



JBC Monthly Newsletter

September 2019

JBC Updates

- Welcome **Anu Singh** as the new **JBC Coordinator!** Originally from Nepal, Anu received her degree in Computer Information Systems from Bellevue University, Nebraska and joined the JBC in July. She can be reached by email at asingh2@bwh.harvard.edu
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- **JBC Microgrant Deadline** is October 2nd! Please visit our website <http://www.jbcwebportal.org/jbc-microgrant-program/> for more information about how to apply for up to \$5,000 in free JBC services including patient samples, CyTOF, and RNAseq.
 - The next **Aims Review Committee** meeting will be held on Thursday, September 12, 1:30-2:30pm (*note unusual time*) in the Hale BTM 6014.
 - In view of a conflict with the **Single Cell Genomics Seminar 9/13 in Hale VTC2006B noon-1:30pm** (speaker: Jeffrey Moffitt, Microbiology), we will defer the first **JBC Synergy Meeting** to October 25th, 12:30-1:30 p.m. in the Bayles Conference Room. Program to be announced subsequently. The Synergy meeting planned for September 13 is cancelled.

The JBC Team:

Peter Nigrovic, M.D.
Director (BWH & BCH)

Human Biosamples Core:

- Elizabeth Karlson, M.D.
Director (BWH)
- Jeffrey Sparks, M.D., M.M.Sc.
Associate Director BWH
- Lauren Henderson, M.D., M.M.Sc.
Associate Director BCH

Cellular Systems Core:

- Jim Lederer, Ph.D.
Director (BWH)
- Peter Nigrovic, M.D.
Associate Director BWH

JBC Member News

AWARDS AND GRANTS

- **Ellen M. Gravallese, MD** has been named the Chief of the Division of Rheumatology at BWH effective October 7, 2019
- NIAMS R01 ARO75906 to **Peter Nigrovic, MD (PI)** and **Robert Fuhlbrigge, MD, PhD (Co-PI)**, “T resident memory cells in arthritis”
- **Michael Brenner, MD** was awarded NIAID 2R01 AI113046, “Regulatory iNKT Cells Suppress Inflammation and Drive Thermogenesis” and NIAMS R01 ARO73833, “Deciphering Pathways Driving Inflammatory Fibroblast Effector Functions in RA”

- Boehringer-Ingelheim Medical Student Fellowship “Emperipolesis as a new form of cell-in-cell interaction” to **Frank Huang** (medical student, Nigrovic lab).
- NIAMS RO3 to **Jeffrey A. Sparks, MD, MMSc**, “Respiratory Diseases, Genetics, and Rheumatoid Arthritis Risk”
- Brigham Research Institute Microgrant to **Jeffrey A. Sparks, MD, MMSc**, “MUC5B and Anti-Citrullinated Protein Antibodies for Risk of Rheumatoid Arthritis-Associated Interstitial Lung Disease”
- **Deepak A. Rao, MD, PhD** received a Clinical Scientist Development Award from the Doris Duke Charitable Foundation to study predictive biomarkers of treatment response in rheumatoid arthritis using CYTOF immunophenotyping.
- **Halima Moncrieffe, PhD** received
 - CCTST K Scholar Award "Functional Genomics of Childhood Arthritis"
 - AAI Travel award to present JIA research and teach at the 17th Annual International Congress of Immunology.

PUBLICATIONS (JBC MEMBERS IN BOLD)

Nigrovic PA, Martínez-Bonet M, Thompson SD. Implications of JIA genetic risk variants for disease pathogenesis and classification. [review] *Current Opin Rheumatol* 2019 Sept;31:401–410

Luo Y, Suliman S, Asgari S, Amariuta T, Baglaenko Y, **Martínez-Bonet M**, Ishigaki K, Gutierrez-Arcelus M, Calderon R, Lecca L, León SR, Jimenez J, Yataco R, Contreras C, Galea JT, Becerra M, Nejentsev S, **Nigrovic PA**, Moody DB, Murray MB, **Raychaudhuri S**. Progression of recent Mycobacterium tuberculosis exposure to active tuberculosis is a highly heritable complex trait driven by 3q23 in Peruvians. *Nature Comm* 2019 Aug 21;10(1):3765.

Lee PY*, **Nelson-Maney N**, Huang Y, **Levescot A**, **Wang Q**, **Wei K**, **Cunin P**, Li Y, **Lederer JA**, Zhuang H, Han S, Kim EY, Reeves WH, **Nigrovic PA**. * High-dimensional analysis reveals a pathogenic role of inflammatory monocytes in experimental diffuse alveolar hemorrhage. *JCI Insight* 2019 Aug 8;4(15). pii: 129703.

Han S, Zhuang H, **Lee PY**, Li M, Yang L, **Nigrovic PA**, Reeves W. Differential responsiveness of monocyte and macrophage subsets to interferon. *Arthr Rheum* 2019 Aug 7 [ePub].

Hou L, Balzaroloc M, **Rao DA**, Yuki K, Cooley J, **Henderson LA**, **Jonsson AH**, Kaisermani D, Gorman MP, **Nigrovic PA**, Bird PI, Becher B, Remold-O'Donnell E. SerpinB1 controls encephalitogenic T helper cells in neuroinflammation. *Proc Nat Acad Sci USA* 2019 [in press]

Zheng Z, Mergaert AM, Fahmy L, Bawadekar M, Holmes CL, Ong I, Bridges AJ, Newton MA, **Shelef MA**. Disordered antigens and epitope overlap between anti-citrullinated protein antibodies and rheumatoid factor in rheumatoid arthritis. *Arthritis and Rheumatology*. 2019. In press.

Nigrovic PA. Storm warning: lung disease in systemic juvenile idiopathic arthritis. [invited commentary] *Arthritis Rheumatol* 2019 Aug 7. [Epub ahead of print]

Lee PY. NETing the mechanism of inflammation in DADA2. [invited commentary] *Blood*. 2019 Jul 25;134(4):338-339.

Li D, Yoshida K, **Feldman CH**, Speyer C, Barbhuiya M, Guan H, **Solomon DH**, Everett BM, **Costenbader KH**. Initial disease severity, cardiovascular events and all-cause mortality among patients with systemic lupus erythematosus. *Rheumatology (Oxford)*. 2019 Jul 18. pii: kez288. doi: 10.1093/rheumatology/kez288. [Epub ahead of print]

Arazi A, **Rao DA**, Berthier CC, Davidson A, Liu Y, **Hoover PJ**, Chicoine A, Eisenhaure TM, Jonsson AH, Li S, Lieb DJ, **Zhang F**, **Slowikowski K**, Browne EP, Noma A, Sutherby D, Steelman S, Smilek DE, Tosta P, **Apruzzese W**, **Massarotti E**, Dall'Era M, Park M, Kamen DL, Furie RA, Payan-Schober F, Pendergraft WF 3rd, McInnis EA, Buyon JP, Petri MA, Putterman C, Kalunian KC, Woodle ES, **Lederer JA**, Hildeman DA, Nusbaum C, **Raychaudhuri S**, Kretzler M, Anolik JH, **Brenner MB**, Wofsy D, Hachohen N, Diamond B; Accelerating Medicines Partnership in SLE network. The immune cell landscape in kidneys of patients with lupus nephritis. *Nat Immunol*. 2019 Jul;20(7):902-914. doi: 10.1038/s41590-019-0398-x. Epub 2019 Jun 17.

Mergaert AM, Bawadekar M, Nguyen TQ, Massaranti L, Holmes CL, Rebernick R, Schrodi SJ, and **Shelef MA**. Reduced anti-histone antibodies and increased risk of rheumatoid arthritis associated with a single nucleotide polymorphism in PADI4 in North Americans. *International Journal of Molecular Sciences*. Accepted 6/21/2019.

Leatherwood C, Speyer CB, **Feldman CH**, D'Silva K, Gómez-Puerta JA, **Hoover PJ**, Waikar SS, McMahon GM, Rennke HG, **Costenbader KH**. Clinical characteristics and renal prognosis associated with interstitial fibrosis and tubular atrophy (IFTA) and vascular injury in lupus nephritis biopsies. *Semin Arthritis Rheum*. 2019 Jun 11. pii: S0049-0172(19)30107-6. doi: 10.1016/j.semarthrit.2019.06.002. [Epub ahead of print] PubMed PMID: 31277928.

Chen SK, Barbhuiya M, Fischer MA, Guan H, Yoshida K, **Feldman CH**, **Costenbader KH****, Everett BM**. Heart failure risk in systemic lupus erythematosus compared to diabetes mellitus and general medicaid patients. *Semin Arthritis Rheum*. 2019 Jun 11. pii: S0049-0172(19)30045-9. doi: 10.1016/j.semarthrit.2019.06.005. [Epub ahead of print] PubMed PMID: 31280938. **co-senior authors

Urso K, Caetano-Lopes J, **Lee PY**, Yan J, Henke K, Sury M, Liu H, Zgoda M, **Jacome-Galarza C**, **Nigrovic PA**, **Duryea J**, Harris MP, **Charles JF**. A role for G protein-coupled receptor 137b in bone remodeling in mouse and zebrafish. *Bone*. 2019 Jun 5;127:104-113.

Rao DA. The rise of peripheral T helper cells in autoimmune disease. *Nat Rev Rheumatol*. 2019 May 28. doi: 10.1038/s41584-019-0241-7.

Holmes CL, Peyton CG, Bier AM, Donlon TZ, Osman F, Bartels CM, **Shelef MA**. Reduced IgG titers against pertussis in rheumatoid arthritis: evidence for a citrulline-biased immune response and medication effects. *PLoS One*. 2019. May 28;14(5):e0217221.

Tedeschi SK, **Kim SC**, Guan H, Grossman JM, **Costenbader KH**. Comparative Fracture Risks Among United States Medicaid Enrollees With and Those Without Systemic Lupus Erythematosus. *Arthritis Rheumatol*. 2019 Jul;71(7):1141-1146. doi: 10.1002/art.40818. Epub 2019 Jun 5. PubMed PMID: 30714690; PubMed Central PMCID: PMC659486