

CURRICULUM VITAE

Name	Purna C. Kashyap	Country	USA
Affiliation/ Present Position	Professor, Department of Medicine and Physiology Co-director Microbiome Program Mayo Clinic, Rochester, MN, USA		

Education			
Bangalore Medical College, Bangalore, India	MBBS	04/1999	Medicine
Bangalore Medical College, Bangalore, India	Internship	09/2000	Medicine

Training and Carrier (Residency and Experience)			
University of Texas Medical Branch, Galveston, TX, USA	Residency	06/2007	Internal Medicine
Mayo School of Graduate Medical Education, Mayo Clinic College of Medicine, Rochester, MN, USA	Fellowship	06/2010	Gastroenterology

Award and Activity	
2021	Inducted to American Society of Clinical Investigation
2020	Elected to American Gastroenterology Association, Council
2016- 2020	Elected to American Neurogastroenterology and Motility, Council
2014- Present	AGA Center for Gut Microbiome Research and Education Board Member
2010- 2012	Mayo Foundation Scholarship
2010	Eugenie Bolz award for outstanding patient care

Research Interests
Gut microbiome
Functional Gastrointestinal Disorders
<i>C. difficile</i> infection

Bibliography: representative publications from the last three years

1. Schupack D, Mars RAT, Voelker D, Abeykoon J, and **Kashyap PC*** The promise of the gut microbiome in guiding precision treatment. **Nat Rev Gastroenterol Hepatol** 2021 *in press*
2. Mihindikulasuriya KA, Mars RAT, Johnson AJ, Ward T, Priya S, Lekatz HR, Kalari KR, Droit L, Zheng T, Blekhman R, D'Amato M, Farrugia G, Knights D, Handley SA, **Kashyap PC***. Multi-omics analyses show disease, diet, and transcriptome interactions with the virome. *Gastroenterology*. 2021 Jul 7:S0016-5085(21)03234-0. doi: 10.1053/j.gastro.2021.06.077. Epub ahead of print. PMID: 34245762.
3. Wolf PG, Devendran S, Doden HL, Ly LK, Moore T, Takei H, Nittono H, Murai T, Kurosawa T, Chlipala GE, Green SJ, Kakiyama G, **Kashyap P**, McCracken VJ, Gaskins HR, Gillevet PM, Ridlon JM. Berberine alters gut microbial function through modulation of bile acids. **BMC Microbiol**. 2021 Jan 11;21(1):24. doi: 10.1186/s12866-020-02020-1. PMID: 33430766; PMCID: PMC7798349.
4. Bhattarai Y, Si J, P Meng, Ross O. A., McLean P. J., Till L., Moor W., Grover M., Kandimalla K. K., Margolis K. G., Farrugia G., **Kashyap P C*** Role of Gut Microbiota in Regulating Gastrointestinal Dysfunction and Motor Symptoms in a Mouse Model of Parkinson's Disease. **Gut Microbes** Jan 1, 2021;13(1):1866974. doi: 10.1080/19490976.2020.1866974. PMID: 33459114.
5. Mars RAT, Frith M, **Kashyap PC***. What is the best strategy for moving microbiome-based therapies for functional gastrointestinal disorders into the clinic? **Gastroenterology** 2021 Jan;160 (2):538-555. doi: 10.1053/j.gastro.2020.10.058. Epub 2020 Nov 28. PMID: 33253687.
6. Bhattarai Y, Jie S, Linden DR, Ghatak S, Mars R AT, Williams BB, Pu M, Sonnenburg JL, Fischbach MA, Farrugia G, Sha L, **Kashyap PC***. Bacterially Derived Tryptamine Increases Mucus Release by Activating a Host Receptor in a Mouse Model of Inflammatory Bowel Disease. **iScience** 2020 Nov 13;23(12):101798. doi: 10.1016/j.isci.2020.101798. PMID: 33299969; PMCID: PMC7702010.
7. Pu M, Cho JM, Cunningham SA, Behera G, Becker S, Amjad T, Greenwood-Quaintance KE, Mendes-Soares H, Jones-Hall Y, Jeraldo PR, Chen J, Dunny G, Patel R, **Kashyap PC***. Plasmid acquisition alters vancomycin susceptibility in *Clostridioides difficile*. **Gastroenterology** Nov 13 2020, doi: <https://doi.org/10.1053/j.gastro.2020.10.046>. Online ahead of print.
8. Pruss KM, Marcobal A, Southwick AM, Dahan D, Smits SA, Ferreyra JA, Higginbottom SK, Sonnenburg ED, **Kashyap PC**, Choudhury B, Bode L, Sonnenburg JL. Mucin-derived O-glycans supplemented to diet mitigate diverse microbiota perturbations. **ISME J**. 2020 Oct 21 doi: <https://doi.org/10.1038/s41396-020-00798-6>. Online ahead of print.
9. Rengarajan S, Knoop KA, Rengarajan A, Chai JN, Grajales-Reyes JG, Samineni VK, Russler-Germain EV, Ranganathan P, Fasano A, Sayuk GS, Gereau RW 4th, Kau AL, Knights D, **Kashyap PC**, Ciorba MA, Newberry RD, Hsieh CS. A Potential Role for Stress-Induced Microbial Alterations in IgA-Associated Irritable Bowel Syndrome with Diarrhea. **Cell Rep Med**. 2020 Oct 20;1(7):100124. doi: 10.1016/j.xcrm.2020.100124. PMID: 33196055; PMCID: PMC7659537.
10. Ruben A. T. Mars#, Yi Yang#, Tonya Ward, Mo Houtti, Sambhawa Priya, Heather R. Lekatz, Xiaojia Tang, Zhifu Sun, Krishna R. Kalari, Tal Korem, Yogesh Bhattarai, Tenghao Zheng, Noam Bar, Gary Frost, Abigail J. Johnson, Will van Treuren, Shuo Han, Tamas Ordog, Madhusudan Grover, Justin Sonnenburg, Mauro D'Amato, Michael Camilleri, Eran Elinav, Eran Segal, Ran Blekhman, Gianrico Farrugia, Jonathan R. Swann, Dan Knights, **Kashyap PC***. Longitudinal multi-omics reveals subset-specific mechanisms underlying irritable

bowel syndrome. **Cell** Sep 17; 182 (6):1460-1473.e17 Epub 2020 Sept 10 doi: <https://doi.org/10.1016/j.cell.2020.08.007>.

11. Bhattarai Y, **Kashyap PC**. * Parkinson's disease: Are gut microbes involved? **Am J Physiol Gastrointest Liver Physiol**. 2020 Nov 1; 319 (5):G529-G540 doi: <https://doi.org/10.1152/ajpgi.00058.2020>. Epub 2020 Sept 02
12. Edwards PT, **Kashyap PC**, Preidis GA. Microbiota on Biotics: Probiotics, Prebiotics, and Synbiotics to Optimize Growth and Metabolism. **Am J Physiol Gastrointest Liver Physiol**. 2020 Sep 1;319(3):G382-G390. doi: 10.1152/ajpgi.00028.2020. Epub 2020 Aug 5. PMID: 32755308; PMCID: PMC7509258.
13. Su GL, Ko CW, Bercik P, Morgan RL, Weizman AV, **Kashyap P**, Preidis GA. Spotlight: Probiotics Guidelines. **Gastroenterology**. 2020 Jul 22:S0016-5085(20)34954-4. PMID: 32738195 doi: 10.1053/j.gastro.2020.07.025. Online ahead of print.
14. Morgan RL, Preidis GA, **Kashyap PC**, Weizman AV, Sadeghirad B; McMaster Probiotic, Prebiotic, and Synbiotic Work Group. Probiotics Reduce Mortality and Morbidity in Preterm, Low-Birth-Weight Infants: A Systematic Review and Network Meta-analysis of Randomized Trials. **Gastroenterology** 2020 Jun 24:S0016-5085(20)34849-6. PMID: 32592699 doi: 10.1053/j.gastro.2020.05.096. Online ahead of print.
15. Preidis GA, Weizman AV, **Kashyap PC**, Sadeghirad B, Morgan RL. AGA Technical Review on the Role of Probiotics in the Management of Gastrointestinal Disorders. **Gastroenterology** 2020 Jun 9:S0016-5085(20)34732-6. PMID: 32531292 doi: 10.1053/j.gastro.2020.05.060. Online ahead of print.
16. Nyavor Y, Brands CR, May G, Kuther S, Nicholson J, Tiger K, Tesnohlidek A, Yasuda A, Starks K, Litvinenko D, Linden DR, Bhattarai Y, **Kashyap PC**, Forney LJ, Balemba OB. High-fat diet-induced alterations to gut microbiota and gut-derived lipoteichoic acid contributes to the development of enteric neuropathy. **Neurogastroenterol Motil**. July 2020;32(7):e13838. PMID: 32168415 doi: 10.1111/nmo.13838
17. Sidiropoulos DN, Al-Ghalith GA, Shields-Cutler RR, Ward TL, Johnson AJ, Vangay P, Knights D, **Kashyap PC**, Xian Y, Ramer-Tait AE, Clayton JB. Wild primate microbiomes prevent weight gain in germ-free mice. **Anim Microbiome**. 2020 May 7;2(1):16. doi: 10.1186/s42523-020-00033-9. PMID: 33499991.
18. Dujardin CE, Mars RAT, Manemann SM, **Kashyap PC**, Clements NS, Hassett LC, Roger VL. Impact of air quality on the gastrointestinal microbiome: A review. **Environ Res**. 2020 Jul;186:109485. doi: 10.1016/j.envres.2020.109485. Epub 2020 Apr 7. PMID: 32289569.
19. Cho J, Cunningham S, Pu M, Lennon RJ, Dens Higano J, Jeraldo P, Sampathkumar P, Shannon S, **Kashyap P***, Patel R*. *Clostridioides difficile* Whole Genome sequencing Differentiates relapse with the Same Strain from Reinfection with a New Strain. **Clin Infect Dis** Feb 17, 2020:ciaa159. doi: 10.1093/cid/ciaa159. Epub ahead of print. PMID: 32064535.
20. Edogawa S, Edwinston AL, Peters SA, Chikkamenahalli LL, Sundt W, Graves S, Gurunathan SV, Breen-Lyles M, Johnson S, Dyer R, Graham R, Chen J, **Kashyap P**, Farrugia G, Grover M. Serine proteases as luminal mediators of intestinal barrier dysfunction and symptom severity in IBS. **Gut**. 2020 Jan; 69 (1):62-73. PMID: 30923071 doi: 10.1136/gutjnl-2018-317416. Epub 2019 Mar 28
21. **Kashyap PC**, Johnson S, Geno DM, Lekatz HR, Lavey C, Alexander JA, Chen J, Katzka DA. A decreased abundance of clostridia characterizes the gut microbiota in eosinophilic esophagitis. **Physiol Rep**. 2019 Oct; 7 (20):e14261. PMID: 31650712 PMCID: 6813259 doi: 10.14814/phy2.14261

22. Ridlon JM, Devendran S, Alves JM, Doden H, Wolf PG, Pereira GV, Ly L, Volland A, Takei H, Nittono H, Murai T, Kurosawa T, Chlipala GE, Green SJ, Hernandez AG, Fields CJ, Wright CL, Kakiyama G, Cann I, **Kashyap P**, McCracken V, Gaskins HR. The 'in vivo lifestyle' of bile acid 7 α -dehydroxylating bacteria: comparative genomics, metatranscriptomic, and bile acid metabolomics analysis of a defined microbial community in gnotobiotic mice. **Gut Microbes** May 3 2020;11(3):381-404. PMID: 31177942 doi:10.1080/19490976.2019.1618173.
23. Mendes-Soares H, Raveh-Sadka T, Azulay S, Ben-Shlomo Y, Cohen Y, Ofek T, Stevens J, Bachrach D, **Kashyap P**, Segal L, Nelson H. Model of personalized postprandial glycemic response to food developed for an Israeli cohort predicts responses in Midwestern American individuals. **Am J Clin Nutr**. July 2019;110(1):63-75. PMID: 31095300 PMCID: 6599737 doi:10.1093/ajcn/nqz0282019. May 16 [Epub ahead of print]
24. Saffouri GB, Shields-Cutler RR, Chen J, Yang Y, Lekatz HR, Hale VL, Cho JM, Battaglioli EJ, Bhattarai Y, Thompson KJ, Kalari KK, Behera G, Berry JC, Peters SA, Patel R, Schuetz AN, Faith JJ, Camilleri M, Sonnenburg JL, Farrugia G, Swann JR, Grover M, Knights D, **Kashyap PC.*** Small intestinal microbial dysbiosis underlies symptoms associated with functional gastrointestinal disorders. **Nat Commun**. 2019 May 1; 10 (1):2012. PMID: 31043597 PMCID: 6494866 doi: 10.1038/s41467-019-09964-7. Epub 2019 May 01
25. Muniz Pedrego DA, Chen J, Hillmann B, Jeraldo P, Al-Ghalith G, Taneja V, Davis JM 3rd, Knights D, Nelson H, Faubion WA, Raffals L, **Kashyap PC.*** An Increased Abundance of *Clostridiaceae* Characterizes Arthritis in Inflammatory Bowel Disease and Rheumatoid Arthritis: A Cross-sectional Study. **Inflamm Bowel Dis**. 2019 Apr 11; 25 (5):902-913. PMID: 30321331 PMCID: 6458525 doi: 10.1093/ibd/izy318
26. Edogawa S, Edwinston AL, Peters SA, Chikkamenahalli LL, Sundt W, Graves S, Gurunathan SV, Breen-Lyles M, Johnson S, Dyer R, Graham R, Chen J, **Kashyap P**, Farrugia G, Grover M. Serine proteases as luminal mediators of intestinal barrier dysfunction and symptom severity in IBS. **Gut**. 2020 Jan;69(1):62-73. PMID: 30923071 doi: 10.1136/gutjnl-2018-317416. Epub Mar 28, 2019, ahead of print
27. Mendes-Soares H, Raveh-Sadka T, Azulay S, Edens K, Ben-Shlomo Y, Cohen Y, Ofek T, Bachrach D, Stevens J, Colibaseanu D, Segal L, **Kashyap P**, Nelson H. Assessment of a Personalized Approach to Predicting Postprandial Glycemic Responses to Food Among Individuals Without Diabetes. **JAMA Netw Open**. 2019 Feb 1; 2 (2):e188102 PMID: 30735238 DOI: 10.1001/jamanetworkopen.2018.8102. Epub 2019 Feb 01