

Rheumatology

Five New Faculty Appointed:

The Division of Rheumatology is pleased to announce the recent appointment of five new faculty members.



Dr. Kwanghoon Bobby Han, MD has been appointed as a Clinical Assistant Professor. Dr. Han has a strong interest in translational research and clinical investigation. He will work in collaboration with the Elkon Lab and other interested members of the Division to build a Clinical Trials Program within the Division of Rheumatology. In addition, Dr. Han will have an active clinical program mostly based at UWMC. Dr. Han obtained his MD from Seoul National Academy in South Korea. He completed his Internal Medicine training at Western Pennsylvania Hospital and completed a Fellowship at the University of Texas Southwestern Medical School.



Dr. Christian Lood, PhD has been appointed as a Research Assistant Professor. Dr. Lood has been working in the Elkon lab as a postdoctoral fellow for the past three years. He obtained a PhD degree in the field of Biomedicine-Rheumatology from Lund University and has significant research experience in Immunology/Autoimmune disease. He worked with internationally renowned research scientists, Drs. Bengtsson and Sturfelt at the University of Lund. Dr. Lood has been extremely productive, including his most recent publication in Nature Medicine. Dr. Lood's lab is based at South Lake Union. His primary research focus is to identify the causes of neutrophil mediated inflammation and to find methods to block the inflammation.



Dr. Elizabeth Wahl, MD, MAS has been appointed as a Acting Instructor. Elizabeth graduated from Yale University with a Bachelor of Science in Molecular, Cellular & Developmental Biology in 1999. In 2003, she completed a predoctoral fellowship in bioethics at the National Institutes of Health in Bethesda, Maryland. She returned to Yale University for her medical school, residency in internal medicine, and clinical rheumatology fellowship training. She comes to us from the University of California, San Francisco where she held the title of postdoctoral fellow/clinical instructor since 2013. Dr. Wahl's primary clinical site of practice is at the VA-Seattle. In addition to her clinical work, she will continue her research on Quality of Care and Patient-reported Outcomes.



Dr. Salah-Uddin Ahmed, PhD has been appointed as a Affiliate Associate Professor effective November 1, 2016. Dr. Ahmed currently holds a faculty title of Associate Professor (with tenure) within the Department of Pharmaceutical Sciences at Washington State University, College of Pharmacy in Spokane, Washington. He is well funded with one R01, one R21 and a grant from the Arthritis Foundation all centered around his research in rheumatoid arthritis. Dr. Ahmed will be an asset to the Division and add substantively to the research base. In

addition to his research collaborations with the Division faculty, Dr. Ahmed will also participate in teaching in the MS RTP Program and student research program through mentoring activities.



Dr. Tal Gazitt, MD, MSc has been appointed as a Affiliate Instructor. Dr. Gazitt recently completed her Rheumatology Fellowship in June 2016. She received her MD/MSc from Technion-Israel Institute of Technology in Haifa, Israel in 2009. She completed her Internal Medicine Residency Program at the Santa Clara Valley Medical Center in San Jose, CA. Dr. Gazitt has a clinical appointment at The Polyclinic. She will also continue to work with the Division on her

research project at SLU. She will participate in teaching and mentoring activities on an ad hoc basis providing lab mentoring to foreign visiting scientists, medical students, and Rheumatology fellows.

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RHEUMATOLOGY RESEARCH HIGHLIGHT: GILTIAY LAB & B CELLS IN SLE



B-cells play a key role in the immune defense against pathogens, but sometimes instead of fighting foreign antigens, B cells become reactive against the body's own tissues. This abnormal B cell activation can lead to autoimmune diseases such as systemic lupus erythematosus (SLE), Sjogren's syndrome, and vasculitis. Production of pathogenic autoantibodies by B lymphocytes and formation of immune complexes are the hallmarks of the SLE disease process. Beyond producing autoantibodies, B-cells also promote disease pathogenesis by secreting pro-inflammatory cytokines and by activating T cells. Given their important role in disease development, it is not surprising that in the recent years several approaches for targeting B cells in autoimmune diseases were developed and are now present in drugs such as Belimumab and Rituximab.

Research in Dr. Giltaiy's Lab at SLU is aimed at understanding how pathogenic B cells arise in SLE. They also investigate the role of different subsets of B cells and their relation to disease activity. Their recent data indicates that an increase in the expression of Toll-like receptor 7, an intracellular RNA-sensing receptor, expressed in B cells can drive certain types of B cells to become activated and to produce pathogenic autoantibodies. While genetic studies have supported a link between polymorphisms in the TLR7 gene in humans and SLE susceptibility, our study provides new insights into how human B cell might be affected by dysregulation in TLR7. We are using advanced approaches, such as multi-parameter phenotyping, BCR-sequencing and auto-antibody arrays to gain new knowledge about the origin of pathogenic B cells in SLE. B cell profiling, combined with other diagnostic markers, can be very useful to monitor disease activity, predict disease flares and ultimately, can help choosing the best treatment options for patients.

Dr. Giltaiy has been a Research Assistant Professor with the Division since 2014. Her recent publications appear in the Journal of Experimental Medicine, Journal of Immunology, and Arthritis Research and Therapy.

FACULTY PROMOTIONS & AWARDS



Congratulations to our recent faculty promotions: **J. Chad Byrd, MD, PhD** – Clinical Assistant and Professor **Eric Sasso, MD**- Affiliate Professor.

We congratulate **Drs. Gregory Gardner, Julie Carkin, Philip Mease, and Philip Moberg** for being listed as Top Doctors in Seattle Met for 2016. We thank them for their continuous efforts in providing outstanding patient care.

Dr. Grant Hughes was nominated for the Department of Medicine Mentoring Award and the Bruce C. Gilliland Award for Excellence in Teaching of Residents & Fellows.

ACR ABSTRACTS & PRESENTATIONS

The Division of Rheumatology has over 16 abstracts accepted for the American College of Rheumatology 2016 Annual Meeting. This year's annual meeting took place from November 11th-16th in Washington D.C.

Plenary Sessions:

Novel Anti-malarial drug derivative inhibited type I Interferon production and autoimmune inflammation through inhibition of cGAS-STING pathway in Trex1-/- mouse

Oral Presentations:

Perioperative Use of Synthetic Disease-Modifying Anti-Rheumatic Drugs or Tumor Necrosis Factor α Inhibitors Does Not Associate with Increased Rates of Post-Operative Infections

Immune complex-mediated TLR8 activation shifts neutrophils from phagocytosis to NETosis through furin-dependent shedding of FcgRIIA

Poster Sessions:

- Improving Pneumococcal Vaccination Rates for Immunosuppressed Patients in an Academic Rheumatology Clinic
- Discrepancy in Reported and Actual Rates of Counseling on Teratogenicity and the Need for Contraception When Initiating Mycophenolate in Women of Childbearing Age
- Frailty Is Associated with Decreased Physical Function in Adults with Rheumatoid Arthritis

- Expansion of Transitional B Cells in SLE Patients Correlates with Increased Toll-like Receptor 7 Expression
- Low plasma concentrations of Apolipoprotein M correlate to disease activity and endothelial dysfunction in SLE
- Immunologic, Clinical and Demographic Correlates in 51 Cocaine Users with Serum Anti-neutrophil Cytoplasmic Antibodies
- Frailty Is Associated with Decreased Physical Function in Adults with Rheumatoid Arthritis
- Expansion of Transitional B Cells in SLE Patients Correlates with Increased Toll-like Receptor 7 Expression
- Low plasma concentrations of Apolipoprotein M correlate to disease activity and endothelial dysfunction in SLE. Immunologic, Clinical and Demographic Correlates in 51 Cocaine Users with Serum Anti-neutrophil Cytoplasmic Antibodies
- Correlates of Spontaneous Cytokine Production in Individuals Undergoing Interferon-Gamma Release Assay Testing
- Cell-Mediated Neutrophil Lysis-a Mechanism Promoting Hypercitrullination in Rheumatoid Arthritis?
- Dissecting the Role of Single Complement Deficiencies in a Novel Model for Apoptotic Cell-Induced Lupus

SAVE THE DATE - 17TH LANE LECTURE

Martin Hermann

Friedrich-Alexander University of Erlangen-Numberg
Institute for Clinical Immunology

March 17th, 2017

17th Lane Lecture Speaker

For the reception, RSVP to Kat McGhee at 206.685.9950 or
rheum@uw.edu by Friday, March 3rd, 2017.

OPPORTUNITIES FOR GIVING

You can support programs and initiatives in the Division of Rheumatology. We have established four Professorships and eight endowments through generous donations. In addition, several gift funds target specific programs such as the Rheumatology Fellowship Fund, the Rheumatology Discretionary Fund, and the Rheumatology Research Fund for Junior Faculty.

Send Checks to:

Division of Rheumatology, Campus Box 356428,
1959 NE Pacific St, Seattle, WA 98195

To learn more about these opportunities for giving, please visit: <http://depts.washington.edu/rheum>

DIVISION GRANTS

Dr. Keith Elkton and **Dr. Bobby Han** were selected to join the Lupus Clinical Investigators Network (LuCIN)- a North America based clinical trials network funded by the Alliance for Lupus Research (ALR) and the Lupus Research Institute (LRI) for the purpose of conducting safe, rapid and coordinated evaluation of new treatments for lupus. LuCIN includes 58 of the preeminent academic research centers in the United States and Canada.

Dr. Keith Elkton received a grant from Pfizer to support a two year research fellowship in his lab for the project, "The Clinical Significance of Cyclic GMP-AMP in Systemic Lupus Erythematosus".

Dr. Jenna Thomason has been awarded a grant from the UW Department of Medicine internal pilot program. She will be using the funds to support aggregating data to answer her current research question; does using the high salt avidity double stranded DNA ELISA test increase sensitivity and specificity when evaluating the disease activity of lupus? She has also been selected as this year's Arthritis Foundation Fellow. This funding is to be used solely for the purposes of supporting the fellow's training. As the AF Fellow, Dr. Thomason will represent our Division at several AF sponsored events throughout the academic year.

NIH T32 Training Grant: through a competitive review process the following trainees were selected for funding under the Rheumatology Training Grant for the 2016-2017 academic year:

- **Holly Akilesh, PhD-** Postdoctoral Fellow working in Dr. Jane Buckner's lab.
- **Elizabeth Dam, PhD-** Postdoctoral Fellow working in Dr. Jessica Hamerman's lab.
- **Emily Harris-** Predoctoral Short Term Summer Research program working in Dr. Bernard Ng's lab.
- **Judy Juo, MD-ACGME** Fellow working in Dr. Christian Lood's lab.
- **SuFey Ong, PhD-** Postdoctoral Fellow working in Dr. Steven Ziegler's lab.
- **Hasib Yousufzai-** Predoctoral Short Term Summer Research program working in Dr. Christian Lood's lab.

NEW RHEUMATOLOGY FELLOWS



Dr. Percy Balderia completed medical school at the University of the Philippines Manila School of Medicine. He completed his residency at Albert Einstein Medical Center in Philadelphia, PA.

Dr. Meredith Barnes completed medical school at Emory University School of Medicine. She completed her residency at the University of Washington, Seattle WA.



Dr. Andrew Vasconcellos completed Medical School at Ross University School of Medicine. He completed his residency at the New York Methodist Hospital & Weill Cornell Medical College in Brooklyn, NY.

DIVISION PUBLICATIONS

Implementation of disease activity measurement for rheumatoid arthritis patients in an academic rheumatology clinic. **Bays A, Wahl E, Daikh DI, Yazdany J, Schmajuk G.** BMC Health Serv Res. 2016 Aug 15;16(1):384. PMID: 27527720

Pharmacologic Therapies for Rheumatologic and Autoimmune Conditions. **Bays AM, Gardner G.** Med Clin North Am. 2016 Jul;100(4):719-31. doi: 10.1016/j.mcna.2016.03.001. Review. PMID: 27235612

Blood-Borne RNA Correlates with Disease Activity and IFN-Stimulated Gene Expression in Systemic Lupus Erythematosus. **Doedens JR, Jones WD, Hill K, Mason MJ, Gersuk VH, Mease PJ, Dall'Era M, Aranow C, Martin RW, Cohen SB, Fleischmann RM, Kivitz AJ, Burge DJ, Chaussabel D, Elkton KB, Posada JA.** J Immunol. 2016 Oct 1;197(7):2854-63. doi: 10.4049/jimmunol.1601142. PMID: 27534558

Digestion of Chromatin in Apoptotic Cell Microparticles Prevents Autoimmunity. **Sisirak V, Sally B, D'Agati V, Martinez-Ortiz W, Özçakar ZB, David J, Rashidfarrokhi A, Yeste A, Panea C, Chida AS, Bogunovic M, Ivanov II, Quintana FJ, Sanz I, Elkton KB, Tekin M, Yalçinkaya F, Cardozo TJ, Clancy RM, Buyon JP, Reizis B.** Cell. 2016 Jun 9. pii: S0092-8674(16)30585-2. doi: 10.1016/j.cell.2016.05.034. [Epub ahead of print]. PMID: 27293190.

Tartrate-Resistant Acid Phosphatase Deficiency in the Predisposition to Systemic Lupus Erythematosus. **An J, Briggs TA, Dumax-Vorzet A, Alarcón-Riquelme ME, Belot A, Beresford M, Bruce I, Carvalho C, Chaperot L, Frostegård J, Plumas J, Rice GI, Vyse TJ, Wiedeman A, Crow YJ, Elkton KB.** Arthritis Rheumatol. 2016 Jul 7. doi: 10.1002/art.39810. [Epub ahead of print] PMID: 27390188

Uncoupling complement C1s activation from C1q binding in apoptotic cell phagocytosis and immunosuppressive capacity. **Colonna L, Parry GC, Panicker S, Elkton KB.** Clin Immunol. 2016 Feb;163:84-90. doi: 10.1016/j.clim.2015.12.017. PMID: 26769276

Serum amyloid A impairs the antiinflammatory properties of HDL. **Han CY, Tang C, Guevara ME, Wei H, Wietecha T, Shao B, Subramanian S, Omer M, Wang S, O'Brien KD, Marcovina SM, Wight TN, Vaisar T, de Beer MC, de Beer FC, Osborne WR, Elkton KB, Chait A.** J Clin Invest. 2016 Jan;126(1):266-81. doi: 10.1172/JCI83475. Erratum in: J Clin Invest. 2016 Feb;126(2):796. PMID: 26642365

Importance of Nucleic Acid Recognition in Inflammation and Autoimmunity. **Barrat FJ, Elkton KB, Fitzgerald KA.** Annu Rev Med. 2016;67:323-36. doi: 10.1146/annurev-med-052814-023338. Review. PMID: 26526766

Neutrophil extracellular traps enriched in oxidized mitochondrial DNA are interferogenic and contribute to lupus-like disease. **Lood C, Blanco LP, Purmalek MM, Carmona-Rivera C, De Ravin SS, Smith CK, Malech HL, Ledbetter JA, Elkton KB, Kaplan MJ.** Nat Med. 2016 Feb;22(2):146-53. doi: 10.1038/nm.4027. Epub 2016 Jan 18. PMID: 26779811

The Division of Rheumatology Newsletter is published 2 times a year. For information regarding any content in this issue please contact the Division Office at 206-543-3414 or email rheum@uw.edu. Editors: Keith Elkon, MD, Jessica Bertram, Peter Simkin, and Kathryn McGhee.

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RECENT DIVISION PUBLICATIONS (CONTINUED)

Neutrophil extracellular traps as a potential source of autoantigen in cocaine-associated autoimmunity. **Lood C, Hughes GC.** *Rheumatology (Oxford)*. 2016 Jun 27. pii: kew256. PMID: 27354687

Metabolic Profiling of Systemic Lupus Erythematosus and Comparison with Primary Sjögren's Syndrome and Systemic Sclerosis. Bengtsson AA, Trygg J, Wuttge DM, Sturfelt G, Theander E, Donten M, Moritz T, Sennbro CJ, Torell F, **Lood C**, Surowiec I, Rännar S, Lundstedt T. *PLoS One*. 2016 Jul 21;11(7):e0159384. doi: 10.1371/journal.pone.0159384. eCollection 2016. PMID: 27441838

Pro-inflammatory S100 proteins are associated with glomerulonephritis and anti-dsDNA antibodies in systemic lupus erythematosus. Tydén H, **Lood C**, Gullstrand B, Jönsen A, Ivars F, Leanderson T, Bengtsson AA. *Lupus*. 2016 Jul 12. pii: 0961203316655208. [Epub ahead of print] PMID: 27407135

Prasugrel 5 mg inhibits platelet P-selectin and GPIIb-IIIa expression in very elderly and non elderly: results from the GENERATIONS trial, a pharmacodynamic study in stable CAD patients. Wagner H, **Lood C**, Bornhauser A, Gidlöf O, Truedsson L, Brown P, Zhou C, Winters K, Jakubowski JA, Erlinge D. *J Thromb Thrombolysis*. 2016 May 10. [Epub ahead of print] PMID: 27165280

Platelet-Derived S100A8/A9 and Cardiovascular Disease in Systemic Lupus Erythematosus. **Lood C**, Tydén H, Gullstrand B, Jönsen A, Källberg E, Mörgelin M, Kahn R, Gunnarsson I, Leanderson T, Ivars F, Svenungsson E, Bengtsson AA. *Arthritis Rheumatol*. 2016 Aug;68(8):1970-80. doi: 10.1002/art.39656. PMID: 26946461

The assessment of serum-mediated phagocytosis of necrotic material by polymorphonuclear leukocytes to diagnose and predict the clinical features of systemic lupus erythematosus: an observational longitudinal study. Compagno M,

Gullstrand B, Jacobsen S, Eilertsen GØ, Nilsson JÅ, **Lood C**, Jönsen A, Truedsson L, Sturfelt G, Bengtsson AA. *Arthritis Res Ther*. 2016 Feb 10;18:44. doi: 10.1186/s13075-016-0941-1. PMID: 26860519

The lectin complement pathway serine proteases (MASPs) represent a possible crossroad between the coagulation and complement systems in thromboinflammation. Kozarcanin H, **Lood C**, Munthe-Fog L, Sandholm K, Hamad OA, Bengtsson AA, Skjoedt MO, Huber-Lang M, Garred P, Ekdahl KN, Nilsson BJ. *Thromb Haemost*. 2016 Mar;14(3):531-45. doi: 10.1111/jth.13208. Epub 2016 Feb 15. PMID: 26614707

Evaluation of X Chromosome Inactivation with Respect to HLA Genetic Susceptibility in Rheumatoid Arthritis and Systemic Sclerosis. Kanaan SB, Onat OE, Balandraud N, Martin GV, **Nelson JL**, Azzouz DF, Auger I, Arnoux F, Martin M, Roudier J, Ozcelik T, Lambert NC. *PLoS One*. 2016 Jun 29;11(6):e0158550. doi: 10.1371/journal.pone.0158550. eCollection 2016. PMID: 27355582

HLA DRB1, DQA1 and DQB1 in Juvenile Onset Systemic Sclerosis. Stevens AM, Kanaan SB, Torok KS, Medsger TA, Mayes MD, Reveille JD, Klein-Gitelman M, Reed AM, Lee T, Li SC, Henstorf G, Luu C, Aydelotte T, **Nelson JL**. *Arthritis Rheumatol*. 2016 May 23. doi: 10.1002/art.39765. [Epub ahead of print] PMID: 27214100

Reply, Letter to the Editor - Supplemental and energy likely account for multi-ingredient supplementation in mitigating morbidity and mortality in compromised elderly malnourished patients. Deutz NE, Matheson EM, Matarese LE, Baggs GE, **Nelson JL**, Hegazi RA, Luo M, Tappenden KA, Ziegler TR; NOURISH Study Group. *Clin Nutr*. 2016 Aug;35(4):977-8. doi: 10.1016/j.clnu.2016.03.027. Epub 2016 Apr 6. No abstract available. PMID: 2709177