994**

**Validation Studies of the American College of Rheumatology (ACR) 2010 Fibromyalgia Diagnostic Criteria and the 2011 Self-Report Modification for Survey and Clinical Research**

Frederick Wolfe<sup>1</sup>, Daniel J. Clauw<sup>2</sup>, MaryAnn FitzCharles<sup>3</sup>, Don Goldenerberg<sup>4</sup>, Winfried Häuser<sup>5</sup>, Robert S. Katz<sup>6</sup>, Philip J. Mease<sup>7</sup>, Anthony Russell<sup>8</sup>, I Jon Russell<sup>9</sup> and Brian Walitt<sup>10</sup>, <sup>1</sup>National Data Bank, Wichita, KS, <sup>2</sup>Chronic Pain & Fatigue Research Center, University of Michigan, Ann Arbor, MI, <sup>3</sup>Rheumatology, McGill University, Montreal, QC, Canada, <sup>4</sup>Newton-Wellesley Hospital and Tufts University School of Medicine, Newton, MA., Newton, MA, <sup>5</sup>Department of Psychosomatic Medicine and Psychotherapy, Technische Universität München, Munich, Germany, <sup>6</sup>Rush University Medical Center, Chicago, IL, <sup>7</sup>Swedish Medical Center and University of Washington, Seattle, WA, <sup>8</sup>Medicine, University of Alberta, Edmonton, AB, Canada, <sup>9</sup>Arthritis & Osteoporosis Ctr of South Texas, San Antonio, TX, <sup>10</sup>National Institutes of Health, National Institute of Nursing Research, Bethesda, DC

**Abstract Number: 997**

**2016 Revisions to the 2010/2011 Fibromyalgia Diagnostic Criteria**

Frederick Wolfe<sup>1</sup>, Daniel J. Clauw<sup>2</sup>, MaryAnn FitzCharles<sup>3</sup>, Don Goldenerberg<sup>4</sup>, Winfried Häuser<sup>5</sup>, Robert S. Katz<sup>6</sup>, I Jon Russell<sup>7</sup>, Philip J. Mease<sup>8</sup>, Anthony Russell<sup>9</sup> and Brian Walitt<sup>10</sup>, <sup>1</sup>National Data Bank, Wichita, KS, <sup>2</sup>Chronic Pain & Fatigue Research Center, University of Michigan, Ann Arbor, MI, <sup>3</sup>Rheumatology, McGill University, Montreal, QC, Canada, <sup>4</sup>Newton-Wellesley Hospital and Tufts University School of Medicine, Newton, MA., Newton, MA, <sup>5</sup>Department of Psychosomatic Medicine and Psychotherapy, Technische Universität München, Munich, Germany, <sup>6</sup>Rush University Medical Center, Chicago, IL, <sup>7</sup>Arthritis & Osteoporosis Ctr of South Texas, San Antonio, TX, <sup>8</sup>Swedish Medical Center and University of Washington, Seattle, WA, <sup>9</sup>Medicine, University of Alberta, Edmonton, AB, Canada, <sup>10</sup>National Institutes of Health, National Institute of Nursing Research, Bethesda, DC

**Session: Innate Immunity and Rheumatic Disease**

Time: 4:30 - 6:00 PM

Type: ACR Concurrent Abstract Session

**Abstract Number: 1007**

**Interferon Regulatory Factor 1 Is the Key Driver of Inflammasome Activity in Systemic Lupus Erythematosus**

Jianhua Liu<sup>1</sup> and J. Michelle Kahlenberg<sup>2</sup>, <sup>1</sup>Internal Medicine, Division of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Internal Medicine, Division of Rheumatology, Division of Rheumatology, University of Michigan Medical Center, Ann Arbor, MI

**Monday, November 14**

**Session: Antiphospholipid Syndrome - Poster I**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session B

**Abstract Number: 1064**

**Antiphospholipid Syndrome Alliance for Clinical Trials & International Networking Registry Analysis: Direct Oral Anticoagulant Use among Antiphospholipid Syndrome Patients**

Ozan Unlu<sup>1</sup>, Hannah Cohen<sup>2</sup>, Maria Jose Cuadrado<sup>3</sup>, Paul R. Fortin<sup>4</sup>, Guilherme Ramires de Jesus<sup>5</sup>, Maria Gerosa<sup>6</sup>, Jason S Knight<sup>7</sup>, Vittorio Pengo<sup>8</sup>, Michelle Petri<sup>9</sup>, Esther Rodriguez-Almaraz<sup>10</sup>, Stephane Zuily<sup>11,12</sup>, Doruk Erkan<sup>13</sup> and On Behalf of APS ACTION<sup>14</sup>, <sup>1</sup>Barbara Volcker Center for Women and Rheumatic Diseases, Hospital for Special Surgery, Weill Cornell Medicine, New York, NY, <sup>2</sup>University College London, London, United Kingdom, <sup>3</sup>Lupus Research Unit, The Rayne Institute, St Thomas' Hospital, London, United Kingdom, <sup>4</sup>Medicine, CHU de Québec - Université Laval, Québec, QC, Canada, <sup>5</sup>Department of Obstetrics, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Brazil, <sup>6</sup>University of Milan, Istituto Ortopedico Gaetano Pini, Milano, Italy, <sup>7</sup>University of Michigan, Ann Arbor, MI, <sup>8</sup>Azienda Ospedaliera of Padova, University of Padova, Padova, Italy, <sup>9</sup>Rheumatology Division, Johns Hopkins University School of Medicine, Baltimore, MD, <sup>10</sup>Servicio De Reumatología, Hospital 12 De Octubre., Madrid, Spain, <sup>11</sup>CHU de Nancy, Regional Competence Centre For Rare Vascular And Systemic Autoimmune Diseases, Vascular Medicine Division, NANCY, France, <sup>12</sup>Inserm, UMR\_S 1116, Nancy, France, <sup>13</sup>Rheumatology, Hospital for Special Surgery- Weill Cornell Medicine, New York, NY, <sup>14</sup>., New York, NY



**Session: B Cell Biology and Targets in Autoimmune Disease - Poster I: SLE and Sjögren's**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session B

**Abstract Number: 1084**

**Antibodies to Native Vimentin in Lupus: Characterization, Isotypes, Origins, and Associations with Other Autoimmune Pathways**

Andrew Kinloch<sup>1</sup>, Yuta Asano<sup>1</sup>, **Rene Bermea**<sup>2</sup>, Kichul Ko<sup>2</sup>, Carole Henry<sup>1</sup>, Nirit Mor-Vaknin<sup>3</sup>, David Markovitz<sup>4</sup>, Patrick Wilson<sup>1</sup> and Marcus R. Clark<sup>5</sup>, <sup>1</sup>Gwen Knapp Center for Lupus and Immunology Research, University of Chicago, Chicago, IL, <sup>2</sup>Medicine, University of Chicago, Chicago, IL, <sup>3</sup>Infectious Diseases, University of Michigan, Ann Arbor, MI, <sup>4</sup>Internal Medicine, University of Michigan, Ann Arbor, MI, <sup>5</sup>Rheumatology and Knapp Center for Lupus Research, University of Chicago, Chicago, IL

**Session: Cytokines, Mediators, Cell-Cell Adhesion, Cell Trafficking and Angiogenesis - Poster I**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session B

**Abstract Number: 1117**

**EGCG Down-Regulates TNF- $\alpha$ -Induced Mcl-1 Expression By Modulating Mule/Huwe1,  $\beta$ -TrCP, and USP9X Ubiquitin/De-Ubiquitin Ligases in Rheumatoid Arthritis Synovial Fibroblasts**

**Nahid Akhtar**<sup>1</sup>, Sadiq Umar<sup>2</sup>, David Fox<sup>3</sup> and Salahuddin Ahmed<sup>1</sup>, <sup>1</sup>Department of Pharmaceutical Sciences, Washington State University, College of Pharmacy, Spokane, WA, <sup>2</sup>Department of Pharmaceutical Science, Washington State University, College of Pharmacy, Spokane, WA, <sup>3</sup>Department of Medicine [Division of Rheumatology], University of Michigan, Ann Arbor, MI

**Abstract Number: 1130**

**Aminopeptidase N/CD13 Induces Monocyte Migration in Vitro and In Vivo and Signals through GPCR, Erk1/2, Jnk, Src, and NF $\kappa$ B**

**Yuxuan Du**<sup>1</sup>, W. Alexander Stinson<sup>2</sup>, Phillip Campbell<sup>1</sup>, Rachel Morgan<sup>1</sup>, Nicholas Lepore<sup>1</sup>, Ellen Cealey<sup>1</sup>, Jonatan Hervoso<sup>1</sup>, Huadong Cui<sup>2</sup>, David Fox<sup>3</sup> and M. Asif Amin<sup>4</sup>, <sup>1</sup>Rheumatology, Division of Rheumatology, University of Michigan Medical Center, Ann Arbor, MI, <sup>2</sup>Division of Rheumatology, University of Michigan Medical Center, Ann Arbor, MI, <sup>3</sup>Department of Medicine [Division of Rheumatology], University of Michigan, Ann Arbor, MI, <sup>4</sup>Internal Medicine, Division of Rheumatology, University of Michigan Medical Center, Ann Arbor, MI

**Abstract Number: 1131**

**Regulation of Rheumatoid Arthritis Synovial Fibroblast Cytokine Production By Inhibitor of DNA Binding-1 Via Crispr/Cas9 Transfection**

**Ray A. Ohara**<sup>1</sup>, Gautam Edhayan<sup>1</sup>, Thomas L. Saunders<sup>2</sup>, Thomas M. Lanigan<sup>3</sup>, Rachel Morgan<sup>1</sup>, W. Alexander Stinson<sup>4</sup>, Phillip L. Campbell<sup>5</sup>, Jerry Graham<sup>4</sup>, David A. Fox<sup>5</sup> and Jeffrey H. Ruth<sup>5</sup>, <sup>1</sup>Division of Rheumatology, University of Michigan Medical Center, Ann Arbor, MI, <sup>2</sup>Molecular Medicine and Genetics, University of Michigan Medical School, Ann Arbor, MI, <sup>3</sup>Vector Core, University of Michigan Medical School, Ann Arbor, MI, <sup>4</sup>Division of Rheumatology, University of Michigan Medical School, Ann Arbor, MI, <sup>5</sup>Internal Medicine, Division of Rheumatology, University of Michigan Medical School, Ann Arbor, MI

**Session: Education - Poster**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session B

**Abstract Number: 1140**

**The Future of Rheumatology: Pediatric and Adult Fellows-in-Training Results from the 2015 ACR/ARHP Workforce Study**

**Jonathan S. Hausmann**<sup>1,2</sup>, Seetha Monrad<sup>3</sup>, Marcia Ditmyer<sup>4</sup>, Marcy B. Bolster<sup>5</sup>, Lisa F. Imundo<sup>6</sup> and Daniel Battafarano<sup>7</sup>, <sup>1</sup>Rheumatology, Beth Israel Deaconess Medical Center, Boston, MA, <sup>2</sup>Rheumatology, Boston Children's Hospital, Boston, MA, <sup>3</sup>Internal Medicine/Rheumatology, University of Michigan, Ann Arbor, MI, <sup>4</sup>University of Nevada, Las Vegas, NV, <sup>5</sup>Massachusetts General Hospital, Boston, MA, <sup>6</sup>Pediatrics, Childrens Hospital of New York, New York, NY, <sup>7</sup>Medicine, San Antonio Military Medical Center, San Antonio, TX

**Session: Genetics, Genomics and Proteomics - Poster II**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session B

**Abstract Number: 1219**

**Differential Peripheral Blood DNA Methylation Patterns Are Predictive of Radiographic OA Progression**

**Matlock A. Jeffries**<sup>1</sup>, Madison Andrews<sup>2</sup>, Judith A. James<sup>3</sup>, Mary Beth Humphrey<sup>4</sup> and **Amr H. Sawalha**<sup>5</sup>, <sup>1</sup>Rheumatology, University of Oklahoma Health Sciences Center, Oklahoma City, OK, <sup>2</sup>Department of Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, OK, <sup>3</sup>Arthritis and Clinical Immunology Research Program, Oklahoma Medical Research Foundation, Oklahoma City, OK, <sup>4</sup>Medicine/Rheumatology, University of Oklahoma Health Sciences Center, Oklahoma City, OK, <sup>5</sup>Division of Rheumatology, University of Michigan, Ann Arbor, MI

**Session: Health Services Research - Poster II**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session B

**Abstract Number: 1228**

**Prescribing for Children with Rheumatologic Disease: Differences Between Pediatric and Adult Rheumatologists**

Heather Van Mater<sup>1</sup>, **Stephen Balevic**<sup>2</sup>, **Gary Freed**<sup>3</sup> and Sarah J. Clark<sup>4</sup>, <sup>1</sup>Pediatrics/Pediatric Rheumatology, Duke University Medical Center, Durham, NC, <sup>2</sup>Rheumatology/Pediatric Rheumatology, Duke University Medical Center, Durham, NC, <sup>3</sup>University of Michigan Health System, Ann Arbor, MI, <sup>4</sup>Pediatrics & Communicable Diseases, University of Michigan Health System, Ann Arbor, MI

**Session: Healthcare Disparities in Rheumatology - Poster II**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session B

**Abstract Number: 1248**

**Access to Care: The Patient Perspective from the 2015 ACR/ARHP Workforce Study**

**Seetha Monrad**<sup>1</sup>, Lisa Imundo<sup>2</sup>, Daniel Battafarano<sup>3</sup> and Marcia Ditmyer<sup>4</sup>, <sup>1</sup>Internal Medicine/Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Pediatrics, Columbia University, New York, NY, <sup>3</sup>Medicine, San Antonio Military Medical Center, San Antonio, TX, <sup>4</sup>University of Nevada, Las Vegas, NV

**Session: Quality Measures and Quality of Care - Poster II**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session B

**Abstract Number: 1413**

**Establishing Clinical Severity for Patient Reported Outcomes Measurement Information System Measures in Adult Patients with Rheumatic Diseases**

**Vivek Nagaraja**<sup>1</sup>, Constance Mara<sup>2</sup>, **Carole V. Dodge**<sup>3</sup>, **David Fox**<sup>4</sup>, **Puja Khanna**<sup>5</sup>, **Timothy Laing**<sup>4</sup>, **W Joseph McCune**<sup>6</sup>, **Rajaie Namas**<sup>4</sup>, **Debra Bancroft Rizzo**<sup>4</sup>, **Kelly Vanoverbeke**<sup>4</sup>, **Amber Young**<sup>7</sup>, **Maha Almackenzie**<sup>1</sup> and **Dinesh Khanna**<sup>8</sup>, <sup>1</sup>Department of Medicine [Division of Rheumatology], University of Toledo, Toledo, OH, <sup>2</sup>James M. Anderson Center for Health Systems Excellence, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, <sup>3</sup>Physical Medicine and Rehabilitation [Occupational Therapy], University of Michigan, Ann Arbor, MI, <sup>4</sup>Department of Medicine [Division of Rheumatology], University of Michigan, Ann Arbor, MI, <sup>5</sup>Rheumatology, University of Michigan, Ann Arbor, MI, <sup>6</sup>Int Med/ Rheum, University of Michigan, Ann Arbor, MI, <sup>7</sup>Department of Internal Medicine, Division of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>8</sup>University of Michigan, Ann Arbor, MI

**Session: Systemic Lupus Erythematosus – Human Etiology and Pathogenesis - Poster I**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session B

**Abstract Number: 1821**

**Demethylated CD4+CD28+KIR+CD11ahi T Cells Are Characterized by a Pro-Inflammatory Transcriptome and Interact with Genetic Risk to Predict Disease Activity in Lupus**

**Paul Renauer**<sup>1</sup>, **Patrick Coit**<sup>1</sup>, **Faith Strickland**<sup>2</sup>, **Elizabeth Gensterblum**<sup>1</sup>, **Mikhail Ognenovski**<sup>1</sup>, **Bruce Richardson**<sup>3</sup> and **Amr Sawalha**<sup>4</sup>, <sup>1</sup>Division of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Rheumatology, University of Michigan, Ann Arbor, MI, <sup>3</sup>Rheumatology, University of Michigan and the Ann Arbor VA, Ann Arbor, MI, <sup>4</sup>Internal Medicine-Rheumatology, University of Michigan, Ann Arbor, MI

**Session: Systemic Sclerosis, Fibrosing Syndromes, and Raynaud's – Clinical Aspects and Therapeutics - Poster II**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session B

**Abstract Number: 1859**

**Fucosyltransferase-1 Mediated Fucosylation of TGF- $\beta$ R1 Is Critical to TGF- $\beta$  Signaling in Scleroderma and in Bleomycin-Induced Fibrosis**

W. Alexander Stinson<sup>1</sup>, Pei-Suen Tsou<sup>1,2</sup>, Yuxuan Du<sup>3</sup>, Huadong Cui<sup>1</sup>, Ellen Cealey<sup>3</sup>, Nicholas Lepore<sup>4</sup>, Ray A. Ohara<sup>1</sup>, Gautam Edhayan<sup>1</sup>, Sarah Arwani<sup>1</sup>, Rachel Morgan<sup>1</sup>, Dinesh Khanna<sup>1,2</sup>, David A. Fox<sup>1</sup> and M. Asif Amin<sup>5</sup>, <sup>1</sup>Division of Rheumatology, University of Michigan Medical Center, Ann Arbor, MI, <sup>2</sup>University of Michigan Scleroderma Program, Ann Arbor, MI, <sup>3</sup>Rheumatology, Division of Rheumatology, University of Michigan Medical Center, Ann Arbor, MI, <sup>4</sup>University of Michigan, Division of Rheumatology, University of Michigan Medical Center, Ann Arbor, MI, <sup>5</sup>Internal Medicine, Division of Rheumatology, University of Michigan Medical Center, Ann Arbor, MI

**Abstract Number: 1880**

**A Large Proportion of Patients in an Early Systemic Sclerosis-Associated Interstitial Lung Disease Cohort Have Coexisting Pulmonary Hypertension**

Amber Young<sup>1</sup>, Caitlyn Fisher<sup>1</sup>, Rajaie Namas<sup>2</sup>, Holly Wilhalme<sup>3</sup> and Dinesh Khanna<sup>4</sup>, <sup>1</sup>Department of Internal Medicine, Division of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Department of Medicine [Division of Rheumatology], University of Michigan, Ann Arbor, MI, <sup>3</sup>University of California, Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>4</sup>University of Michigan, Ann Arbor, MI

**Session: Vasculitis - Poster II: ANCA-Associated Vasculitis**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session B

**Abstract Number: 1947**

**Ocular Manifestations of ANCA-Associated Vasculitis**

Sophie Cai<sup>1,2</sup>, George Papaliodis<sup>2,3</sup>, Leo Lu<sup>4</sup>, Hyon K. Choi<sup>5</sup>, Ulrich Specks<sup>6</sup>, Peter A. Merkel<sup>7</sup>, Philip Seo<sup>8</sup>, Robert F. Spiera<sup>9</sup>, Carol A. Langford<sup>10</sup>, Gary S. Hoffman<sup>11</sup>, Cees G.M. Kallenberg<sup>12</sup>, William St Clair<sup>13</sup>, Nadia Tchao<sup>14</sup>, Fernando Fervenza<sup>6</sup>, Paul A. Monach<sup>15</sup>, W Joseph McCune<sup>16</sup>, John H. Stone<sup>17</sup>, Eli Miloslavsky<sup>18</sup> and RAVE-ITN and WGET Research Groups, <sup>1</sup>Ophthalmology, Johns Hopkins Wilmer Eye Institute, Baltimore, MD, <sup>2</sup>Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, MA, <sup>3</sup>Uveitis and Immunology, Massachusetts Eye and Ear, Boston, MA, <sup>4</sup>Allergy, Immunology, and Rheumatology, Massachusetts General Hospital, Harvard Medical School, Boston, MA, <sup>5</sup>Rheumatology, Allergy, and Immunology, Massachusetts General Hospital, Harvard Medical School, Boston, MA, <sup>6</sup>Mayo Clinic, Rochester, MN, <sup>7</sup>Division of Rheumatology, University of Pennsylvania, Philadelphia, PA, <sup>8</sup>Medicine, Johns Hopkins University, Baltimore, MD, <sup>9</sup>Hospital for Special Surgery, Cornell, New York, NY, <sup>10</sup>Rheumatic and Immunologic Diseases, Cleveland Clinic, Cleveland, OH, <sup>11</sup>Rheumatology, Cleveland Clinic, Cleveland, OH, <sup>12</sup>Rheumatology and Clinical Immunology, University of Groningen, University Medical Center Groningen, Groningen, Netherlands, <sup>13</sup>Rheumatology, Duke University Medical Center, Durham, NC, <sup>14</sup>Immune Tolerance Network, San Francisco, CA, <sup>15</sup>Rheumatology, Boston University School of Medicine, Boston, MA, <sup>16</sup>Int Med/ Rheum, University of Michigan, Ann Arbor, MI, <sup>17</sup>Massachusetts General Hospital Rheumatology Unit, Harvard Medical School, Boston, MA, <sup>18</sup>Division of Rheumatology, Massachusetts General Hospital, Harvard Medical School, Boston, MA

**Session: Plenary Sessions II: Discovery 2016**

Time: 11:00 AM- 12:30 PM

Type: ACR Plenary Session

**Abstract Number: 1960**

**2015 ACR/ARHP Workforce Study in the U.S.: The Role of Graduate Medical Education (GME) in Adult Rheumatology**

Marcy Bolster<sup>1</sup>, Anne R. Bass<sup>2</sup>, Jonathan S. Hausmann<sup>3</sup>, Marcia Ditmyer<sup>4</sup>, Seetha Monrad<sup>5</sup> and Daniel Battafarano<sup>6</sup>, <sup>1</sup>Rheumatology, Allergy and Immunology, Massachusetts General Hospital, Boston, MA, <sup>2</sup>Rheumatology, Hospital for Special Surgery Weill Cornell Medical College, New York, NY, <sup>3</sup>Rheumatology, Beth Israel Deaconess Medical Center, Boston, MA, <sup>4</sup>Academy for Academic Research, Las Vegas, NV, <sup>5</sup>Internal Medicine/Rheumatology, University of Michigan, Ann Arbor, MI, <sup>6</sup>Medicine, San Antonio Military Medical Center, San Antonio, TX

**Session: Systemic Sclerosis, Fibrosing Syndromes, and Raynaud's – Clinical Aspects and Therapeutics II**

Time: 2:30 - 4:00 PM

Type: ACR Concurrent Abstract Session

**Abstract Number: 2017**

**Performance of Modified Rodnan Skin Score in Early Diffuse Cutaneous Scleroderma-Analysis from 4 International Cohorts**

Dinesh Khanna<sup>1</sup>, Susanna Proudman<sup>2,3</sup>, Tracy M. Frech<sup>4</sup>, Svetlana Nihtyanova<sup>5</sup>, Robyn T. Domsic<sup>6</sup>, Veronica J. Berrocal<sup>7</sup>, Wendy Stevens<sup>8</sup>, Mandana Nikpour<sup>9</sup> and Christopher P. Denton<sup>10</sup>, <sup>1</sup>University of Michigan, Ann Arbor, MI, <sup>2</sup>Rheumatology Unit, Royal Adelaide Hospital, Adelaide, Australia, <sup>3</sup>Discipline of Medicine, University of Adelaide, Adelaide, Australia, <sup>4</sup>Div of Rheumatology, University of Utah Medical Ctr, Salt Lake City, UT, <sup>5</sup>Centre for Rheumatology and Connective Tissue Diseases, University College London Medical School, Royal Free Hospital, London, United Kingdom, <sup>6</sup>Medicine - Rheumatology, University of Pittsburgh, Pittsburgh, PA, <sup>7</sup>Div of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>8</sup>Rheumatology, St. Vincent's Hospital, Melbourne, Australia, <sup>9</sup>Melbourne University, Melbourne, Australia, <sup>10</sup>Centre of Rheumatology and Connective Tissue Diseases, University College London, London, United Kingdom

**Session: Antiphospholipid Syndrome**

Time: 2:30 - 4:00 PM

Type: ACR Concurrent Abstract Session

**Abstract Number: 1961**

**Identification of Novel Genetic Susceptibility Loci in Primary Antiphospholipid Syndrome**

Elizabeth Gensterblum<sup>1</sup>, Travis Hughes<sup>2</sup>, Manuel Martínez-Bueno<sup>3</sup>, Maria Orietta Borghi<sup>4</sup>, Guillermo J. Pons-Estel<sup>5</sup>, Gerard Espinosa<sup>6</sup>, Alexandra Zhernakova<sup>7</sup>, Cisca Wijmenga<sup>8</sup>, Ricard Cervera<sup>5</sup>, Pier Luigi Meroni<sup>9</sup>, Marta Alarcón-Riquelme<sup>3,10</sup> and Amr Sawalha<sup>1</sup>, <sup>1</sup>Division of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Division of Health Sciences and Technology, Harvard Medical School, Boston, MA, <sup>3</sup>Center for Genomics and Oncological Research (GENYO), Pfizer-University of Granada-Andalusian Regional Government, Health Sciences Technology Park, Granada, Spain, <sup>4</sup>University of Milan, IRCCS Istituto Auxologico Italiano, Milan, Italy, <sup>5</sup>Department of Autoimmune Diseases, Institut Clínic de Medicina i Dermatologia, Hospital Clínic de Barcelona, Barcelona, Spain, <sup>6</sup>Autoimmune Diseases Department, Hospital Clínic de Barcelona, Barcelona, Spain, <sup>7</sup>Rheumatology and Clinical Immunology, University of Groningen, University Medical Center, Groningen, Netherlands, <sup>8</sup>Genetics, University Medical Hospital Groningen, University of Groningen, Groningen, Netherlands, <sup>9</sup>Hospital G.Pini, University of Milano, IRCCS Institute Auxologico Italiano, Milan, Italy, <sup>10</sup>Unit for Chronic Inflammatory Diseases, Institute for Environmental Medicine, Karolinska Institutet, Stockholm, Sweden

**Abstract Number: 1962**

**Antiphospholipid Syndrome Neutrophils Are Characterized By Overexpression of P-Selectin Glycoprotein Ligand 1, a Potential Therapeutic Target**

Jason S Knight<sup>1</sup>, Patrick S. Coit<sup>1</sup>, He Meng<sup>1</sup>, Srilakshmi Yalavarthi<sup>1</sup>, Paul Renauer<sup>1</sup>, Robert C Grenn<sup>1</sup>, Levi F Mazza<sup>1</sup>, Hui Wang<sup>2</sup>, Daniel T Eitzman<sup>2</sup> and Amr H Sawalha<sup>1</sup>, <sup>1</sup>Division of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Division of Cardiovascular Medicine, University of Michigan, Ann Arbor, MI

**Session: ARHP IV: Clinical Practice, Patient Care and Health Services**

Time: 4:30 - 6:00 PM

Type: ARHP Concurrent Abstract Session

**Abstract Number: 2085**

**Minding the Gap: the Use of Nurse Practitioners and Physician Assistants in U.S. Rheumatology Practice to Affect Rheumatology Workforce Shortages**

Benjamin J Smith<sup>1</sup>, Marcy B. Bolster<sup>2</sup>, Marcia Ditmyer<sup>3</sup>, Karla B. Jones<sup>4</sup>, Seetha Monrad<sup>5</sup> and Daniel Battafarano<sup>6</sup>, <sup>1</sup>Rheumatology, McIntosh Clinic, P.C., Thomasville, GA, <sup>2</sup>Massachusetts General Hospital, Boston, MA, <sup>3</sup>University of Nevada, Las Vegas, NV, <sup>4</sup>Rheumatology, Nationwide Children's, Columbus, OH, <sup>5</sup>Medicine, University of Michigan, Ann Arbor, MI, <sup>6</sup>Medicine, San Antonio Military Medical Center, San Antonio, TX

**Session: Systemic Lupus Erythematosus – Animal Models**

Time: 4:30 - 6:00 PM

Type: ACR Concurrent Abstract Session

**Abstract Number: 2057**

**TLR-7-Mediated Lupus Nephritis Flares Are Independent of Type I Interferon Signaling**

Sonya Wolf<sup>1</sup>, Tamra J. Reed<sup>2</sup>, Chaim O. Jacob<sup>3</sup> and J. Michelle Kahlenberg<sup>4</sup>, <sup>1</sup>Internal Medicine, Division of Rheumatology, University of Michigan Medical School, Ann Arbor, MI, <sup>2</sup>Internal Medicine, Rheumatology, University of Michigan, Ann Arbor, MI, <sup>3</sup>Medicine/Div of Rheumatology, USC School of Medicine, Los Angeles, CA, <sup>4</sup>Internal Medicine, Division of Rheumatology, Division of Rheumatology, University of Michigan Medical Center, Ann Arbor, MI

**Abstract Number: 2058**

**Ectonucleotidase-Mediated Protection of Lupus Mice from Exaggerated Immune Responses and Arterial Vasculopathy**

Jason S Knight<sup>1</sup>, Levi F Mazza<sup>1</sup>, Srilakshmi Yalavarthi<sup>1</sup>, Yogen Kanthi<sup>2</sup> and David J Pinsky<sup>2</sup>, <sup>1</sup>Division of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Division of Cardiovascular Medicine, University of Michigan, Ann Arbor, MI

**Tuesday, November 15**

**Session: Fibromyalgia, Soft Tissue Disorders, Regional and Specific Clinical Pain Syndromes - Poster II: Clinical Focus**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session C

**Abstract Number: 2224**

**Influence of Caffeine on Opioid Analgesics in Fibromyalgia**

J. Ryan Scott<sup>1</sup>, Daniel J. Clauw<sup>2</sup>, Chad M. Brummett<sup>1</sup>, Richard E. Harris<sup>1</sup>, Afton L. Hassett<sup>1</sup> and 3020<sup>3</sup>, <sup>1</sup>Anesthesiology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Chronic Pain & Fatigue Research Center, University of Michigan, Ann Arbor, MI, <sup>3</sup>Department of Anesthesiology, University of Michigan, Ann Arbor, MI

**Session: Systemic Lupus Erythematosus – Clinical Aspects and Treatment - Poster III: Biomarkers and Nephritis**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session C

**Abstract Number: 2853**

**Neutrophilia in Systemic Lupus Erythematosus as a Potential Indicator of Disease Activity**

Emily E. Lewis<sup>1</sup>, W Joseph McCune<sup>2</sup> and Jason S Knight<sup>3</sup>, <sup>1</sup>University of Michigan, Ann Arbor, MI, <sup>2</sup>Int Med/ Rheum, University of Michigan, Ann Arbor, MI, <sup>3</sup>Division of Rheumatology, University of Michigan, Ann Arbor, MI

**Session: Systemic Lupus Erythematosus – Human Etiology and Pathogenesis - Poster II**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session C

**Abstract Number: 2866**

**Lupus HDL Induces Pro-Inflammatory Responses in Macrophages By Binding LOX1 and Failing to Promote ATF3 Activity**

Carolyn K. Smith<sup>1</sup>, Nickie Seto<sup>1</sup>, Anuradha Vivekanandan-Giri<sup>2</sup>, Wenmin Yuan<sup>3</sup>, Martin Playford<sup>4</sup>, Zerai G. Manna<sup>5</sup>, Sarfraz A. Hasni<sup>6</sup>, Rui Kual<sup>3</sup>, Nehal N. Mehta<sup>4</sup>, Anna Schwendeman<sup>3</sup>, Subramaniam Pennathur<sup>2</sup> and Mariana Kaplan<sup>7</sup>, <sup>1</sup>Systemic Autoimmunity Branch, National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health, Bethesda, MD, <sup>2</sup>Internal Medicine/Nephrology, University of Michigan Nephrology, Ann Arbor, MI, <sup>3</sup>Department of Medicinal Chemistry and the Biointerfaces Institute, University of Michigan, Ann Arbor, MI, <sup>4</sup>NHLBI, National Institutes of Health, Bethesda, MD, <sup>5</sup>National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health, Bethesda, MD, <sup>6</sup>Lupus Clinical Research Program, Office of the Clinical Director, NIAMS/NIH, Bethesda, MD, <sup>7</sup>NIAMS/NIH, Bethesda, MD

**Session: Systemic Sclerosis, Fibrosing Syndromes, and Raynaud's – Clinical Aspects and Therapeutics - Poster III**

Time: 9:00 AM - 11:00 AM

Type: ACR Poster Session C

**Abstract Number: 2890**

**Feasibility of Same Day Adipose Tissue Harvest, Cell Processing and Subcutaneous Delivery of Adipose Derived Regenerative Cells into Fingers of Scleroderma Patients within a Randomized Double Blind Clinical Trial**

Dinesh Khanna<sup>1</sup>, Maureen D Mayes<sup>2</sup>, Robert W. Simms<sup>3</sup>, Virginia D. Steen<sup>4</sup>, Steven Cohen<sup>5</sup>, Paul Caldron<sup>6</sup>, Richard Martin<sup>7</sup>, Suzanne Kafaja<sup>8</sup>, Ankooor Shah<sup>9</sup>, Shadi Shahouri<sup>10</sup>, Robert F. Spiera<sup>11</sup>, John Ervin<sup>12</sup>, Vivien Hsu<sup>13</sup>, Robyn T. Domsic<sup>14</sup>, Laura K. Hummers<sup>15</sup>, John Yocum<sup>16</sup>, Soumya Chatterjee<sup>17</sup>, Chris T. Derk<sup>18</sup>, John Varga<sup>19</sup>, Mark Adams<sup>20</sup>, Eve M. Taylor<sup>21</sup>, Steven Kesten<sup>21</sup> and Daniel E. Furst<sup>22</sup>, <sup>1</sup>University of Michigan, Ann Arbor, MI, <sup>2</sup>Rheumatology, University of Texas Medical School at Houston, Houston, TX, <sup>3</sup>Rheumatology, Boston University School of Medicine, Boston, MA, <sup>4</sup>Rheumatology, Georgetown University Medical Center, Washington, DC, <sup>5</sup>FacesPlus, San Diego, CA, <sup>6</sup>Arizona Arthritis and Rheumatology Associates, Phoenix, AZ, <sup>7</sup>West Michigan Rheumatology, Grand Rapids, MI, <sup>8</sup>Rheumatology, University of California Los Angeles, Los Angeles, CA, <sup>9</sup>Medicine, Duke University

Medical Center, Durham, NC, <sup>10</sup>Heartland Research Associates, Wichitas, KS, <sup>11</sup>Rheumatology, Hospital for Special Surgery, New York, NY, <sup>12</sup>Center for Pharmaceutical Research, Kansas City, MO, <sup>13</sup>RWJ Medical School, New Brunswick, NJ, <sup>14</sup>Medicine - Rheumatology, University of Pittsburgh, Pittsburgh, PA, <sup>15</sup>Johns Hopkins University School of Medicine, Baltimore, MD, <sup>16</sup>Baptist Health Center for Clinical Research, Little Rock, AR, <sup>17</sup>Rheumatic and Immunologic Ds, Cleveland Clinic, Cleveland, OH, <sup>18</sup>Rheumatology, University of Pennsylvania, Philadelphia, PA, <sup>19</sup>Rheumatology and Dermatology, Northwestern University, Feinberg School of Medicine Scleroderma Program, Chicago, IL, <sup>20</sup>Central Kentucky Research, Lexington, KY, <sup>21</sup>Cytori Therapeutics, Inc., San Diego, CA, <sup>22</sup>Arthritis Associates of Southern California, Los Angeles, CA

### Abstract Number: 2898

#### Anti-Reflux Medications in Diffuse Cutaneous Systemic Sclerosis: Is Empiric Use of Proton Pump Inhibitors Supported?

Tracy M. Frech<sup>1</sup>, Ami A. Shah<sup>2</sup>, Monique Hinchcliff<sup>3</sup>, Flavia V. Castelin<sup>4</sup>, Shervin Assassi<sup>5</sup>, Elana J. Bernstein<sup>6</sup>, Robyn T. Domsic<sup>7</sup>, Jessica K. Gordon<sup>8</sup>, Victoria K. Shanmugam<sup>9,10</sup>, Virginia D. Steen<sup>11</sup>, Maureen Murtaugh<sup>12</sup>, Bernie LaSalle<sup>13</sup>, Dinesh Khanna<sup>14</sup> and Faye N. Hant<sup>15</sup>, <sup>1</sup>Division of Rheumatology, University of Utah, Salt Lake City, UT, <sup>2</sup>Rheumatology, Johns Hopkins University School of Medicine, Baltimore, MD, <sup>3</sup>Northwestern University, Feinberg School of Medicine Scleroderma Program, Chicago, IL, <sup>4</sup>Rheumatology, Allergy, Immunology, Massachusetts General Hospital, Harvard Medical School, Boston, MA, <sup>5</sup>Department of Internal Medicine - Rheumatology, University of Texas-McGovern Medical School, Houston, TX, <sup>6</sup>Department of Medicine, Division of Rheumatology, Columbia University, New York, NY, <sup>7</sup>Medicine - Rheumatology, University of Pittsburgh, Pittsburgh, PA, <sup>8</sup>Rheumatology, Hospital for Special Surgery, New York, NY, <sup>9</sup>Rheumatology, George Washington University, Great Falls, VA, <sup>10</sup>Division of Rheumatology, The George Washington University, Washington, DC, <sup>11</sup>Rheumatology, Georgetown University Medical Center, Washington, DC, <sup>12</sup>University of Utah, Salt Lake, UT, <sup>13</sup>University of Utah, Salt Lake City, UT, <sup>14</sup>University of Michigan, Ann Arbor, MI, <sup>15</sup>Medicine/Rheumatology & Immunology, Medical University of South Carolina, Charleston, SC

### Abstract Number: 2902

#### Preliminary Evaluation of Gastroesophageal Reflex Disease Outcome Measures in Scleroderma-Scleroderma Clinical Trials Consortium Gastrointestinal Working Group

Zsuzsanna McMahan<sup>1</sup>, Tracy M. Frech<sup>2</sup>, Guya Piemonte<sup>3</sup>, Marco Matucci-Cerinic<sup>4</sup>, Susanna Proudman<sup>5,6</sup>, Veronica J. Berrocal<sup>7</sup>, Ron Hays<sup>8</sup> and Dinesh Khanna<sup>9</sup>, <sup>1</sup>Department of Internal Medicine, Johns Hopkins University, Baltimore, MD, <sup>2</sup>Division of Rheumatology, University of Utah, Salt Lake City, UT, <sup>3</sup>University of Florence, Florence, Italy, <sup>4</sup>Department of Medicine, Division of Rheumatology, University of Florence, Florence, Italy, <sup>5</sup>Rheumatology Unit, Royal Adelaide Hospital, Adelaide, Australia, <sup>6</sup>Discipline of Medicine, University of Adelaide, Adelaide, Australia, <sup>7</sup>Div of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>8</sup>UCLA, Los Angeles, CA, <sup>9</sup>University of Michigan, Ann Arbor, MI

### Abstract Number: 2909

#### Attitudes Toward Patient-Reported Outcome Instruments for the Assessment of Raynaud's Phenomenon in Systemic Sclerosis

John Pauling<sup>1,2</sup>, Tracy M. Frech<sup>3,4</sup>, Michael Hughes<sup>5</sup>, Jessica K. Gordon<sup>6</sup>, Robyn T. Domsic<sup>7</sup>, Francesca Ingegnoli<sup>8</sup>, Neil J. McHugh<sup>1,9</sup>, Sindhu R. Johnson<sup>10</sup>, Marie Hudson<sup>11</sup>, Francesco Boin<sup>12</sup>, Voon Ong<sup>13</sup>, Marco Matucci Cerinic<sup>14</sup>, Nezam Altorok<sup>15</sup>, Marina Scolnik<sup>16</sup>, Mandana Nikpour<sup>17</sup>, Ankoor Shah<sup>18</sup>, Janet E. Pope<sup>19</sup>, Dinesh Khanna<sup>20</sup> and Ariane L. Herrick<sup>21</sup>, <sup>1</sup>Department of Pharmacy and Pharmacology, University of Bath, Bath, United Kingdom, <sup>2</sup>Department of Rheumatology, Royal National Hospital for Rheumatic Diseases, Bath, United Kingdom, <sup>3</sup>Internal Medicine, Salt Lake City VAMC, Salt Lake, UT, <sup>4</sup>Internal Medicine-Division of Rheumatology, University of Utah School of Medicine, SLC, UT, <sup>5</sup>Centre for Musculoskeletal Research, The University of Manchester, Manchester, United Kingdom, <sup>6</sup>Rheumatology, Hospital for Special Surgery, New York, NY, <sup>7</sup>Medicine - Rheumatology, Univ of Pittsburgh Med Ctr, Pittsburgh, PA, <sup>8</sup>Department of Rheumatology, Istituto Gaetano Pini, University of Milano, Italy, Milano, Italy, <sup>9</sup>Rheumatology, Royal National Hospital for Rheumatic Diseases, Upper Borough Walls, United Kingdom, <sup>10</sup>Medicine, Division of Rheumatology, Toronto Western Hospital, University Health Network Pulmonary Hypertension Programme, Toronto General Hospital, Mount Sinai Hospital and University of Toronto, Toronto, ON, Canada, <sup>11</sup>Department of Medicine, McGill University and Jewish General Hospital, Montreal, QC, Canada, <sup>12</sup>Rheumatology, University California San Francisco, San Francisco, CA, <sup>13</sup>Rheumatology, University College London Medical School, Royal Free Hospital, London, UK, London, United Kingdom, <sup>14</sup>Department of Medicine, Division of Rheumatology, University of Florence, Italy, Florence, Italy, <sup>15</sup>Rheumatology, University of Toledo Medical Center, Toledo, OH, <sup>16</sup>Rheumatology Section, Rheumatology Unit, Internal Medicine Service, Hospital Italiano de Buenos Aires, Instituto Universitario Hospital Italiano de Buenos Aires, and Fundacion PM Catoggio, Buenos Aires, Argentina, <sup>17</sup>Department of Medicine (St Vincent's Hospital), The University of Melbourne, Melbourne, Australia, <sup>18</sup>Rheumatology and Immunology, Duke University Medical Center, Durham, NC, <sup>19</sup>Monsignor Roney Bldg/Rheum, University of Western Ontario, St Joseph Health Care, London, ON, Canada, <sup>20</sup>Division of Rheumatology, University of Michigan Medical School, Ann Arbor, MI, <sup>21</sup>Centre for Musculoskeletal Research, University of Manchester, Manchester Academic Health Science Centre, Manchester, United Kingdom

### Abstract Number: 2912

#### Performance of the Patient-Reported Outcomes Measurement Information System (PROMIS) 29 in Systemic Sclerosis -Associated Interstitial Lung Disease (SSc-ILD)

Caitlyn Fisher<sup>1,2</sup>, Rajaie Namas<sup>3</sup>, Amber Young<sup>2</sup>, Holly Wilhalme<sup>4</sup> and Dinesh Khanna<sup>5</sup>, <sup>1</sup>Cognitive Science / Creative Writing, Beloit College, Beloit, WI, <sup>2</sup>Department of Internal Medicine, Division of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>3</sup>Department of Medicine [Division of Rheumatology], University of Michigan, Ann Arbor, MI, <sup>4</sup>University of California, Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>5</sup>University of Michigan, Ann Arbor, MI

**Session: Vasculitis – Poster III: Rarer Vasculitides**

Time: 9:00 - 11:00 AM

Type: ACR Poster Session C

**Abstract Number: 2942**

**Sequencing of 16S rRNA Reveals a Distinct Salivary Microbiome Signature in Behcet's Disease**

Patrick Coit<sup>1</sup>, Gonca Mumcu<sup>2</sup>, Filiz Ture Ozdemir<sup>3</sup>, Ali Ugur Unal<sup>4</sup>, Ugur Alpar<sup>5</sup>, Nagihan Bostanci<sup>6</sup>, Tulin Ergun<sup>7</sup>, Haner Direskeneli<sup>4</sup> and Amr Sawalha<sup>1</sup>, <sup>1</sup>Division of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Department of Health Management, Marmara University, Faculty of Health Sciences, Istanbul, Turkey, <sup>3</sup>Marmara University, School of Medicine, Department of Immunology, Istanbul, Turkey, <sup>4</sup>Department of Rheumatology, Marmara University Faculty of Medicine, Istanbul, Turkey, <sup>5</sup>Faculty of Dentistry, Marmara University, Istanbul, Turkey, <sup>6</sup>Division of Periodontology, Department of Dental Medicine, Karolinska Institute, Stockholm, Sweden, <sup>7</sup>Department of Dermatology, Faculty of Medicine, Marmara University, Istanbul, Turkey

**Session: Rheumatoid Arthritis – Human Etiology and Pathogenesis I**

Time: 2:30 - 4:00 PM

Type: ACR Concurrent Abstract Session

**Abstract Number: 3020**

**Citrullination of Inhibitor of DNA Binding-1 at Specific Locations Leads to Autoantigenicity in Rheumatoid Arthritis**

Ray A. Ohara<sup>1</sup>, Henriette A. Remmer<sup>2</sup>, Phillip L. Campbell<sup>3</sup>, David A. Fox<sup>3</sup> and Jeffrey H. Ruth<sup>3</sup>, <sup>1</sup>Division of Rheumatology, University of Michigan Medical Center, Ann Arbor, MI, <sup>2</sup>Department of Biological Chemistry, University of Michigan Medical School, Ann Arbor, MI, <sup>3</sup>Internal Medicine, Division of Rheumatology, University of Michigan Medical School, Ann Arbor, MI

**Session: Vasculitis III: Pathogenic Mechanisms**

Time: 2:30 - 4:00 PM

Type: ACR Concurrent Abstract Session

**Abstract Number: 3043**

**Dense Genotyping of Immune Related Loci in a Multi-Ethnic Behçet's Disease Cohort Identifies Genetic Associations in a Long Noncoding RNA Near QSOX2, RASIP1/FUT2, and IL12A-AS1**

Paul Renauer<sup>1</sup>, Patrick Coit<sup>1</sup>, Travis Hughes<sup>2</sup>, Mikhail Ognenovski<sup>1</sup>, Adam Adler<sup>3</sup>, Lourdes Ortiz-Fernández<sup>4</sup>, Vuslat Yilmaz<sup>5</sup>, Kenan Aksu<sup>6</sup>, Nursen Duzgun<sup>7</sup>, Gokhan Keser<sup>8</sup>, Ayşe Cefle<sup>9</sup>, Ayten Yazici<sup>10</sup>, Andac Ergen<sup>11</sup>, Erkan Alpsoy<sup>12</sup>, Carlo Salvarani<sup>13</sup>, Bruno Casali<sup>14</sup>, Ina Koetter<sup>15</sup>, Alexandra Zhernakova<sup>16</sup>, Cisca Wijmenga<sup>17</sup>, Fujio Takeuchi<sup>18</sup>, Shinji Harihara<sup>19</sup>, Toshikatsu Kaburaki<sup>20</sup>, Yeong Wook Song<sup>21</sup>, Francisco David Carmona<sup>22</sup>, Marta E. Alarcon Riquelme<sup>23</sup>, Javier Martín<sup>22</sup>, Güher Saruhan-Direskeneli<sup>24</sup>, María Francisca Gonzalez Escribano<sup>25</sup>, Haner Direskeneli<sup>26</sup> and Amr H Sawalha<sup>1</sup>, <sup>1</sup>Division of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Division of Health Sciences and Technology, Harvard Medical School, Boston, MA, <sup>3</sup>Oklahoma Medical Research Foundation, OK, OK, <sup>4</sup>Immunology department, Hospital Universitario Virgen del Rocío, Sevilla, Spain, <sup>5</sup>Istanbul University, Istanbul Faculty of Medicine, Department of Physiology, Istanbul, Turkey, <sup>6</sup>Internal Medicine Division of Rheumatology, Ege University Medical Faculty, Izmir, Turkey, <sup>7</sup>Internal Medicines, Rheumatology Department, Ankara University School of Medicine, Ankara, Turkey, <sup>8</sup>Rheumatology, Ege University Medical Faculty, Izmir, Turkey, <sup>9</sup>Rheumatology, Kocaeli University Faculty of Medicine, Kocaeli, Turkey, <sup>10</sup>Rheumatology, Kocaeli University School of Medicine, Kocaeli, Turkey, <sup>11</sup>Okmeydanı Research and Education Hospital, Istanbul, Turkey, <sup>12</sup>Department of Dermatology, Akdeniz University School of Medicine, Antalya, Turkey, <sup>13</sup>Rheumatology, Azienda Ospedaliera ASMN, Istituto di Ricovero e Cura a Carattere Scientifico, Reggio Emilia, Italy, <sup>14</sup>Molecular Biology Laboratory, Azienda Ospedaliera Arcispedale Santa Maria Nuova, Istituto di Ricovero e Cura a Carattere Scientifico, Reggio Emilia, Italy, <sup>15</sup>Internal Medicine IV Rheumatology, Asklepios Klinik Altona, Hamburg, Germany, <sup>16</sup>Rheumatology and Clinical Immunology, University of Groningen, University Medical Center, Groningen, Netherlands, <sup>17</sup>Genetics, University Medical Hospital Groningen, University of Groningen, Groningen, Netherlands, <sup>18</sup>#504 Lab/ Dep of Internal Medicine (Allergy & Rheumatology), Faculty of Medicine, University of Toyko, Tokyo, Japan, <sup>19</sup>Division of Anthropology, Department of Biological Science, The University of Tokyo Graduate School of Science, Tokyo, Japan, <sup>20</sup>Ophthalmology, The University of Tokyo School of Medicine, Bunkyo-ku, Japan, <sup>21</sup>Department of Molecular Medicine and Biopharmaceutical Sciences, Graduate School of Convergence Science and Technology, Seoul National University, Seoul, South Korea, <sup>22</sup>Instituto de Parasitología y Biomedicina López-Neyra, IPBLN-CSIC, PTS-Granada, Granada, Spain, <sup>23</sup>Centro de Genómica e Investigación Oncológica, Pfizer-University of Granada-Junta de Andalucía, Granada, Spain, <sup>24</sup>Department of Physiology, Istanbul Faculty of Medicine, Istanbul University, Istanbul, Turkey, <sup>25</sup>Hospital Universitario Virgen del Rocío (IBiS,CSIC,US), Sevilla, Spain, <sup>26</sup>Rheumatology, Marmara University, School of Medicine, Istanbul, Turkey

**Abstract Number: 3045**

**Immunometabolism in ANCA-Associated Glomerulonephritis**

Peter C. Grayson<sup>1</sup>, Sean Eddy<sup>2</sup>, Viji Nair<sup>2</sup>, Hemang Parikh<sup>3</sup>, Maja Lindenmeyer<sup>4</sup>, Laura Mariani<sup>2</sup>, Huateng Huang<sup>2</sup>, Wenjun Ju<sup>3</sup>, Casey Greene<sup>5</sup>, Clemens Cohen<sup>4</sup>, Jeffrey Krischer<sup>3</sup>, Matthias Kretzler<sup>2</sup>, Peter A. Merkel<sup>6</sup> and Felix H. Eichinger<sup>2</sup>, <sup>1</sup>National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health, Bethesda, MD, <sup>2</sup>Division of Nephrology, University of Michigan, Ann Arbor, MI, <sup>3</sup>University of South Florida, Tampa, FL, <sup>4</sup>University of Munich, Munich, Germany, <sup>5</sup>Systems Pharmacology and Translational Therapeutics, University of Pennsylvania, Philadelphia, PA, <sup>6</sup>Division of Rheumatology, University of Pennsylvania, Philadelphia, PA

**Abstract Number: 3046**

**Inflammatory Pathways as Shared Molecular Targets Across ANCA-Associated Vasculitis and Nephrotic Syndrome**

**Sean Eddy**<sup>1</sup>, **Viji Nair**<sup>1</sup>, Hemang Parikh<sup>2</sup>, Maja Lindenmeyer<sup>3</sup>, **Laura Mariani**<sup>1</sup>, **Felix H. Eichinger**<sup>1</sup>, **Huateng Huang**<sup>1</sup>, Wenjun Ju<sup>2</sup>, Casey Greene<sup>4</sup>, Peter C. Grayson<sup>5</sup>, Clemens Cohen<sup>3</sup>, Jeffrey Krischer<sup>2</sup>, Peter A. Merkel<sup>6</sup> and **Matthias Kretzler**<sup>1</sup>, <sup>1</sup>Division of Nephrology, University of Michigan, Ann Arbor, MI, <sup>2</sup>University of South Florida, Tampa, FL, <sup>3</sup>University of Munich, Munich, Germany, <sup>4</sup>Systems Pharmacology and Translational Therapeutics, University of Pennsylvania, Philadelphia, PA, <sup>5</sup>National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health, Bethesda, MD, <sup>6</sup>Division of Rheumatology, University of Pennsylvania, Philadelphia, PA

**Session: Education**

Time: 4:30 - 6:00 PM

Type: ACR Concurrent Abstract Session

**Abstract Number: 3061**

**Future Challenges in Pediatric Rheumatology: The Role of Graduate Medical Education (GME)**

**Lisa Imundo**<sup>1</sup>, Marcy B. Bolster<sup>2</sup>, **Seetha Monrad**<sup>3</sup>, Daniel Battafarano<sup>4</sup>, Marisa Klein-Gitelman<sup>5</sup>, Jonathan S. Hausmann<sup>6</sup> and Marcia Ditmeyer<sup>7</sup>, <sup>1</sup>Pediatrics, Columbia University, New York, NY, <sup>2</sup>Massachusetts General Hospital, Boston, MA, <sup>3</sup>Internal Medicine/Rheumatology, University of Michigan, Ann Arbor, MI, <sup>4</sup>Medicine, San Antonio Military Medical Center, San Antonio, TX, <sup>5</sup>Pediatrics, Northwestern University, Chicago, IL, <sup>6</sup>Rheumatology, Beth Israel Deaconess Medical Center, Boston, MA, <sup>7</sup>Academy for Academic Research, Las Vegas, NV

**Wednesday, November 16**

**Session: ACR/ARHP Combined Abstract Session: Pediatric Rheumatology**

Time: 9:00 - 10:30 AM

Type: ACR Concurrent Abstract Session

**Abstract Number: 3115**

**Reconsidering the Juvenile Idiopathic Arthritis Core Set: How Patients and Caregivers Define Disease Activity**

Jennifer R. Horonjeff<sup>1</sup>, Susan Thornhill<sup>2</sup>, Daniel B. Horton<sup>3</sup>, Jennifer N. Stinson<sup>4</sup>, Anjali Fortna<sup>5</sup>, Stephanie Luca<sup>6</sup>, Arlene Vinci<sup>7</sup>, Laura C. Marrow<sup>8</sup>, Emily L. Creek<sup>7</sup>, **Meredith Riebschleger**<sup>9</sup>, Alessandro Consolaro<sup>10</sup>, Jane Munro<sup>11</sup>, Vibeke Strand<sup>12</sup>, Clifton Bingham III<sup>13</sup> and Esi Morgan<sup>14</sup>, <sup>1</sup>Rheumatology, Columbia University Medical Center, New York, NY, <sup>2</sup>Thornhill Associates, Hermosa Beach, CA, <sup>3</sup>Pediatrics, Division of Pediatric Rheumatology, Rutgers Robert Wood Johnson Medical School, Rutgers Biomedical and Health Sciences, New Brunswick, NJ, <sup>4</sup>Anesthesia and Pain Medicine, The Hospital for Sick Children, Toronto, ON, Canada, <sup>5</sup>Columbia University Medical Center, New York, NY, <sup>6</sup>The Hospital for Sick Children, Toronto, ON, Canada, <sup>7</sup>Consumer Health, Arthritis Foundation, Atlanta, GA, <sup>8</sup>Arthritis Foundation, Atlanta, GA, <sup>9</sup>Pediatric Rheumatology & Health Services Research, University of Michigan, Ann Arbor, MI, <sup>10</sup>Pediatria II - Reumatologia, PRINTO, Istituto Giannina Gaslini, Genoa, Italy, <sup>11</sup>Rheumatology, Royal Children's Hospital, Parkville, Australia, <sup>12</sup>Stanford University School of Medicine, Palo Alto, CA, <sup>13</sup>Divisions of Rheumatology and Allergy, Department of Medicine, Johns Hopkins University, Johns Hopkins University, Baltimore, MD, <sup>14</sup>Pediatric Rheumatology, Cincinnati Children's Hospital, Cincinnati, OH

**Session: Metabolic and Crystal Arthropathies II: Clinical Practice**

Time: 9:00 - 10:30 AM

Type: ACR Concurrent Abstract Session

**Abstract Number: 3130**

**Development and Pilot Testing of an Online Educational Tool for Gout Patients — Mygoutcare®**

**Puja Khanna**<sup>1</sup>, Aaron Rankin<sup>2</sup>, **Veronica Berrocal**<sup>3</sup>, **Larry An**<sup>4</sup> and **Dinesh Khanna**<sup>5</sup>, <sup>1</sup>Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Medicine Rheumatology, University of Michigan, Ann Arbor, MI, <sup>3</sup>Biostatistics, University of Michigan, Ann Arbor, MI, <sup>4</sup>Medicine, University of Michigan, Ann Arbor, MI, <sup>5</sup>University of Michigan, Ann Arbor, MI

**Session: Systemic Lupus Erythematosus – Human Etiology and Pathogenesis II**

Time: 11:00 AM- 12:30 PM

Type: ACR Concurrent Abstract Session

**Abstract Number: 3240**

**Interferon Kappa Is a Novel Type I IFN That Drives Cutaneous Inflammation in Systemic Lupus**



Jasmine Stannard<sup>1</sup>, Tamra J. Reed<sup>2</sup>, Emily Myers<sup>3</sup>, Lori Lowe<sup>4</sup>, Mrinal Sarkar<sup>4</sup>, Xianying Xing<sup>5</sup>, Celine C. Berthier<sup>6</sup>, Johann Gudjonsson<sup>4</sup> and **J. Michelle Kahlenberg**<sup>7</sup>, <sup>1</sup>Int. Medicine/Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Internal Medicine, Rheumatology, University of Michigan, Ann Arbor, MI, <sup>3</sup>Internal Medicine, Rheumatology, Georgetown University, Washington, DC, <sup>4</sup>Dermatology, University of Michigan, Ann Arbor, MI, <sup>5</sup>Dermatology, University of Michigan, University of Michigan, Ann Arbor, MI, <sup>6</sup>Nephrology, Division of Nephrology, University of Michigan Medical Center, Ann Arbor, MI, <sup>7</sup>Internal Medicine, Division of Rheumatology, Division of Rheumatology, University of Michigan Medical Center, Ann Arbor, MI

**Session: Systemic Sclerosis, Fibrosing Syndromes, and Raynaud's – Clinical Aspects and Therapeutics III**

Time: 11:00 AM - 12:30 PM

Type: ACR Concurrent Abstract Session

**Abstract Number: 3245**

**Surfactant Protein D and Krebs Von Den Lungen-6 Predict Severity of Systemic Sclerosis-Related Interstitial Lung Disease in Two Independent Cohorts**

**Elizabeth R. Volkman**<sup>1</sup>, Donald P. Tashkin<sup>2</sup>, Faye N. Hant<sup>3</sup>, Galina S. Bogatkevich<sup>4</sup>, Michael Roth<sup>5</sup>, Kim Hyun<sup>6</sup>, Jonathan Goldin<sup>1</sup>, Tanjina Akter<sup>7</sup>, Holly Wilhalme<sup>1</sup>, Chi-hong Tseng<sup>5</sup>, Shervin Assassi<sup>8</sup>, **Dinesh Khanna**<sup>9</sup>, Philip J. Clements<sup>5</sup>, Daniel E. Furst<sup>1</sup>, Robert Elashoff<sup>10</sup> and Richard Silver<sup>11</sup>, <sup>1</sup>University of California, Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>2</sup>David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, CA, <sup>3</sup>Medicine/Rheumatology & Immunology, Medical University of South Carolina, Charleston, SC, <sup>4</sup>Division of Rheumatology & Immunology, Medical University of South Carolina, Charleston, SC, <sup>5</sup>Medicine, University of California, Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>6</sup>Radiology, University of California, Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>7</sup>Department of Rheumatology, Medical University of South Carolina, Charleston, SC, <sup>8</sup>Department of Internal Medicine - Rheumatology, University of Texas-McGovern Medical School, Houston, TX, <sup>9</sup>University of Michigan, Ann Arbor, MI, <sup>10</sup>Biomathematics, University of California, Los Angeles, Los Angeles, CA, <sup>11</sup>Division of Rheumatology and Immunology, Medical University of South Carolina, Charleston, SC

**Abstract Number: 3248**

**Efficacy of Mycophenolate Mofetil and Oral Cyclophosphamide on Skin Thickness: Post-Hoc Analyses from the Scleroderma Lung Study I and II**

**Rajaie Namas**<sup>1,2</sup>, Donald P. Tashkin<sup>3</sup>, Holly Wilhalme<sup>4</sup>, Daniel E. Furst<sup>5</sup>, Chi-hong Tseng<sup>6</sup>, Michael Roth<sup>6</sup>, Suzanne Kafaja<sup>7</sup>, Elizabeth R. Volkman<sup>4</sup>, Philip J. Clements<sup>6</sup> and **Dinesh Khanna**<sup>8</sup>, <sup>1</sup>Division of Rheumatology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Department of Medicine [Division of Rheumatology], University of Michigan, Ann Arbor, MI, <sup>3</sup>David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, CA, <sup>4</sup>University of California, Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>5</sup>UCLA, Los Angeles, CA, <sup>6</sup>Medicine, University of California, Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>7</sup>Medicine/Rheumatology, University of California Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>8</sup>University of Michigan, Ann Arbor, MI

**Abstract Number: 3249**

**Improvement in Cough and Cough-Related Quality of Life in Participants Undergoing Treatment for Systemic Sclerosis-Related Interstitial Lung Disease**

**Elizabeth R. Volkman**<sup>1</sup>, **Dinesh Khanna**<sup>2</sup>, Chi-hong Tseng<sup>3</sup>, Robert Elashoff<sup>4</sup>, Bingling Wang<sup>5</sup>, Michael Roth<sup>3</sup>, Philip J. Clements<sup>3</sup>, Daniel E. Furst<sup>1</sup>, Arthur Theodore<sup>6</sup> and Donald P. Tashkin<sup>7</sup>, <sup>1</sup>University of California, Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>2</sup>University of Michigan, Ann Arbor, MI, <sup>3</sup>Medicine, University of California, Los Angeles, David Geffen School of Medicine, Los Angeles, CA, <sup>4</sup>Biomathematics, University of California, Los Angeles, Los Angeles, CA, <sup>5</sup>Biostatistics, University of California, Los Angeles, Los Angeles, CA, <sup>6</sup>Medicine, Boston University, Boston, MA, <sup>7</sup>David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, CA

**Session: Vasculitis IV: Diagnosis and Assessment of Disease Activity**

Time: 9:00 - 10:30 AM

Type: ACR Concurrent Abstract Session

**Abstract Number: 3181**

**The Utility of Urinalysis in Determining the Risk of Renal Relapse in ANCA-Associated Vasculitis**

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