

**Mrinal K. Sarkar, Ph.D.**  
Research Investigator  
Department of Dermatology  
University of Michigan Medical School  
Ann Arbor, MI 48109  
mksarkar@umich.edu  
Phone: 734-615-1743

## **Education & Training**

### ***Education:***

- 08/1997-09/2000      B.Sc. in Chemistry, University of Calcutta, Kolkata, India
- 10/2001-06/2003      M.Sc. in Biochemistry, University of Calcutta, Kolkata, India  
*Project: Purification and characterization of lectin from onion leaf.*
- 05/2005-03/2010      Ph.D. in Science from Jadavpur University, Kolkata, India  
*Thesis: "Studies on the Antioxidant Role of a Macromolecule from the Herb Phyllanthus niruri". Mentor: Dr. PC Sil. Division of Molecular Medicine, Bose Institute, Kolkata, India*

### ***Postdoctoral Training:***

- 04/2010 – 05/2011      Postdoctoral Research Fellow, School of Life Sciences, Jawaharlal Nehru University, New Delhi, India
- 11/2011- 01/2014      Postdoctoral Research Fellow, Department of Human Genetics, University of Michigan Medical School, Ann Arbor, Michigan
- 02/2014- 10/2016      Postdoctoral Research Fellow, Department of Dermatology, University of Michigan Medical School, Ann Arbor, Michigan

### ***Academic Appointment:***

- 11/2016- Present      Research Investigator, Department of Dermatology, University of Michigan Medical School, Ann Arbor, Michigan

## **Research Interests**

- Psoriasis
- Cutaneous Lupus Erythematosus (CLE)
- Systemic Lupus Erythematosus (SLE)
- Keratinocytes
- Type I interferons
- Interferon kappa

## **Research Grants**

### ***Active:***

#### **Doris Duke Foundation**

07/2017-06/2020 (PI: Kahlenberg)

A new paradigm in cutaneous lupus: dissecting the interplay between interferons and *Staphylococcus aureus*

Role: Co-Investigator

Amount: \$495,000

#### **NIH 1R03AR072107-01**

07/2017-06/2019 (PI: Kahlenberg)

Identification of BATF2 as a Regulator of Interferon-Enhanced Inflammatory Responses in Lupus Skin

Role: Co-Investigator

Amount: \$155,000

#### **NIH R01 AR073196**

07/2018-06/2023 (PI: Ward)

Kallikrein-PAR interactions in skin inflammation

Role: Co-Investigator

Amount: \$690,970

#### **Rheumatology Research Foundation**

07/2018-06/2020 (PI: Kahlenberg)

A novel mechanism for photosensitivity in systemic lupus erythematosus

Role: Co-Investigator

Amount: \$400,000

### ***Completed:***

#### **National Psoriasis Foundation**

08/01/16-11/30/18 (PI: Sarkar)

Role of TYK2 and psoriasis associated TYK2 risk variants in the pathogenesis of psoriasis and psoriatic arthritis

Role: PI

Amount: \$200,000

## **Honors and Awards**

- 2003      Awarded Haradhan Basu Memorial Fellowship (Poverty cum Merit) from University of Calcutta, Kolkata, India
- 2004      Qualified Graduate Aptitude Test in Engineering (GATE) under the Department of Education, Ministry of Human Resource and Development, Government of India with 89.86 percentile and secured an all India rank of 488.
- 2005      Awarded Junior Research Fellowship, Department of Science & Technology, Government of India.
- 2007      Awarded Senior Research Fellowship, Department of Science & Technology, Government of India.
- 2015      Albert M. Kligman Travel Award, Society Investigative Dermatology (SID) Annual Meeting, Atlanta, Georgia.
- 2015      Selected to attend the PhD Retreat for Future Investigators, Society for Investigative Dermatology
- 2016      NPF Travel Grant to attend the 2016 Montagna Symposium on the Biology of Skin
- 2017      Travel grant to attend 2017 NPF Research Symposium in Chicago

## **Invited Speaker**

1.      Title: *Photosensitivity and heightened type I IFN responses in cutaneous lupus are driven by elevated interferon kappa*  
Venue: IID2018 meeting (Aclaris Therapeutics Symposium), Orlando, Florida  
Date: May 17, 2018
2.      Title: *Application of CRISPR in human diseases: Insights from autoimmune diseases.*  
Venue: National Institute of Biomedical Genomics, Kalyani, West Bengal, India  
Date: September 17, 2018
3.      Title: *Role of epidermal derived interferon kappa in CLE pathogenesis.*  
Venue: Indian Statistical Institute, Kolkata, West Bengal, India  
Date: September 19, 2018

## **Memberships in Professional Societies**

1. 2015-Present Society for Investigative Dermatology
2. 2016-Present National Psoriasis Foundation

## **Editorial Board**

1. Review Editor (Frontiers in Immunology)

## **Journal Reviewer**

1. Scientific Reports
2. International Journal of Biological Macromolecules
3. Journal of Investigative Dermatology
4. International Archives of Allergy and Immunology
5. British Journal of Dermatology
6. Oncotarget
7. Archives of Dermatological Research
8. Genes
9. Australasian Medical Journal
10. Experimental dermatology
11. Pathogens
12. Journal of Clinical Medicine
13. Frontiers in Immunology
14. Genomics
15. PeerJ

**Google Scholar citation: 519** (As of 01/21/2019)

**Cumulative Impact Factor (2017): 192.892** (As of 01/21/2019)

## **Other Links:**

Faculty Profile: <https://medicine.umich.edu/dept/dermatology/mrinal-k-sarkar-phd>

Research Gate: [https://www.researchgate.net/profile/Mrinal\\_Sarkar2](https://www.researchgate.net/profile/Mrinal_Sarkar2)

Orcid: <http://orcid.org/0000-0001-8505-4259>

Loop: <https://loop.frontiersin.org/people/502979/overview>

Mendeley: <https://www.mendeley.com/profiles/mrinal-sarkar3/>

Linked in: <https://www.linkedin.com/in/mrinal-k-sarkar-0787a16a>

## **News coverage:**

My one first authored publication (*Sarkar et al, 2015, Nature Communications*) was picked up by 14 news outlets-

<https://www.altmetric.com/details/4647965/news>

My another first authored publication (*Sarkar et al, 2018, Annals of the Rheumatic Diseases*) was picked up by 5 news outlets including media coverage by University of Michigan-

<https://www.altmetric.com/details/45201572/news>

My co-authored publication (*Liang...Sarkar...et al., 2017, Nature Immunology*) was picked up by 27 news outlets-

<https://www.altmetric.com/details/14860658/news>

## **Bibliography**

### ***Peer-reviewed Publications:***

1. **Sarkar MK**, Sarkar K, Bhattacharjee R, Chatterjee M and Sil PC. Curative role of the aqueous extract of the herb *Phyllanthus niruri*, against nimesulide induced oxidative stress in murine liver. ***Biomedical Research*** 2005; 16: 171-176.
2. **Sarkar MK** and Sil PC. Hepatocytes are protected by herb *Phyllanthus niruri* protein isolate against thioacetamide toxicity. ***Pathophysiology*** 2007; 14: 113-120.
3. **Sarkar MK**, Kinter M, Majumder B, and Sil PC. Purification and characterization of a novel antioxidant protein molecule from *Phyllanthus niruri*. ***Food Chemistry*** 2009; 114: 1405-1412.
4. **Sarkar MK** and Sil PC. Prevention of tertiary butyl hydroperoxide induced oxidative impairment and cell death by a novel antioxidant protein molecule isolated from the herb, *Phyllanthus niruri*. ***Toxicology in Vitro*** 2010; 24:1711-1719.
5. Swindell WR, Stuart PE, **Sarkar MK**, Voorhees JJ, Elder JT, Johnston A, Gudjonsson JE. Cellular dissection of psoriasis for transcriptome analyses and the post-GWAS era. ***BMC Medical Genomics*** 2014; May 22; 7:27.
6. Maclary E, Buttigieg E, Hinten M, Gayen S, Harris C, **Sarkar MK**, Purushothaman S, Kalantry S. Differentiation-dependent requirement of Tsix long non-coding RNA in imprinted X-chromosome inactivation. ***Nature Communications*** 2014; 5:4209.
7. Tsoi LC, Iyer MK, Stuart PE, Swindell WR, Gudjonsson JE, Tejasvi T, **Sarkar MK**, Li B, Ding J, Voorhees JJ, Kang HM, Nair RP, Chinnaiyan AM, Abecasis GR, Elder JR. Analysis of long non-coding RNAs highlights tissue-specific expression patterns and epigenetic profiles in normal and psoriatic skin. ***Genome Biology*** 2015; 16(1): 24.
8. **Sarkar MK**, Gayen S, Kumar S, Maclary E, Buttigieg E, Hinten M, Kumari A, Harris C, Sado T, Kalantry S. An Xist-activating antisense RNA required for X-chromosome inactivation. ***Nature Communications*** 2015; 19:8564.
9. Swindell WR, **Sarkar MK**, Stuart PE, Voorhees JJ, Elder JT, Johnston A, Gudjonsson JE. Psoriasis drug development and GWAS interpretation through in silico analysis of transcription factor binding sites. ***Clinical and Translational Medicine*** 2015; 4:13.
10. Swindell WR, Remmer HA, **Sarkar MK**, Xing X, Barnes DH, Wolterink L, Voorhees JJ, Nair RP, Johnston A, Elder JT, Gudjonsson JE. Proteogenomic analysis of psoriasis reveals discordant and concordant changes in mRNA and protein abundance. ***Genome Medicine*** 2015; 7(1): 86.
11. Swindell WR, **Sarkar MK**, Liang Y, Xing X, Gudjonsson JE. Cross-disease transcriptomics: Unique IL-17A signaling in psoriasis lesions and an autoimmune PBMC signature. ***Journal of Investigative Dermatology*** 2016; 136 (9): 1820.
12. Xing X, Liang Y, **Sarkar MK**, Wolterink L, Swindell WR, Voorhees JJ, Harms PW, Kahlenberg J, Johnston A and Gudjonsson JE. IL-17 responses are the dominant inflammatory signal linking inverse, erythrodermic and chronic plaque psoriasis. ***Journal of Investigative Dermatology*** 2016; 136 (12): 2498-2501.

13. Stannard JN, Reed TJ; Myers E, Lowe L, **Sarkar MK**, Xing X, Gudjonsson JE and Kahlenberg JM. Lupus skin is primed for inflammatory responses through a keratinocyte-mediated autocrine type I interferon loop. *Journal of Investigative Dermatology* 2017; 137 (1): 115-122.
14. Liang Y, Tsoi LC, Xing X, Beamer M, Swindell WR, **Sarkar MK**, Berthier CC, **Stuart PE**, Nair RP, Elder JT, Voorhees JJ, Kahlenberg JM and Gudjonsson JE. A gene network regulated by the transcription factor VGLL3 as a promoter of sex-biased autoimmune diseases. *Nature Immunology* 2017; 18 (2): 152-160.
15. Swindell WR, Michaels KA, Sutter AJ, Diaconu D, Fritz Y, Xing X, **Sarkar MK**, Liang Y, Tsoi LC, Gudjonsson JE, Ward NL. Imiquimod has strain-dependent effects in mice and does not uniquely model human psoriasis. *Genome Medicine* 2017; 9 (1): 24.
16. Liang Y, Xing X, Beamer M, Swindell WR, **Sarkar MK**, Roberts L, Voorhees JJ, Joanne M. Kahlenberg JM, Harms PW, Johnston A, Gudjonsson JE. Six-transmembrane epithelial antigens of the prostate comprise a novel inflammatory nexus in patients with pustular skin disorders. *Journal of Allergic and Clinical Investigation* 2017; 139 (4): 1217-1227.
17. Johnston A, **Sarkar MK**, Tsoi LC, Gudjonsson JE. Molecular Revolution Milestone: Era of global transcriptional analysis. *Journal of Investigative Dermatology* 2017; 137 (5): e87-e91.
18. **Sarkar MK**, Kaplan N, Tsoi LC, Xing X, Liang Y, Swindell WR, Hoover PW, Aravind M, Baida G, Clark M, Voorhees JJ, Nair RP, Elder JT, Budinova I, Getsios S, Gudjonsson JE. Endogenous glucocorticoid deficiency in psoriasis promotes inflammation and abnormal differentiation. *Journal of Investigative Dermatology* 2017; 137 (7); 1474-1483.
19. Liang Y, **Sarkar MK**, Tsoi LC, Gudjonsson JE. Psoriasis: a mixed autoimmune and autoinflammatory disease. *Current Opinion in Immunology* 2017; 49; 1-8.
20. Mehta N, Teague H, Swindell WR, Baumer Y, Ward NL, Xing X, Baugous B, Johnston A, Joshi A, Silverman J, Barnes D, Wolterink L, Nair R, Stuart PE, Playford M, Voorhees JJ, **Sarkar MK**, Elder JT, Gallagher K, Ganesh S, Gudjonsson JE. IFN- $\gamma$  and TNF- $\alpha$  synergism may provide a link between psoriasis and inflammatory atherogenesis. *Scientific Reports* 2017; 7: 13831.
21. Swindell WR, **Sarkar MK**, Liang Y, Xing X, Baliwag J, Elder JT, Johnston A, Ward NL, Gudjonsson JE. RNA-seq identifies a diminished differentiation gene signature in primary monolayer keratinocytes grown from lesional and uninvolved psoriatic skin. *Scientific Reports* 2017; 7: 18045.
22. Tsoi LC, Yang J, Liang Y, **Sarkar MK**, Xing X, Beamer M, Aphale A, Raja K, Kozlow JH, Getsios S, Voorhees JJ, Kahlenberg JM, Elder JT, Gudjonsson JE. Transcriptional determinants of individualized inflammatory responses at anatomically separate sites. *Journal of Allergic and Clinical Investigation* 2017; 141: 805-808.
23. Swindell WR, Beamer MA, **Sarkar MK**, Loftus S, Fullmer J, Xing X, Ward NR, Tsoi LC, Kahlenberg JM, Liang Y, Gudjonsson JE. RNA-seq analysis of IL-1B and IL-36

responses in epidermal keratinocytes identifies a shared MyD88-dependent gene signature. *Frontiers in Immunology* 2018; 9: 80.

24. **Sarkar MK**, Hile GA, Tsoi LC, Xing X, Liu J, Liang Y, Berthier CC, Swindell WR, Patrick M, Shuai S, Tsou PS, Uppala R, Beamer MA, Srivastava A, Bielas SL, Harms PW, Getsios S, Elder JT, Voorhees JJ, Gudjonsson JE, Kahlenberg JM. Photosensitivity and type I IFN responses in cutaneous lupus are driven by epidermal derived interferon kappa. *Annals of the Rheumatic Diseases* 2018; 77: 1653-1664.
25. Tsoi LC, Rodriguez E, Degenhardt F, Baurecht H, Wehkamp U, Volks N, SSzymczak S, Swindell WR, **Sarkar MK**, Raja K, Shao S, Patrick M, Gao Y, Uppala R, Perez White BE, Getsios S, Harms PW, Maverakis E, Elder JT, Franke A, Gudjonsson JE, Weidinger S. Atopic dermatitis is an IL-13 dominant disease with greater molecular heterogeneity compared to psoriasis. *Journal of Investigative Dermatology* (in press).
26. Tsoi LC, Hile GA, Berthier CC, **Sarkar MK**, Reed TJ, Liu J, Uppala R, Patrick M, Raja K, Xing X, Xing E, He K, Gudjonsson JE, Kahlenberg JM. Hypersensitive interferon responses in lupus keratinocytes reveal key mechanistic determinants in cutaneous lupus. *Journal of Immunology* (in press).

#### ***Extramural presentations:***

1. **M.K. Sarkar** and P.C. Sil: *Purification and characterization of an antioxidant Protein molecule from the herb Phyllanthus niruri*. Symposium on Recent Advances in Biological Sciences. August 2008, Society of Biological Chemist (India), Digha, West Bengal, India.
2. **M.K. Sarkar** and P.C. Sil: *Studies on the Antioxidant Role of a Macromolecule from the Herb Phyllanthus niruri*. INSA Platinum Jubilee International Symposium on Research in Molecular Medicine Based on Natural Resources and Traditional Knowledge, November 2009, organized by National Chemical laboratory, Pune, India.
3. **M.K. Sarkar**, S. Kumar and S. Kalantry: *A Novel Anti-sense Non-coding RNA Required for Xist RNA Induction in X-inactivation*. Department of Human Genetics Annual Retreat, September 2013, Kellogg Biological Station, Gull Lake, MI. (Poster Presentation)
4. W. Swindell, A. Johnston, N. Ward, X. Xing, **M.K. Sarkar**, R. Nair, J. Elder, J. Gudjonsson: *Shared inflammatory signatures between atherosclerotic plaque and psoriatic skin*. 7th International Congress of Psoriasis: from Gene to Clinic, London, U.K.; 12/2014, DOI:10.1111/bjd.13488
5. W.R. Swindell, A. Johnston, S. Ganesh, K. Gallagher, N.L. Ward, X. Xing, **M.K. Sarkar**, R.P. Nair, J.T. Elder, J.E. Gudjonsson: *Shared inflammatory signatures between atherosclerotic plaques and psoriasis skin*. 74th Annual Meeting of the Society for Investigative Dermatology, Atlanta, GA; 01/2015
6. **M.K. Sarkar**, A Johnston, WR Swindell, X Xing, A Finkielsztein, S Getsios, JE Gudjonsson: *Topoisomerase 2 beta impacts gene-length bias in psoriasis through altered epidermal differentiation*. 74th Annual Meeting of the Society for Investigative Dermatology, Atlanta, GA; 05/2015 (**Oral presentation**).



7. J.T. Elder, L.C. Tsoi, M.K. Iyer, P.E. Stuart, W.R. Swindell, J.E. Gudjonsson, T Tejasvi, **M.K. Sarkar**, B Li, J Ding, JJ Voorhees, HM Kang, RP Nair, AM Chinnaiyan, G Abecasis: *Analysis of long non-coding RNAs highlights tissue-specific expression patterns and epigenetic profiles in normal and psoriatic skin*. 74th Annual Meeting of the Society for Investigative Dermatology, Atlanta, GA; 05/2015, DOI:10.13140/RG.2.1.3844.8884
8. W.R. Swindell, **M.K. Sarkar**, P.E. Stuart, J.J. Voorhees, J.T. Elder, A. Johnston, J.E. Gudjonsson: *Psoriasis drug development and GWAS interpretation through in silico analysis of transcription factor binding sites*. 74th Annual Meeting of the Society for Investigative Dermatology, Atlanta, GA; 01/2015
9. A. Johnston, X. Xing, L. Wolterink, D.H. Barnes, W.R. Swindell, **M.K. Sarkar**, JM Kahlenberg, PW Harms, JE Gudjonsson: *IL-1 and IL-36 are the dominant cytokines in generalized pustular psoriasis*. 74th Annual Meeting of the Society for Investigative Dermatology, Atlanta, GA; 05/2015
10. **M.K. Sarkar**, L.C. Tsoi, X. Xing, Y. Liang, J.J. Voorhees, P.W. Harms, J. Stannard, S.W. Stoll, J. Elder, A. Johnston, S. Getsios, J.M. Kahlenberg, J.E. Gudjonsson: *465 Autocrine IFN- $\kappa$  maintains baseline type I interferon responses in keratinocytes in a Tyk2 dependent manner*. 75th Annual Meeting of the Society for Investigative Dermatology, Scottsdale, AZ; 05/2016, DOI:10.1016/j.jid.2016.02.501(**Oral presentation**).
11. **M.K. Sarkar**, L.C. Tsoi, N. Kaplan, X. Xing, Y. Liang, P. Hoover, J.J. Voorhees, R. Nair, J.T. Elder, A. Johnston, S. Getsios, J.E. Gudjonsson: *478 Localized steroid deficiency in psoriatic skin maintains inflammatory state and prevents restoration of epidermal differentiation*. 75th Annual Meeting of the Society for Investigative Dermatology, Scottsdale, AZ; 05/2016, DOI:10.1016/j.jid.2016.02.514
12. Y. Liang, L.C. Tsoi, X. Xing, **M.K. Sarkar**, J.J. Voorhees, P.W. Harms, J.M. Kahlenberg, J.E. Gudjonsson: *062 VGLL3 is a key regulator of gender biased transcriptome changes and may explain female bias in lupus and other autoimmune diseases*. 75th Annual Meeting of the Society for Investigative Dermatology, Scottsdale, AZ; 05/2016, DOI:10.1016/j.jid.2016.02.087
13. X. Xing, Y. Liang, **M.K. Sarkar**, W. Liza, J.J. Voorhees, P.W. Harms, W.R. Swindell, J.M. Kahlenberg, A. Johnston, J.E. Gudjonsson: *272 Shared and unique inflammatory processes and transcriptome changes in inverse and erythrodermic psoriasis compared to plaque psoriasis*. 75th Annual Meeting of the Society for Investigative Dermatology, Scottsdale, AZ; 05/2016, DOI:10.1016/j.jid.2016.02.302
14. **M.K. Sarkar**, L.C. Tsoi, X. Xing, L. Yun, P. Harms, J. Stannard, J.T. Elder, S. Getsios, J.M. Kahlenberg, J.E. Gudjonsson: *435 Autocrine IFN- $\kappa$  maintains baseline type I interferon responses in keratinocytes in a Tyk2 dependent manner*. 46th Annual ESDR Meeting 2016, Munich, Germany; 09/2016, DOI:10.1016/j.jid.2016.06.455
15. **M.K. Sarkar**, L.C. Tsoi, X. Xing, Y. Liang, J.J. Voorhees, S.W. Stoll, J.T. Elder and J.E. Gudjonsson: *Understanding type I interferon signaling in psoriasis*. 1<sup>st</sup> NPF research trainee symposium, October 19-20, 2016, Portland, Oregon, USA. (**Oral presentation**).
16. J. E. Gudjonsson, W. R. Swindell, K. A. Michaels, A. J. Sutter, D. Diaconu, Y. Fritz, X. Xing, **M. K. Sarkar**, Y. Liang, L.C. Tsoi, N. L. Ward: *Imiquimod has strain-dependent*

*effects in mice and does not uniquely model human psoriasis.* 2nd Inflammatory Skin Disease Summit, New York; 11/2016

17. M.A. Beamer, W.R. Swindell, L. Tsoi, P. Tsou, Y. Li, **M.K. Sarkar**, X. Xing, Y. Liang, G.J. Fisher, J.E. Gudjonsson: *520 High resolution transcriptome profiling identifies gene expression signatures unique to normal human keratinocytes, dermal fibroblasts, and endothelial cells.* 76th Annual Meeting of the Society for Investigative Dermatology, Portland, OR; 04/2017, DOI:10.1016/j.jid.2017.02.540
18. Y. Liang, L.C. Tsoi, X. Xing, M.A. Beamer, **M.K. Sarkar**, J.J. Voorhees, P.W. Harms, J.M. Kahlenberg, J.E. Gudjonsson: *008 VGLL3 is a key regulator of transcriptome changes in gender biased autoimmune conditions.* 76th Annual Meeting of the Society for Investigative Dermatology, Portland, OR; 04/2017, DOI:10.1016/j.jid.2017.02.021
19. **M.K. Sarkar**, X. Xing, A. Tsoi, Y. Liang, C.C. Berthier, L.W. Roberts, M.T. Patrick, G. Hile, M.A. Beamer, P. Tsou, P.W. Harms, J.T. Elder, J.J. Voorhees, A. Johnston, J.M. Kahlenberg, J.E. Gudjonsson: *043 Interferon kappa is required for regulation of baseline type I interferon responses in keratinocytes and is dysregulated in cutaneous lupus.* 76th Annual Meeting of the Society for Investigative Dermatology, Portland, OR; 04/2017, DOI:10.1016/j.jid.2017.02.056 (**Oral presentation**).
20. X. Xing, **M.K. Sarkar**, A. Tsoi, N. Kaplan, Y. Liang, P. Hoover, J.J. Voorhees, R.P. Nair, J.T. Elder, I. Budunova, S. Getsios, J.E. Gudjonsson: *040 Metabolomic profiling of psoriasis skin reveals localized cortisol deficiency resulting in maintenance of inflammatory state and disruption of epidermal differentiation.* 76th Annual Meeting of the Society for Investigative Dermatology, Portland, OR; 04/2017, DOI:10.1016/j.jid.2017.02.053
21. W.R. Swindell, K. Michaels, A. Sutter, D. Diaconu, Y. Fritz, X. Xing, **M.K. Sarkar**, Y. Liang, L.C. Tsoi, J.E. Gudjonsson, N.L. Ward: *645 Imiquimod has strain-dependent effects in mice and does not uniquely model human psoriasis.* 76th Annual Meeting of the Society for Investigative Dermatology, Portland, OR; 04/2017, DOI:10.1016/j.jid.2017.02.667
22. L.C. Tsoi, J. Yang, Y. Liang, **M.K. Sarkar**, X. Xing, M.A. Beamer, A. Aphale, K. Raja, J. Kozlow, S. Getsios, J.J. Voorhees, J.M. Kahlenberg, J.T. Elder, J.E. Gudjonsson: *525 Determinants of intra-individual transcriptional homogeneity in inflammatory responses at anatomically separate sites.* 76th Annual Meeting of the Society for Investigative Dermatology, Portland, OR; 04/2017, DOI:10.1016/j.jid.2017.02.545
23. **MK Sarkar**, LC Tsoi, X Xing, Y Liang, JJ Voorhees, JT Elder, JE Gudjonsson. *Tyrosine kinase 2 mediated type I interferon signaling in Psoriasis.* 2017 National Psoriasis Foundation Research Symposium, Chicago; 08/2017.
24. WR Swindell, **MK Sarkar**, MA Beamer, X Xing, JM Kahlenberg, NL Ward, JJ Voorhees, LC Tsoi, Y Liang, JE Gudjonsson. *Transcriptomic profiling of interleukin (IL)-36A, IL-36B and IL-36G cytokine responses in keratinocytes demonstrates a high degree of overlap and dependency on MYD88 and nuclear factor-kB signaling.* Psoriasis Gene to Clinic, 8th International Congress At The Queen Elizabeth II Conference Centre, London, U.K. DOI: 10.1111/bjd.16059.

25. **M. K. Sarkar**, R. Uppala, S. Getsios, B.E. Perez White, L.C. Tsoi, J.E. Gudjonsson: *078 Characterization of a novel long non-coding RNA (G2608) in psoriasis*. International Investigative Dermatology (IID) 2018, Orlando, Florida; 05/2018, DOI:10.1016/j.jid.2018.03.082
26. L.C. Tsoi, E. Rodrigues, F. Degenhardt, H. Baurecht, U. Wehkamp, N. Volks, S. Szymczak, W. Swindell, **M. K. Sarkar**, K. Raja, M.T. Patrick, Y. Gao, R. Uppala, B.E. Perez White, S. Getsios, P. Harms, E. Maverakis, J.T. Elder, A. Franke, J.E. Gudjonsson, S. Weidinger: *480 Atopic dermatitis is an IL-13/IL10 driven disease with high molecular heterogeneity compared to psoriasis*. International Investigative Dermatology (IID) 2018, Orlando, Florida; 05/2018, DOI:10.1016/j.jid.2018.03.487
27. M. Beamer, W. Swindell, L.C. Tsoi, Y. Liang, **M. K. Sarkar**, X. Xing, H. McDonald, J.J. Voorhees, V. Scott, J.E. Gudjonsson: *915 Characterization of eicosanoid species altered in psoriatic skin*. International Investigative Dermatology (IID) 2018, Orlando, Florida; 05/2018, DOI:10.1016/j.jid.2018.03.927
28. **M. K. Sarkar**, G. Hile, L.C. Tsoi, X. Xing, J. Liu, Y. Liang, C.C. Berthier, W.R. Swindell, M. Patrick, P. Tsou, R. Uppala, M. Beamer, A. Srivastava, S. Bielas, P. Harms, S. Getsios, J.T. Elder, J.J. Voorhees, J.M. Kahlenberg, J.E. Gudjonsson: *072 Photosensitivity and heightened type I IFN responses in cutaneous lupus are driven by elevated interferon kappa*. International Investigative Dermatology (IID) 2018, Orlando, Florida; 05/2018, DOI:10.1016/j.jid.2018.03.076
29. S. Sirobhushanam, N. Parsa, **M.K. Sarkar**, J.E. Gudjonsson, J.M. Kahlenberg: *Staphylococcus aureus colonization is influenced by cutaneous interferon production*. Immunology 2018, Austin, Texas; 05/2018.

### ***Seminar/Symposium/Conference Attended***

1. NIH Common Fund High Risk, High Reward (HRHR) Research Symposium - November 18-20, 2013. Bethesda, Maryland.
2. Montagna Symposium on the Biology of Skin “The Skin: Our Sensory Organ for Itch, Pain, Touch and Pleasure” (October 20-24, 2016), Salishan Resort, Gleneden Beach, Oregon, USA.