Curriculum Vitae

Lindsey L. Kennedy, Ph.D.

Name: Lindsey L. Kennedy
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Address: 1401 Terrace Ave.
Indianapolis, IN 46203

EDUCATION:

2015-2019 Texas A&M Health Science Center, College of Medicine
Temple, Texas.
Ph.D. in Medical Sciences
Dissertation: "Mast Cell Regulation of Large Cholangiocyte Function Via H2 Histamine Receptor Signaling and Subsequent Liver Damage"
***Awarded the Excellence in Graduate Research Award given to one matriculating PhD at graduation*

2009-2013 University of Texas, College of Natural Sciences
Austin, Texas
B.S. in Cellular and Molecular Biology

EMPLOYMENT:

2021-Present Assistant Research Professor
Indiana University School of Medicine
Division of Gastroenterology and Hepatology
Indianapolis, Indiana

2021-Present Health Science Specialist
Richard L. Roudebush VA Medical Center
Department of Research
Indianapolis, Indiana

2019-2021 Post-Doctoral Fellow
Indiana University School of Medicine (IUSM)
Division of Gastroenterology and Hepatology
Indianapolis, Indiana

2013-2015 Research Technician

Central Texas Veterans Research Foundation
Temple, Texas

2011-2013 Research Assistant
Digestive Diseases Research Center, Scott & White Hospital
Temple, Texas

RESEARCH INTERESTS:

My research interests lie in the cellular crosstalk and pathological mechanisms regulating biliary and liver damage in liver diseases. My work has identified potential therapeutics for cholestatic disorders, such as primary sclerosing cholangitis (PSC) and primary biliary cholangitis (PBC), as well as metabolic-associated steatotic liver disease. During my training, I have worked on a broad array of studies due to multidisciplinary collaborations with transplant hepatologists, other renowned liver disease experts, and biotech companies. My aspirations are to use my scientific acumen to disseminate our research to a broader audience and to advance our knowledge on the pathogenesis of liver diseases.

AD HOC REVIEWER:

- Hepatology
- Digestive and Liver Diseases
    - One of the 30 Best Reviewers, 2016
- Gastroenterology Research and Practice
- BioMed Central Research Notes
- PlosOne
- Immunopharmacology and Immunotoxicology
- Journal of Clinical and Translational Hepatology
    - Outstanding Contributions Award, 2018
- Frontiers in Medicine
- Frontiers in Pharmacology
- Cell & Biosciences
- American Journal of Pathology

EDITORIAL DUTIES:

- Social Media Editor, Cellular and Molecular Gastroenterology and Hepatology, 2023-2024
- Associate Editor, Frontiers in Medicine, Gastroenterology and Hepatology, 2020 – Present
- Associate Editor, BMC Gastroenterology, 2020 – Present
- Editorial Fellow, Cellular and Molecular Gastroenterology and Hepatology, 2021 – 2022

- One of the Best Reviewers, 2021

TRAINING:

- Member, American Association for the Study of Liver Diseases (AASLD), 2015-Present
- Member, American Society for Investigative Pathology (ASIP), 2016-Present
- Member, European Association for the Study of the Liver (EASL), 2020-Present
- Member, American Gastroenterological Association, 2022-Present
- Trainee Member, American Physiological Society (APS), 2016-2020
- Member, American Association for the Advancement of Science (AAAS)/Science Program for Excellence in Science, 2016-2019

SERVICE:

- AASLD Liver Fibrosis SIG Associate Member, 2023 – 2026
- AASLD Basic Research Committee Member, 2023 – 2026
- Abstract reviewer, AASLD 2022
- NIH Early Career Reviewer – 2022 – Present
  - Invited to XNDA/DBDT panel (February 2023)
- Member of the local VA SRS Committee, 2020 – Present

TEACHING:

- Co-site Director for the Gastrointestinal and Nutrition block for 2nd year medical students (IUSM) – Fall 2022

COMMUNITY OUTREACH:

- CTSI STEM-SEED mentor for high school students from underrepresented groups, Summer 2021
- Active participant and session organizer, Women in Medicine and Science (IUSM)
- Social Media Ambassador
  - EASL 2022 – 2023
  - ASIP for EB Meeting 2021
- Science fair judge, Science Education Foundation of Indiana, March 2019

INVITED LECTURES:

- Society of Chinese Bioscientists in America Conference, Boston, MA, July 2022
- Indiana Center for Liver Research Symposium, Indianapolis, IN, September 2022
- Basic Science Symposium, AASLD (virtual), November 2021
- Cincinnati Children's Hospital Medical Center Liver Research Meeting (virtual), May 2021

SESSION CHAIR:

- The Liver Meeting; Cholangiocentric Studies Targeting Biliary Disorders; Washington D.C.; November 2022
- Tissue, Matrix, and Pathobiology: Joint Meeting of ASMB, HCS, and ASIP; Liver Pathobiology: Mechanisms of Hepatotoxicity and Liver Injury; Salt Lake City, UT; October 2023
- The Liver Meeting; Basic Science Symposium: Bile Acids at the Cross-road of the Gut-liver and Brain-liver Axes; Boston, MA; November 2023

GRANTS:

Current Funding

- CDA-2 Career Development Award, VA, January 2021 – December 2024, "Cholangiocyte-Derived Endothelin Signaling Mediates Biliary Injury and Liver Fibrosis"
    - **Mentor:** Dr. Gianfranco Alpini
    - **Co-Mentor:** Dr. Heather Francis

Previous Funding

- Autoimmune Liver Diseases Pilot Award, AASLD Foundation, July 1, 2020 – June 30, 2021, "Sex-Dependent Estrogen Signaling Promotes Mast Cell Activation and Histamine Signaling in Primary Biliary Cholangitis"
    - **Mentor:** Dr. Heather Francis

AWARDS:

- Vector Labs Microscopy Image Contest Winner (Top 10), December 2022
- BBA Molecular Basis of Disease Cover Image Contest Winner, March 2022
- Young Investigator Award, PSC Partners Conference (virtual), June 2022
- AASLD Foundation DDW Abstract Award, DDW, May 2021
- American Society for Investigative Pathology George K. Michalopoulos Junior Faculty Scholar Award, EB, April 2021
- **Kennedy L**, Ceci L, Wu N, Kundu D, Kyritsi K, Meadows V, Ekser B, Zhou T, Glaser S, Francis H Alpini G. The endothelin (ET)-A axis triggers biliary senescence, liver fibrosis and angiogenesis by activation of transforming growth factor (TGF)-β1 signaling in primary sclerosing cholangitis. Presidential Plenary, Translational, American Association for the Study of Liver Diseases, November 2020.
    - Highlighted as 'Best of the Liver Meeting'
- **Kennedy L**, Meadows V, Kundu D, Invernizzi P, Carbone M, Alpini G, Francis H. Mast cell activation mediates biliary immunobiology and subsequent immune response in a model of primary biliary cholangitis (PBC). International Liver Conference (ILC), August 2020. Chosen for the poster tour: Immune-mediated and cholestatic diseases: Experimental
    - Awarded a young investigator bursary
    - Highlighted as 'Best of the ILC'

- American Society for Investigative Pathology Monga-Hans Trainee Travel Award for Excellence in Liver Pathobiology Research, EB, April 2020
- **Kennedy L**, Meadows V, Kyritsi K, Meng F, Liangpunsakul S, Yang Z, Kusumanchi P, Glaser S, Alpini G, Francis H. Novel evidence for the role of mast cells and histamine signaling in late stage primary biliary cholangitis (PBC): new kids on the block. Presidential Plenary, Translational, American Association for the Study of Liver Diseases, November 2019
    - Highlighted as 'Best of the Liver Meeting'
- Graduate Excellence in Research Award, Texas A&M Health Science Center, May 2019
    - Given to one outstanding Ph.D. student from each graduating class
- American Society for Investigative Pathology Sobel Scholar Travel Award, EB, April 2019
- American Physiological Society – Gastrointestinal and Liver Physiology Takeda Research Award, EB, April 2018
- American Society for Investigative Pathology Sobel Scholar Travel Award, EB, April 2018
- Basic Science Travel Award, DDW, May 2017
- American Physiological Society – Gastrointestinal and Liver Physiology Takeda Research Award, EB, April 2017
- Trainee Travel Award, PISA, October 2016
- **Kennedy L**, Hargrove H, Demieville J, Owens J, Jones H, Invernizzi P, Bernuzzi F, Alpini G, Francis H. Therapeutic potential of H1 or H2 histamine receptor antagonists on hepatic fibrosis, liver damage and mast cell migration in Mdr2$^{-/-}$ mice and human PSC. Awarded poster of distinction at PISA, October 2016
- **Kennedy L**, Hargrove L, Owens J, Francis H. Mast cells interact with proliferating cholangiocytes to activate hepatic stellate cells and promote fibrosis via TGF-β1 signaling during cholestatic injury. Awarded poster of distinction at AASLD, November 2015

BIBLIOGRAPHY:
Link to my bibliography:
https://www.ncbi.nlm.nih.gov/myncbi/lindsey.kennedy.2/bibliography/public/

ORIGINAL ARTICLES:

1. Owen T, Carpino G, Chen L, Kundu D, Wills P, Ekser B, Onori P, Gaudio E, Alpini G, Francis H, **Kennedy L**. Endothelin Receptor-A Inhibition Decreases Ductular Reaction, Liver Fibrosis, and Angiogenesis in a Model of Cholangitis. Cell Mol Gastroenterol Hepatol. 2023; 16(4):513-540. PMID: 37336290
2. Kundu D, **Kennedy L**, Zhou T, Ekser B, Meadows V, Sybenga A, Kyritsi K, Chen L, Ceci L, Wu N, Wu C, Glaser S, Carpino G, Onori P, Gaudio E,

Alpini G, Francis H. p16^{INK4A} Drives Non-alcoholic Fatty Liver Disease Phenotypes in High Fat Diet Fed Mice through Biliary E2F1/FOXO1/IGF-1 Signaling. Hepatology. 2023 Jul 1; 78(1):243-257. PMID: 36799449

3. Wu N, Zhou T, Carpino G, Baiocchi L, Kyritsi K, **Kennedy L**, Ceci L, Chen L, Wu C, Kundu D, Barupala N, Franchitto A, Onori P, Ekser B, Gaudio E, Francis H, Glaser S, Alpini G. Prolonged Administration of a Secretin Receptor Antagonist Inhibits Biliary Senescence and Liver Fibrosis in Mdr2-/- Mice. Hepatology. 2023 Jun 1; 77(6):1849-1865. PMID: 36799446
4. Kyristi K, Wu N, Zhou T, Carpino G, Baiocchi L, **Kennedy L**, Chen L, Ceci L, Meyer AA, Barupala N, Franchitto A, Onori P, Ekser B, Gaudio E, Wu C, Marakovits C, Chakraborty S, Francis H, Glaser S, Alpini G. Knockout of Secretin Ameliorates Biliary and Liver Phenotypes during Alcohol-induced Hepatotoxicity. Cell Biosci. 2023 Jan 9; 13(1):5. PMID: 36624475
5. **Kennedy L**, Carpino G, Owen T, Ceci L, Kundu D, Meadows V, Kyritsi K, Franchitto A, Onori P, Isidan A, Zhang W, Ekser B, Alvaro D, Gaudio E, Gershwin ME, Francis H, Glaser S, Alpini G. Secretin Alleviates Biliary and Liver Injury during Late-stage Primary Biliary Cholangitis via Restoration of Secretory Processes. J Hepatol. 2023 Jan;78(1):99-113. PMID: 35987275
6. Li H, Zheng J, Xu Q, Yang Y, Zhou J, Guo X, Cai Y, Cai JJ, Xie L, Awika J, Han X, Li Q, **Kennedy L**, Francis H, Glaser S, Huo Y, Alpini G, Wu C. Hepatocyte Adenosine Kinase Promotes Excessive Fat Deposition and Liver Inflammation. Gastroenterology. 2023 Jan;164(1):134-146. PMID: 36181835
7. Meadows V, Marakovits C, Ekser B, Kundu D, Zhou T, Kyritsi K, Pham L, **Kennedy L**, Ceci L, Wu N, Carpino G, Zhang W, Isidan A, Meyer A, Owen T, Gaudio E, Onori P, Alpini G, Francis H. Loss of Apical Sodium Bile Acid Transporter Disrupts Bile Acid Circulation and Reduces Biliary Damage in Cholangitis. Am J Physiol Gastrointest Liver Physiol. 2023 Jan 1;324(1):G60-G77. PMID: 36410025
8. Overi D, Carpino G, Cristoferi L, Onori P, **Kennedy L**, Francis H, Zucchini N, Rigamonti C, Vigano M, Floreani A, D'Amato D, Gerussi A, Venere R, Alpini G, Glaser S, Alvaro D, Invernizzi P, Gaudio E, Cardinale V, Carbone M. Role of Ductular Reaction and Ductular-canalicular Junctions in Identifying Severe Primary Biliary Cholangitis. JHEP Rep. 2022 Aug 19;4(11):100556. PMID: 36267871
9. T Zhou, V Meadows, D Kundu, K Konstantina, T Owen, L Ceci, G Carpino, P Onori, E Gaudio, S Glaser, B Ekser, G Alpini, **L Kennedy**, H Francis. Mast Cells Selectively Target Large Cholangiocytes During Biliary Injury via H2HR-Mediated cAMP/pERK1/2 Signaling. Hepatol Commun. 2022 Jul 7. doi: 10.1002/hep4.2026. Online ahead of print. PMID: 35799467
    a. **I share corresponding authorship**
10. L Ceci, L Chen, L Baiocchi, Nan Wu, **L Kennedy**, G Carpino, K Kyritsi, T Zhou, T Owen, D Kundu, A Sybenga, A Isidan, B Ekser, A Franchitto, P Onori, E Gaudio, R Mancinelli, H Francis, G Alpini, S Glaser. Prolonged administration of melatonin ameliorates liver phenotypes in cholestatic murine model. Cell Mol Gastroenterol Hepatol. 2022 ;14(4):877-904. PMID:

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11. Mancinelli R, Ceci L, **Kennedy L**, Francis H, Meadows V, Chen L, Carpino G, Kyritsi K, Wu N, Zhou T, Sato K, Pannarale L, Glaser S, Chakraborty S, Alpini G, Gaudio E, Onori P, Franchitto A. The effects of taurocholic acid on biliary damage and liver fibrosis are mediated by calcitonin-gene-related peptide signaling. Cells. 2022 May 9:11(9):1591
12. O'Brien A, Zhou T, White T, Medford A, Chen L, Kyritsi K, Wu N, Childs J, Stiles D, Ceci L, Chakraborty S, Ekser B, Baiocchi L, Carpino G, Gaudio E, Wu C, **Kennedy L**, Francis H, Alpini G, Glaser S. FGF1 signaling modulates biliary injury and liver fibrosis in the Mdr2$^{-/-}$ mouse model of primary sclerosing cholangitis. Hepatol Commun. 2022 Jul;6(7):1574-1588
13. Wu N, Carpino G, Ceci L, Baiocchi L, Francis H, **Kennedy L**, Zhou T, Chen L, Sato K, Kyritsi K, Meadows V, Ekser B, Franchitto A, Mancinelli R, Onori P, Gaudio E, Glaser S, Alpini G. Hepatology. 2022 Apr;75(4):797-813
14. Meadows V, **Kennedy L**, Ekser B, Kyritsi K, Kundu D, Zhou T, Chen L, Pham L, Wu N, Demieville J, Hargrove L, Glaser S, Alpini G, Francis H. Mast cells regulate ductular reaction and intestinal inflammation in cholestasis through farnesoid X receptor signaling. Hepatology. 2021 Nov;74(5):2684-2698
15. Chen L, Wu N, **Kennedy L**, Francis H, Ceci L, Zhou T, Samala N, Kyritsi K, Wu C, Sybenga A, Ekser B, Dar W, Atkins C, Meadows V, Glaser S, Alpini G. Inhibition of secretin/secretin receptor axis ameliorates NAFLD phenotypes. Hepatology. 2021 Oct;74(4):1845-1863
16. **Kennedy L**, Meadows V, Sybenga A, Demieville J, Chen L, Hargrove L, Ekser B, Dar W, Ceci L, Kundu D, Kyritsi K, Pham L, Zhou T, Glaser S, Meng F, Alpini G, Francis H. Mast cells promote non-alcoholic fatty liver disease phenotypes and microvesicular steatosis in mice fed Western diet. Hepatology. 2021 Jul;74(1):164-182
17. Chen L, Zhou T, White T, O'Brien A, Chakraborty S, Liangpunsakul S, Yang Z, **Kennedy L**, Saxena R, Wu C, Meng F, Huang Q, Francis H, Alpini G, Glaser S. The apelin-apelin receptor axis triggers cholangiocytes proliferation and liver fibrosis during mouse models of cholestasis. Hepatology. 2021 Jun;73(6):2411-2428
18. *Kyritsi K, ***Kennedy L**, Meadows V, Hargrove L, Demieville J, Pham L, Sybenga A, Kundu D, Cerritos K, Meng F, Alpini G, Francis H. Mast cells (MCs) induce ductular reaction mimicking liver injury in mice via MC-derived TGF-β1 signaling. Hepatology. 2021 Jun;73(6):2397-2410
    a. **I share first authorship**
19. Ceci L, Francis H, Zhou T, Giang T, Yang Z, Meng F, Wu N, **Kennedy L**, Kyritsi K, Meadows V, Wu C, Liangpunsakul S, Franchitto A, Sybenga A, Ekser B, Mancinelli R, Onori P, Gaudio E, Glaser S, Alpini G. Knockout of the tachykinin receptor 1 in the Mdr2$^{-/-}$ mouse model of primary sclerosing cholangitis reduces biliary damage and liver fibrosis. Am J Pathol. 2020 Jul 23:S0002-9440(20)20241-2
20. Kyritsi K, Francis H, Zhou T, Ceci L, Wu N, Yhang Z, Meng F, Chen L, Baiocchi L, Kundu D, **Kennedy L**, Liangpunsakul S, Wu C, Glaser S, Alpini

G. Downregulation of p16 decreases biliary damage and liver fibrosis in the Mdr2$^{-/-}$ mouse model of primary sclerosing cholangitis. Gene Expr. 2020 May 11. Doi: 10.3727/105221620X15889714507961

21. **Kennedy L**, Meadows V, Kyritsi K, Pham L, Kundu D, Kulkarni R, Cerritos K, Demieville J, Hargrove L, Glaser S, Zhou T, Jaeger V, Alpini G, Francis H. Amelioration of Large Bile Duct Damage by Histamine-2 Receptor Vivo-Morpholino Treatment. Am J Pathol. 2020 May;190(5):1018-1029
22. **Kennedy L**, Meadows V, Demieville J, Hargrove L, Virani S, Glaser S, Zhou T, Rinehart E, Jaeger V, Kyritsi K, Pham L, Alpini G, Francis H. Biliary damage and liver fibrosis are ameliorated in a novel mouse model lacking l-histidine decarboxylase/histamine signaling. Lab Invest. 2020 Jun;100(6):837-848
23. Zhou Y, Peng H, Xu H, Li J, Golovko M, Cheng H, Lynch EC, Liu L, McCauley N, **Kennedy L**, Alpini G, Zhang KK, Xie L. Maternal diet intervention before pregnancy primes offspring lipid metabolism in liver. Lab Invest. 2020 Apr;100(4):553-569
24. Zhou T, Kyritsi K, Wu N, Francis H, Yang Z, Chen L, O'Brien A, **Kennedy L**, Ceci L, Meadows V, Kusumanchi P, Wu C, Baiocchi L, Skill NJ, Saxena R, Sybenga A, Xie L, Liangpunsakul S, Meng F, Alpini G, Glaser S. Knockdown of vimentin reduces mesenchymal phenotype of cholangiocytes in the Mdr2$^{-/-}$ mouse model of primary sclerosing cholangitis (PSC). EBioMedicine. 2019 Oct;48:130-142
25. Meadows V, **Kennedy L**, Hargrove L, Demieville J, Meng F, Virani S, Reinhart E, Kyritsi K, Invernizzi P, Yang Z, Wu N, Liangpunsakul, Alpini G, Francis H. Downregulation of hepatic stem cell factor by Vivo-Morpholino treatment inhibits mast cell migration and decreases biliary damage/senescence and liver fibrosis in Mdr2$^{-/-}$ mice. Biochim Biophys Acta Mol Basis Dis. 2019 Dec 1;1865(12):165557
26. **Kennedy L**, Francis H, Invernizzi P, Venter J, Wu N, Carbone M, Gershwin ME, Bernuzzi F, Franchitto A, Alvaro D, Marzioni M, Onori P, Gaudio E, Sybenga A, Fabris L, Meng F, Glaser S, Alpini G. Secretin/secretin receptor signaling mediates biliary damage and liver fibrosis in early-stage primary biliary cholangitis. FASEB J. 2019 Sep;33(9):10269-10279
27. Virani S, Akers A, Stephenson K, Smith S, **Kennedy L**, Alpini G, Francis H. Comprehensive review of molecular mechanisms during cholestatic liver injury and cholangiocarcinoma. J Liver. 2018;7(3). Epub 2018 Sep 20.
28. Meng F, **Kennedy L**, Hargrove L, Demieville J, Jones H, Madeka T, Karstens A, Chappell K, Alpini G, Sybenga A, Invernizzi P, Bernuzzi F, DeMorrow S, Francis H. Ursodeoxycholate inhibits mast cell activation and reverses biliary injury and fibrosis in Mdr2$^{-/-}$ mice and human primary sclerosing cholangitis. Lab Invest. 2018 Nov; 98(11): 1465-1477.
29. **Kennedy L**, Hargrove L, Demieville J, Karstens W, Jones H, DeMorrow S, Meng F, Invernizzi P, Bernuzzi F, Alpini G, Smith S, Akers A, Meadows V, Francis H. Blocking H1/H2 histamine receptors inhibits damage/fibrosis in Mdr2$^{-/-}$ mice and human cholangiocarcinoma tumorigenesis. Hepatology. 2018 Sep;68(3):1042-1056.

30. **Kennedy L**, Hargrove L, Demieville J, Bailey JM, Dar W, Polireddy K, Chen Q, Nevah Rubin MI, Sybenga A, DeMorrow S, Meng F, Stockton L, Alpini G, Francis H. Knockout of l-histidine decarboxylase prevents cholangiocyte damage and hepatic fibrosis in mice subjected to high-fat diet feeding via disrupted histamine/leptin signaling. Am J Pathol. 2018 Mar;188(3):600-615.
31. Wan Y, McDaniel K, Wu N, Ramos-Lorenzo S, Glaser T, Venter J, Francis H, **Kennedy L**, Sato K, Zhou T, Kyritsi K, Huang Q, Annable T, Wu C, Glaser S, Alpini G, Meng F. Regulation of cellular senescence by miR-34a in alcoholic liver injury. Am J Pathol. 2017 Dec;187(12):2788-2798.
32. Wu N, Meng F, Zhou T, Han Y, **Kennedy L**, Venter J, Francis H, DeMorrow S, Onori P, Invernizzi P, Bernuzzi F, Mancinelli R, Gaudio E, Franchitto A, Glaser S, Alpini G. Prolonged darkness reduces liver fibrosis in a mouse model of primary sclerosing cholangitis by miR-200b down-regulation. FASEB J. 2017 Oct;31(10):4305-4324.
33. Kyritsi K, Meng F, Zhou T, Wu N, Venter J, Francis H, **Kennedy L**, Onori P, Franchitto A, Bernuzzi F, Invernizzi P, McDaniel K, Mancinelli R, Alvaro D, Gaudio E, Alpini G, Glaser S. Knockdown of hepatic gonadotropin-releasing hormone by vivo-morpholino decreases liver fibrosis in multidrug resistance gene 2 knockout mice by down-regulation of miR-200b. Am J Pathol. 2017 Jul;187(7):1551-1565.
34. Wan Y, Meng F, Wu N, Zhou T, Venter J, Francis H, **Kennedy L**, Glaser T, Bernuzzi F, Invernizzi P, Glaser S, Huang Q, Alpini G. Substance P increases liver fibrosis by differential changes in senescence of cholangiocytes and hepatic stellate cells. Hepatology. 2017 Aug; 66(2):528-541.
35. Hargrove L, **Kennedy L**, Demieville J, Jones H, Meng F, DeMorrow S, Karstens W, Madeka T, Francis H. Bile duct ligation-induced biliary hyperplasia, hepatic injury and fibrosis are regulated by the paracrine action of mast cells: a novel study using mast cell-deficient mice. Hepatology. 2017 Jun; 65(3):774-776.
36. **Kennedy L**, Meng F, Venter J, Hargrove L, Glaser S, Standeford H, Zhou T, Karstens A, Greene J, Francis H, and Alpini G. Knockdown of microRNA-21 reduces biliary hyperplasia and liver fibrosis in cholestatic bile duct ligated mice. 2016 Dec; 96(12): 1256-1267.
37. Hargrove L, Graf-Eaton A, **Kennedy L**, Demieville J, Owens J, Ladd B, and Francis H. Isolation and characterization of hepatic mast cells from cholestatic rats. Lab Invest 2016 Nov; 96(11):1198-1210.
38. Jones H, Hargrove L, **Kennedy L**, Meng F, Graf-Eaton A, Owens J, Alpini G, Johnson C, Bernuzzi F, Demieville J, DeMorrow S, Invernizzi P, Francis H. Inhibition of mast cell-secreted histamine decreases biliary proliferation and hepatic fibrosis in the Mdr2$^{-/-}$ mouse model of primary sclerosing cholangitis. Hepatology 2016 Oct; 64(4): 1202-16.
39. Johnson C, Huynh V, Hargrove L, **Kennedy L**, Graf-Eaton A, Owens J, Trzeciakowski JP, Hodges K, DeMorrow S, Han Y, Wong L, Alpini G, and Francis H. Inhibition of mast cell-derived histamine decreases human

cholangiocarcinoma growth and differentiation via c-kit/SCF-dependent signaling. Am J Pathol 2016 Jan; 186(1):123-33.
40. Venter J, Francis H, Meng F, DeMorrow S, **Kennedy L**, Standeford H, Hargrove L, Wu N, Wan Y, Franpton G, McMillin M, Marzioni M, Gaudio E, Onori P, Glaser S, Alpini G. Development and functional characterization of extrahepatic cholangiocyte lines from normal rats. Dig Liver Dis. 2015 Nov; 47(11):964-72.
41. Ray D, Han Y, Franchitto A, DeMorrow S, Meng F, Venter J, McMillin M, **Kennedy L**, Francis H, Onori P, Mancinelli R, Gaudio E, Alpini G, and Glaser SS. Gonadotropin-releasing hormone stimulates biliary proliferation by paracrine/autocrine mechanisms. Am J Pathol. 2015 Apr; 185(4):1061-72.
42. Johnson C, Hargrove L, Graf A, **Kennedy L**, Hodges K, Harris R, Francis T, Ueno Y, and Francis H. Histamine restores biliary mass following carbon tetrachloride-induced damage in a cholestatic rat model. Dig Liver Dis. 2014 Dec; 47(3):211-7.
43. **Kennedy L**, Hargrove L, Graf A, Francis T, Hodges K, Nguyen Q, Greene J, Ueno Y, Meng F, Huynh V, and Francis H. Inhibition of mast cell-derived histamine secretion by cromolyn sodium treatment decreases biliary hyperplasia in cholestatic rodents. Lab Invest. 2014 Dec; 94(12):1406-18.
44. Han Y, Onori P, Meng F, DeMorrow S, Venter J, Francis H, Franchitto A, Ray D, **Kennedy L**, Greene J, Renzi A, Mancinelli R, Gaudio E, Glaser S, and Alpini G. Prolonged exposure of cholestatic rats to complete dark inhibits biliary hyperplasia and liver fibrosis. Am J Physiol Gastrointest Liver Physiol. 2014 Nov 1; 307(9):G894-904.
45. Graf A, Meng F, Hargrove L, **Kennedy L**, Han Y, Francis T, Hodges K, Ueno Y, Greene J, Nguyen Q, and Francis H. Knockout of histidine decarboxylase (HDC) decreases BDL-induced biliary hyperplasia via downregulation of the HDC/VEGF axis through PKA-ERK1/2 signaling. Am J Physiol Gastrointest Liver Physiol. 2014 Oct 15; 307(8):G813-23.
46. Francis H, McDaniel K, Han Y, Liu X, **Kennedy L**, Yang F, McCarra J, Zhou T, Glaser S, Venter J, Huang L, Levine P, Lai JM, Liu CG, Alpini G, and Meng F. Regulation of the extrinsic apoptotic pathway by microRNA-21 in alcoholic liver injury. J Biol Chem. 2014 Oct 3; 289(40):27526-39.
47. Meng F, DeMorrow S, Venter J, Frampton G, Han Y, Francis H, Standeford H, Avila S, McDanciel K, McMillin M, Afroze S, Guerrier M, Quezada M, Ray D, **Kennedy L**, Hargrove L, Glaser S, and Alpini G. Overexpression of membrane metalloendopeptidase inhibits substance P-stimulation of cholangiocarcinoma growth. Am J Physiol Gastrointest Liver Physiol. 2014 May 1; 306(9):G759-68.
48. Levine P, McDaniel K, Francis H, **Kennedy L**, Gianfranco A, and Fanyin M. Molecular mechanisms of stem cell therapy in alcoholic liver disease. Dig Liver Dis. 2014 May; 46(5):391-7.
49. **Kennedy L**, Baker K, Hodges K, Graf A, Venter J, Hargrove L, Harris R, Harnish E, Meng F, and Francis H. Dysregulation of vitamin D3 synthesis

leads to enhanced cholangiocarcinoma growth. Dig Liver Dis. 2013 Apr; 45(4):316-22.

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REVIEW ARTICLES:

1. A Ismail, **L Kennedy***, H Francis*. Sex-dependent Differences in Cholestasis: Why Estrogen Signaling may be a Key Pathophysiological Driver. Am J Pathol. 2023 Oct; 193(10):1355-1362. PMID: 37422150
    a. **I share corresponding authorship**
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ABSTRACTS:

1. Owen T, Ekser B, Francis H, Alpini G, **Kennedy L**. Targeting estrogen receptor-beta has a beneficial effect in male, but not female, multidrug resistance 2 knockout mice. Poster presentation at AASLD, November 2022.
2. Owen T, Meyer A, Ekser B, Alpini G, Francis H, **Kennedy L**. Inhibition of endothelin receptor-B reduces biliary damage, liver fibrosis and angiogenesis in multidrug resistance 2 knockout mice. Podium presentation at AASLD, November 2022.
3. Kundu D, Zhou T, Marakovits C, **Kennedy L**, Chen L, Kyritsi K, Wu N, Ceci L, Wu C, Ekser B, Alpini G, Francis H. Biliary senescence regulates non-alcoholic fatty liver disease phenotypes by E2F1/FOXO1/IGF-1 signaling. Poster presentation at AASLD, November 2022.
4. Kyritsi K, Chen L, Ceci L, Wu N, Zhou T, **Kennedy L**, Ekser B, Wu C, Kundu D, Francis H, Alpini G, Glaser S. Role of SP/NK1R/Elovl6 signaling axis on cholangiocyte and hepatocyte mitochondrial activity in non-alcoholic fatty liver disease. Poster presentation at AASLD, November 2022.
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11. Zhang W, Isidan A, Park Y, Lopez K, Cross-Najafi A, Li P, **Kennedy L**, Glaser S, Francis H, Alpini G, Ekser B. Establishing long-term functional 3D human liver organoids from multiple-hepatic lineage cells. Podium presentation at AASLD, November 2022.
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13. Owen T, Kyritsi K, Chen L, Ceci L, Kundu D, Ekser B, Alpini G, Francis H, **Kennedy L**. Estrogen receptor-β has a dichotomous role in male versus female multi-drug resistance 2 knockout mice. Poster presentation at the annual PSC Partners conference, June 2022.
14. **Kennedy L**, Carpino G, Owen T, Ceci L, Franchitto A, Onori P, Alvaro D, Gaudio E, Zhou T, Wu N, Gershwin ME, Francis H, Glaser S, Alpini G. Long-term secretin treatment restores the biliary bicarbonate umbrella, epithelial development and mucin secretion in late-stage primary biliary cholangitis. Podium presentation at DDW, May 2022.
15. Kundu D, Meadows V, Zhou T, **Kennedy L**, Kyritsi K, Wu N, Meyer A, Owen T, Alpini G, Francis H. Cromolyn sodium ameliorates mast cell-mediated hepatic damage in a murine model of non-alcoholic fatty liver disease. Poster presentation at DDW, May 2022.
16. Chen L, **Kennedy L**, Ceci L, Ekser B, Zhang W, Zhou T, Wu N, Baiocchi L, Kyritsi K, Meadows V, Kundu D, Meyer A, Francis H, Alpini G, Glaser S. Melatonin receptor 1A knockout decreases biliary damage and liver steatosis via downregulation of miR-200b in high fat diet model of nonalcoholic fatty liver disease. Poster presentation at DDW, May 2022.
17. Chen L, Zhou T, Kundu D, Meadows V, **Kennedy L**, Kyritsi K, Wu N, Meyer A, Owen T, Alpini G, Francis H. Inhibition of transforming growth factor beta 1 by vivo-morpholino ameliorates cholestasis in the Mdr2$^{-/-}$ mouse model of primary sclerosing cholangitis. Poster presentation at DDW, May 2022.
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19. Owen T, Kyritsi K, Chen L, Ceci L, Meadows V, Meyer A, Alpini G, Francis H, **Kennedy L**. The protective effects of estrogen on biliary and liver damage are independent of ER-beta signaling in female Mdr2$^{-/-}$ mice. Podium presentation at EB, May 2022.

20. Ceci L, Wu N, Carpino G, Chen L, Zhou T, **Kennedy L**, Kyritsi K, Francis H, Franchitto A, Onori P, Gaudio E, Glaser S, Alpini G. Suppression of MT1 and melatonin treatment improves liver phenotypes in Mdr2$^{-/-}$ mice. Podium presentation at EB, May 2022.
21. Kundu D, Zhou T, Meadows V, **Kennedy L**, Ceci L, Kyritsi K, Glaser S, Alpini G, Francis H. Mast cells contribute to hepatic neurokinin 1 receptor signaling, subsequent biliary damage and peribiliary fibrosis via TGF-beta1 signaling in Mdr2$^{-/-}$ mouse model of primary sclerosing cholangitis. Poster presentation at EB, May 2022.
22. Zhou T, Meadows V, Kundu D, Wu N, Alpini G, Francis H, **Kennedy L**. Large cholangiocyte phenotypes are mediated by mast cell-H2 histamine receptor signaling in models of liver injury. Podium presentation at AASLD, November 2021.
23. **Kennedy L**, Ceci L, Meadows V, Kundu D, Meyer A, Ekser B, Isidan A, Zhang W, Young H, Gershwin ME, Alpini G, Francis H. Inhibition of estrogen receptor-beta reduces immune cell infiltration, biliary damage and liver fibrosis in late-stage primary biliary cholangitis. Podium presentation at AASLD, November 2021.
24. Kundu D, **Kennedy L**, Meadows V, Chen L, Zhou T, Kyritsi K, Wu N, Ceci L, Ekser B, Alpini G, Francis H. Hepatocyte senescence exacerbates hepatic steatosis and cytokine secretome in a Western diet-fed murine model of non-alcoholic fatty liver disease. Poster presentation at AASLD, November 2021.
25. Ceci L, Carpino G, **Kennedy L**, Wu N, Chen L, Kyritsi K, Zhou T, Ekser B, Zhang W, Onori P, Franchitto A, Mancinelli R, Wu C, Gaudio E, Meadows V, Francis H, Glaser S, Alpini G. Melatonin binds MT1 to improve the phenotypes of primary sclerosing cholangitis (PSC) through clock genes/miR-200b/MASPIN/GST signaling. Poster presentation at AASLD, November 2021.
26. Ceci L, Mancinelli R, **Kennedy L**, Kyritsi K, Francis H, Meadows V, Wu N, Zhou T, Carpino G, Kundu D, Gaudio E, Onori P, Franchitto A, Glaser S, Alpini G. Taurocholic acid mediates biliary and liver phenotypes via changes in the expression of the cyclic adenosine monophosphate/alpha-calcitonin gene-related peptide/alpha-CGRP receptor/TGF-beta1/angiogenic axis. Poster presentation at AASLD, November 2021.
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28. Zhou T, Wu N, **Kennedy L**, Meadows V, Ekser B, Meyer A, Chen L, Kundu D, Kyritsi K, Ceci L, Zhang W, Carpino G, Franchitto A, Gaudio E, Onori P, Alpini G, Francis H. Mast cells (MCs) promote alcohol-induced steatosis and damage via crosstalk with cholangiocyte stem cell factor (SCF)/MC c-kit signaling. Poster presentation at AASLD, November 2021.
29. Zhou T, Wu N, Carpino G, **Kennedy L**, Meyer A, Ceci L, Sato K, Kyritsi K, Franchitto A, Chen L, Gaudio E, Wu C, Meadows V, Francis H, Glaser S,

Alpini G. Knockout of secretin receptor ameliorates liver phenotypes in a mouse model of alcohol associated liver disease. Poster presentation at AASLD, November 2021.

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31. Chen L, **Kennedy L**, Kyritsi K, Wu C, Ceci L, Ekser B, Wu N, Medford A, O'Brien A, Childs J, Chakraborty S, White T, Francis H, Alpini G, Glaser S. Free fatty acids-induced activation of the alpha-calcitonin gene-related peptide/calcitonin receptor-like receptor/receptor activity-modifying protein 1 axis regulates miR-125b expression via TLR4 in non-alcoholic fatty liver disease. Poster presentation at AASLD, November 2021.
32. Meadows V, **Kennedy L**, Kundu D, Chen L, Ceci L, Kyritsi K, Zhou T, Wu N, Meyer A, Alpini G, Francis H. Inhibition of ASBT using vivo-morpholino reduces large cholangiocyte damage and alters hepatic bile acid composition in wild-type and Mdr2$^{-/-}$ mice. Poster presentation at AASLD, November 2021.
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34. Wu N, Ceci L, Zhou T, Francis H, **Kennedy L**, Kyritsi K, Alvaro D, Carpino G, wu C, Chakraborty S, Chen L, Baiocchi L, Franchitto A, Ekser B, Onori P, Mancinelli R, Grumbles K, Gaudio E, Glaser S, Alpini G. Knockdown of the MT1 melatonin receptor ameliorates the phenotypes of the Mdr2$^{-/-}$ mouse model of primary sclerosing cholangitis by downregulation of orphan GPR50 receptor-promoted constitutive TGF-beta1 receptor signaling. Poster presentation at DDW, May 2021.
35. Kundu D, **Kennedy L**, Meadows V, Zhou T, Ceci L, Kyritsi K, Chen L, Wu N, Alpini G, Francis H. Knockdown of p16 improves mast cell-mediated biliary senescence and NAFLD phenotypes in a diet-induced rodent model. Poster presentation at DDW, May 2021.
36. **Kennedy L**, Carpino G, Ceci L, Francis H, Ekser B, Franchitto A, Onori P, Alvaro D, Gaudio E, Glaser S, Alpini G. Secretin treatment promotes hepatic progenitor cell activation, ductulo-canalicular junction formation and amelioration of liver damage in a model of late-stage primary biliary cholangitis. Podium presentation at EB 2021, May 2021.
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Mancinelli R, Gaudio E, Glaser S, Alpini G. Long-term melatonin treatment reduces peribiliary inflammation and oxidative stress through enhanced melatonin synthesis in the Mdr2$^{-/-}$ mouse model of primary sclerosing cholangitis. Poster presentation at AASLD, November 2020.

39. Chen L, Wu N, Yang Z, Francis H, Ceci L, Zhou T, Meng F, **Kennedy L**, Kyritsi K, Wu C, Ekser B, Huang Q, Liangpunsakul S, Glaser S, Alpini G. The biliary secretin/secretin receptor (SCT/SR)/miR-125b axis regulates hepatic steatosis and liver angiogenesis in non-alcoholic fatty liver disease. Poster presentation at AASLD, November 2020.
40. Wu N, Ceci L, Chen L, Francis H, Zhou T, Meng F, **Kennedy L**, Kyritsi K, Meadows V, Carbone M, Invernizzi P, Franchitto A, Onori P, Gaudio E, Glaser S, Alpini G. Melatonin receptors, MT1 and MT2, differentially regulate biliary damage and liver fibrosis in bile duct ligated mice through modulation of cAMP signaling. Poster presentation at AASLD, November 2020.
41. Kundu D, Meadows V, **Kennedy L**, Ceci L, Alpini G, Francis H. Bile acid feeding alters biliary senescence/senescence-associated secretory phenotype (SASP) and hepatic fibrosis via mast cell activation in a cholestatic rodent model. Poster presentation at AASLD, November 2020.
42. Kyritsi K, Ekser B, Chen A, Zhang W, Meadows V, **Kennedy L**, Kundu D, Meng F, Alpini G, Francis H. Mast cell-derived histamine regulates cholangiocarcinoma (CCA) phenotypes in human CCA and novel 3D culture spheroids via TMEM173/STING. Podium presentation at AASLD, November 2020.
43. Meadows V, **Kennedy L**, Kundu D, Kyritsi K, Alpini G, Francis H. Depletion of histamine reduces hepatic and intestinal mast cell activation and regulates bile acid signaling during PSC. Poster presentation at AASLD, November 2020.
44. **Kennedy L**, Meadows V, Kundu D, Invernizzi P, Carbone M, Alpini G, Francis H. Mast cell activation mediates biliary immunobiology and subsequent immune response in a model of primary biliary cholangitis (PBC). Poster presentation at EASL, chosen for a poster tour, August 2020.
45. **Kennedy L**, Chen L, Wu N, Ceci L, Meadows V, Ekser B, Liangpunsakul S, Glaser S, Francis H, Alpini G. Combined ursodeoxycholic acid and secretin receptor antagonist treatment decreases liver damage by coordinately decreasing both secretin and FXR/FGF signaling in primary sclerosing cholangitis (PSC). Podium presentation at DDW, May 2020.
46. Kyritsi K, Zhou T, **Kennedy L**, Meadows V, Wu C, Wu N, Meng F, Kundu D, Chen L, Ekser B, Glaser S, Alpini G, Francis H. Crosstalk signaling between mast cells, histamine and stimulator of interferon gene (STING TMEM 173) promotes cholangiocarcinoma (CCA) tumorigenesis. Podium presentation at DDW, May 2020.
47. Zhou T, Wu N, Chen L, Ceci L, O'Brien A, White T, **Kennedy L**, Wu C, Meng F, Francis H, Alpini G, Glaser S. Melatonin modulates stimulator of

interferon genes (STING) activation in the Mdr2$^{-/-}$ mouse model of primary sclerosing cholangitis (PSC). Poster presentation at DDW, May 2020.

48. Chen L, Wu N, Glaser S, Ceci L, **Kennedy L**, Meng F, Meadows V, Kundu D, Alpini G, Francis H. Francis. Treatment with melatonin or dark therapy decreases mast cell (MC) activation by downregulation of miR-200b dependent histamine (HA) signaling in Mdr2$^{-/-}$ mice: a novel scenario for PSC management. Plenary presentation at DDW, May 2020.
49. Meadows V, **Kennedy L**, Kundu D, Kyritsi K, Cerritos K, Alpini G, Francis H. Inhibition of biliary ASBT via Vivo-Morpholino treatment decreases mast cell activation and subsequent biliary damage, hepatic fibrosis and bile acid signaling in Mdr2$^{-/-}$ mice. Poster presentation at DDW, May 2020.
50. Kundyu D, Meadows V, **Kennedy L**, Ceci L, Kyritsi K, Chen L, Wu N, Cerritos K, Glaser S, Alpini G, Francis H. Coordinated regulation of sensory innervation and mast cell activation contributes to biliary damage and hepatic fibrosis. Poster presentation at DDW, May 2020.
51. **Kennedy L**, Meadows V, Kyritsi K, Meng F, Liangpunsakul S, Yang Z, Kusumanchi P, Glaser S, Alpini G, Francis H. Novel evidence for the role of mast cells and histamine signaling in late stage primary biliary cholangitis (PBC): new kids on the block. Presidential plenary podium presentation at AASLD, November 2019.
52. **Kennedy L**, Meadows V, Kyritsi K, Meng F, Jaeger V, Virani S, Alpini G, Francis H. Knockdown of the HDC/histamine axis inhibits tumor formation, ductular reaction biliary senescence and fibrosis in aged Mdr2$^{-/-}$ mice. Poster presentation at AASLD, November 2019.
53. **Kennedy L**, Francis H, Ceci L, Marzioni M, Invernizzi P, Meadows V, Mancinelli R, Onori P, Franchitto A, Gaudio E, Venter J, Meng F, Wu N, Alvaro D, Gershwin ME, Liangpunsakul S, Alpini G, Glaser S. Combined treatment with ursodeoxycholic acid (UDCA) and secretin (Sct) ameliorates liver injury in a mouse model of late stage primary biliary cholangitis (PBC). Poster presentation at AASLD, November 2019.
54. Meadows V, **Kennedy L**, Kyritsi K, Glaser S, Meng F, Liangpunsakul S, Alpini G, Francis H. Mast cell (MC)-derived histamine regulates the biliary secretin/secretin receptor axis during primary sclerosing cholangitis (PSC). Poster presentation at AASLD, November 2019.
55. Kyritsi K, **Kennedy L**, Meadows V, Meng F, Jaeger V, Virani S, Alpini G, Francis H. HDC/histamine signaling regulates biliary proliferation via notch signaling following 70% partial hepatectomy. Poster presentation at AASLD, November 2019.
56. **Kennedy L**, Demieville J, Hargrove L, Meadows V, Meng F, Glaser S, Tolefree JA, Rinehart E, Virani S, Liangpunsakul S, Alpini G, Francis H. Biliary l-histidine decarboxylase (HDC) activity induces ductular reaction (DR) and subsequent liver fibrosis during alcoholic liver injury (ALI). Poster presentation at DDW, May 2019.
57. **Kennedy L**, Francis H, Wu N, Venter J, Fabris L, Gershwin ME, Invernizzi P, Meng F, Zawieja D, Glaser S, Alpini G. Secretin/secretin receptor signaling modulates biliary immunobiology and subsequent T cell

migration in early stage primary biliary cholangitis. Poster presentation at DDW, May 2019.

58. Zhou T, Chen L, Wu N, Kyritsi K, Venter J, Ceci L, Meng F, **Kennedy L**, Francis H, Zawieja D, Gashev A, Alpini G, Wu C, Glaser S. Knockdown of stimulator of interferon genes (STING) reduces biliary senescence and liver inflammation and fibrosis in the Mdr2$^{-/-}$ mouse model of primary sclerosing cholangitis. Poster presentation at DDW, May 2019.
59. Wu N, Guillot A, Zhou T, Venter J, **Kennedy L**, Kyritsi K, Ceci L, Chen L, Francis H, White T, Gao B, Liangpunsakul S, Zawieja D, Alpini G, Glaser S, Meng F. Knockout of the melatonin receptor, MT2, enhances alcohol-induced ductular reaction, biliary senescence and hepatic fibrosis during alcoholic liver disease. Poster presentation at DDW, May 2019.
60. Kyritsi K, Chen L, Venter J, Zhou T, Ceci L, **Kennedy L**, Guillot A, Francis H, Gao B, Wu N, White T, Liangpunsakul S, Meng F, Alpini G, Glaser S. Increased serotonin (5HT) biliary synthesis due to enhanced expression of tryptophan hydroxylase1 (TPH1) and reduced monoamine-oxidase-A (MAO-A) expression is coupled with alcohol-induced liver injury (ALI). Poster presentation at DDW, May 2019.
61. Ceci L, Wu N, Chen L, O'Brien A, Zhou T, **Kennedy L**, Kyritsi K, Gaudio E, Venter J, Meng F, Onori P, Francis H, Glaser S, Alpini G. Role of the AANAT/Melatonin/MT1/MT2/Per1 axis in the regulation of biliary damage and liver fibrosis in cholestatic mice. Poster presentation at DDW, May 2019.
62. Han Y, Cheplick F, Wu N, Zhou T, **Kennedy L**, Francis H, Meng F, Chen L, Glaser S, Alpini G. Differential DNA methylation status in core clock genes leads to altered circadian rhythm in high-fat diet fed mice. Poster presentation at DDW, May 2019.
63. Sato K, Venter J, Meng F, **Kennedy L**, Francis H, Glaser S, Alpini G. The proliferative activity of cholangiocytes is regulated by microRNAs carried in extracellular vesicles secreted from other cholangiocytes. Poster presentation at DDW, May 2019.
64. Meadows V, **Kennedy L**, Hargrove L, Demieville J, Meng F, Glaser S, Alpini G, Francis H. Mast cell regulation of biliary bile acid transporter, ASBT via nuclear bile acid receptor FXR/histamine signaling during cholestatic liver injury. Poster presentation at DDW, May 2019.
65. Sato K, Venter J, **Kennedy L**, Francis H, Meng F, Glaser S, Alpini G. Extracellular vesicles isolated from cholangiocytes lacking the secretin/secretin receptor axis attenuate liver fibrosis via cargo microRNAs in the Mdr2$^{-/-}$ mouse model of primary sclerosing cholangitis. Poster presentation at DDW, May 2019.
66. **Kennedy L**, Francis H, Venter J, Meng F, Wu N, Invernizzi P, Bernuzzi F, Zhou T, Kyritsi K, Onori P, Franchitto A, Gaudio E, Glaser S, and Alpini G. Increased secretin (Sct)-dependent microRNA-125b/TGF-β1/VEGF-A signaling promotes biliary and liver damage in a mouse model of early stage primary biliary cholangitis (PBC). Poster presentation at AASLD, November 2018.

67. **Kennedy L,** Francis H, Wu N, Meng F, Zhou T, Venter J, Chen L, Invernizzi P, Bernuzzi F, Franchitto A, kMancinelli R, Onori P, Gaudio E, Glaser S, Alpini G. Long-term melatonin treatment or dark therapy ameliorates liver damage, biliary senescence, hepatic fibrosis and angiogenesis in a mouse model of primary biliary cholangitis (PBC). Poster presentation at AASLD, November 2018.
68. **Kennedy L**, Hargrove L, Demieville J, Meadows V, Smith S, Francis H. Inhibition of mast cell-derived TGF-β1 decreases biliary damage and hepatic fibrosis in a murine model of primary sclerosing cholangitis. Podium presentation at AASLD, November 2018.
69. Meadows V, Hargrove L, Demieville J, **Kennedy L**, Smith S, Francis H. Mast cells (MCs) regulate bile acid synthesis during cholestatic liver injury via FXR/SHP signaling and inhibition of MC-derived FXR decreases hepatic damage and fibrosis. Presidential plenary presentation at AASLD, November 2018.
70. Ceci L, Wu N, Kyritsi K, **Kennedy L**, Zhou T, Venter J, Chen L, Francis H, Meng F, Alpini G, Glaser S. Knockout of the clock gene, period circadian protein 1 (PER1) exacerbates cholestatic-induced biliary damage/senescence and liver fibrosis via downregulation of hepatic melatonin synthesis. Poster presentation at AASLD, November 2018.
71. **Kennedy L**, Demieville J, Hargrove L, Meadows V, Smith S, Meng F, Alpini G, Francis H. Mast cells differentially regulate small and large cholangiocyte proliferation and apoptosis via miR-125b/histidine decarboxylase (HDC)/VEGF signaling in bile duct ligated mice. Poster presentation at AASLD, November 2018.
72. Hargrove L, Demieville J, **Kennedy L**, Meadows V, Smith S, Francis H. Downregulation of hepatic stem cell factor by vivo-morpholino treatment inhibitis mast cell migration and decreases biliary damage and liver fibrosis in $Mdr2^{-/-}$ mice. Poster presentation at AASLD, November 2018.
73. **Kennedy L**, Demieville J, Hargrove L, Meadows V, Polireddy K, Bailey J, Dar W, Francis H. Senescent cholangiocytes induce mast cell migration, which exacerbates hepatic damage and fibrosis following high fat diet feeding. Podium presentation at DDW, May 2018.
74. **Kennedy L**, Wu N, Francis H, Venter J, Meng F, Mancinelli R, Bennett M, Giang T, Invernizzi P, Bernuzzi F, Onori P, Franchitto A, Kyritsi K, Zhou T, Alvaro D, Gaudio E, Glaser S, Alpini G. Melatonin and dark therapy reduce biliary damage, liver fibrosis and angiogenesis in a murine model of early stage primary biliary cholangitis (PBC). Podium presentation at DDW, May 2018.
75. Wu N, Sato K, **Kennedy L**, Zhou T, McDaniel K, Ramos-Lorenzo S, Francis H, Glaser S, Alpini G, Meng F. Knockout of microRNA-21 attenuates alcoholic hepatitis through VHL/NF-κB signaling pathway. Podium presentation at DDW, May 2018.
76. Sato K, **Kennedy L**, Giang T, Zhou T, Ramos-Lorenzo S, Francis H, Glaser S, Alpini G, Meng F. Therapeutic effects of microRNA-21 depletion

on inflammatory response in liver macrophages during cholestatic liver injury. Poster presentation at DDW, May 2018

77. Hargrove L, **Kennedy L**, Demieville J, Meadows V, Stephenson K, Smith S, Virani S, Francis H. Mast cells promote biliary damage and angiogenesis via increased TGF-β1 signaling in normal and mast cell deficient mice. Podium presentation at DDW, May 2018.
78. **Kennedy L**, Demieville J, Hargrove L, Meadows V, Francis H. Loss of histamine signaling reduces biliary and hepatic damage, mast cell migration and tumor formation in 52 wk old multidrug resistance-2 knockout mice. Podium presentation at Experimental Biology, April 2018.
79. **Kennedy L**, Wu N, Francis H, Venter J, Meng F, Kyritsi K, Zhou T, Gaudio E, Glaser S, Alpini G. Melatonin or dark therapy reduces biliary damage, inflammation and liver fibrosis in a murine model of early stage primary biliary cholangitis. Poster presentation at Experimental Biology, April 2018.
80. **Kennedy L**, Demieville J, Hargrove L, Meadows V, Francis H. Depletion of the HDC/histamine axis ablates tumor formation, angiogenesis, EMT and inflammation in $Mdr2^{-/-}$ mice. Poster presentation at EASL, April 2018.
81. **Kennedy L**, Demieville J, Hargrove L, Bailey J, Dar W, Thomson J, Meng F, Polireddy K, Jones H, Francis H. Reintroduction of mast cells induces biliary damage/senescence, steatosis, inflammation and hepatic fibrosis in mast cell-deficient mice fed high fat diet. Poster presentation at the Joseph E. and Martha E. Kutscher Digestive Disease Research Symposium, October 2017.
82. **Kennedy L**, Demieville J, Hargrove L, Bailey J, Dar W, Thomson J, Meng F, Polireddy K, Jones H, Francis H. Reintroduction of mast cells induces biliary damage/senescence, steatosis, inflammation and hepatic fibrosis in mast cell-deficient mice fed high fat diet. Poster presentation at Pathobiology for Investigators, Students & Academicians, September 2017.
83. **Kennedy L**, Demieville J, Hargrove L, Francis H. High fat diet-induced biliary damage, steatosis, inflammation and hepatic fibrosis are decreased in mast cell-deficient mice. Plenary podium presentation at DDW, May 2017.
84. Hargrove L, **Kennedy L**, Demieville J, Karstens A, Smith S, Francis H. Commonly used H1 and H2 histamine receptor (HR) blockers decrease cholangiocarcinoma xenograft tumor growth, angiogenesis and EMT. Poster presentation at DDW, May 2017.
85. Sato K, **Kennedy L**, Zhou T, McDaniel K, Ramos-Lorenzo S, Wan Y, Venter J, Francis H, Glaser S, Alpini G, Meng F. Depletion of microRNA-21 reduces infiltration of macrophages and neutrophils in the liver and attenuates inflammatory cytokine production in liver macrophages during experimental cholestatic liver injury. Podium presentation at DDW, May 2017.
86. Wu N, Zhou T, Venter J, Sato K, **Kennedy L**, Alvaro D, Francis H, Onori P, Gaudio E, Meng F, Alpini G, Glaser S. Knockout of the secretin receptor (SR) in experimental primary sclerosing cholangitis reduces

biliary hyperplasia and liver fibrosis through decreased expression of epithelial-mesenchymal transition (EMT) traits and cellular senescence in cholangiocytes. Poster presentation at DDW, May 2017.

87. **Kennedy L**, Francis H, Venter J, Hargrove L, Invernizzi P, Bernuzzi F, Alvaro D, Wu N, Onori P, Gaudio E, Franchitto A, Meng F, Glaser S, Alpini G. Secretin-stimulation of bicarbonate secretion reduces biliary damage and liver fibrosis in a model of primary biliary cholangitis (PBC). Podium presentation at DDW, May 2017.
88. Kyritsi K, Meng F, Wu N, Venter J, Zhou T, Francis H, **Kennedy L**, Giang T, Sato K, Alpini G, Glaser S. Inhibition of the gonadotropin releasing hormone (GnRH)/GnRHR1 axis with cetrorelix reduces hepatic fibrosis in $Mdr2^{-/-}$ mice. Podium presentation at DDW, May 2017.
89. **Kennedy L**, Wu N, Venter J, Meng F, Francis H, Zhou T, Glaser S, Alpini G. High fat diet-induced biliary lipoapoptosis, senescence, hepatic steatosis and fibrosis are reduced in secretin receptor knockout ($SR^{-/-}$) mice. Podium presentation during the special session Graduate Student Research in Pathology at ASIP annual meeting at Experimental Biology, April 2017.
90. **Kennedy L**, Demieville J, Hargrove L, Thomson J, Francis H. High fat diet-induced biliary damage, inflammation and hepatic fibrosis are decreased in mast cell-deficient mice. Podium presentation at Baylor Scott & White Internal Medicine Research Day, March 2017.
91. **Kennedy L**, Venter J, Zhou T, Wu N, Standeford H, Karstens A, Hargrove L, Glaser S, Meng F, Alpini G, Francis H. Knockout of microRNA-21 increases high fat diet-induced lipid accumulation, biliary damage, and liver fibrosis via modulation of the SREBP1/HMGCR pathway. Poster presentation at AASLD, November 2016.
92. Demieville J, Hargrove L, **Kennedy L**, Jarido V, Francis H. Knockout of the HDC/histamine axis and reduction of mast cell number/function rescues $Mdr2^{-/-}$ mice from PSC-related biliary proliferation and fibrosis. Presidential plenary podium presentation at AASLD, November 2016.
93. Hargrove L, Demieville J, **Kennedy L**, Jones H, Invernizzi P, Bernuzzi F, Alpini G, Francis H. The reintroduction of mast cells into mast cell-deficient $Kit^{W\text{-}sh}$ mice increases inflammation and enhances biliary damage and hepatic fibrosis. Poster presentation at AASLD, November 2016.
94. Wu N, Venter J, **Kennedy L**, Zhou T, Meng F, Francis H, Glaser S, Alpini G. Knockout of the secretin receptor (SR) reduces biliary lipoapoptosis, lipid accumulation, senescence, and liver fibrosis in high-fat diet-induced obese mice. Podium presentation at AASLD, November 2016.
95. Sato K, **Kennedy L**, Zhou T, McDaniel K, Wu N, Ramos-Lorenzo S, Wan Y, Francis H, Glaser S, Alpini G, Meng F. Depletion of microRNA-21 suppresses experimental cholestatic liver injury by Kupffer cell-dependent mechanism. Poster presentation at AASLD, November 2016.
96. **Kennedy L**, Hargrove L, Demieville J, DeMorrow S, Francis H. Loss of L-Histidine Decarboxylase (HDC) prevents the damage and fibrotic reaction of cholangiocytes (but not hepatocytes and hepatic stellate cells) during

high fat diet feeding. Plenary podium presentation at DDW, May 2016.

97. **Kennedy L**, Francis H, Meng F, Venter J, Hargrove L, Glaser S, Alpini G. MicroRNA-21 increases liver fibrosis via modulation of TGF-β1/SMAD signaling in bile duct ligated (BDL) mice. Podium presentation at DDW, May 2016.
98. Hargrove L, **Kennedy L**, Demieville, Huynh V, Johnson C, DeMorrow S, Meng F, Bernuzzi F, Invernizzi P, Alpini G, Francis H. UDCA treatment reverses biliary proliferation and hepatic fibrosis in Mdr2$^{-/-}$ mice and human PSC by decreasing mast cell infiltration and histamine release. Poster presentation at DDW, May 2016.
99. McDaniel K, Wan Y, Wu N, Venter J, Francis H, Zhou T, **Kennedy L**, Glaser S, Alpini G, Meng F. Inhibition of hepatic stellate cell activation by stem cell derived extracellular vesicles and microRNAs during cholestatic liver injury. Podium presentation at DDW, May 2016.
100. **Kennedy L**, Francis H, Meng F, Venter J, Wu N, DeMorrow S, Glaser S, Alpini G. Down-regulation of the secretin/SR (SCT/SR) axis is coupled with functional biliary damage in dnTGFβRII mice and human primary biliary cirrhosis (PBC). Podium presentation at Internal Medicine Research Days, March 2016.
101. **Kennedy L**, Glaser S, Bernuzzi F, Meng F, Venter J, Francis H, Alvaro D, Gershwin M, Franchitto A, Onori P, DeMorrow S, Marzioni M, Gaudio E, Invernizzi P, Alpini G. Down-regulation of the secretin/SR (SCT/SR) axis is coupled with functional biliary damage in dnTGFβRII mice and human primary biliary cirrhosis (PBC). Poster presentation at AASLD, November 2015.
102. **Kennedy L**, Francis H, Hargrove L, Han Y, Venter J, Standeford H, Meng F, and Alpini G. Knockdown of microRNA-21 reduces biliary hyperplasia and liver fibrosis in cholestatic bile duct ligated (BDL) mice. Podium presentation at Academic Operations Research Days, May 2015.
103. **Kennedy L**, Francis H, Hargrove L, Han Y, Venter J, Standeford H, Meng F, and Alpini G. Knockdown of microRNA-21 reduces biliary hyperplasia and liver fibrosis in cholestatic bile duct ligated (BDL) mice. Poster presentation at DDW meeting, May 2015.
104. Jones H, Hargrove L, **Kennedy L**, Graf A, Owens J, Meng F, Huynh V and Francis H. Mast cell-derived histamine induces the progression of fibrosis in the PSC model of MDR2$^{-/-}$ mice. Poster presentation at DDW meeting, May 2015.
105. Hargrove L, **Kennedy L**, Graf A, Meng F, Owens J, Huynh V and Francis H. The introduction of mast cells by tail vein injection enhances biliary proliferation and fibrosis in cholestatic HDC$^{-/-}$ mice. Poster presentation at DDW meeting, May 2015.
106. **Kennedy L**, Jones H, Hargrove L, Graf A, Owens J, Nguyen Q, Meng F, Huynh V, and Francis H. Mast cell-derived histamine regulates the fibrotic reaction in the PSC model of MDR2$^{-/-}$ mice. Poster presentation at Texas A&M Health Science Center Graduate Student Organization Symposium, April 2015.

107. Hargrove L, **Kennedy L**, Owens J, Graf A, Han Y and Francis H. Knockdown of HDC gene reduces hepatic fibrosis in cholestatic bile duct ligated (BDL) mice. Podium and poster presentations at Experimental Biology meeting, April 2015.

108. Martinez A, Ray D, Han Y, Meng F, Venter J, Francis H, DeMorrow S, Avila S, Guerrier M, McDaniel K, **Kennedy L**, Bai H, Standeford H, Alpini G, and Glaser S. Disruption of the normal circadian cycle by prolonged exposure to darkness attenuates biliary hyperplasia and liver fibrosis in MDR2 KO mice by modulation of core clock gene expression. Poster presentation at DDW meeting, May 2014.

109. Hargrove L, Graf A, **Kennedy L**, and Francis H. Isolation and characterization of hepatic mast cells from rodent liver. Podium presentation at DDW meeting, May 2014.

110. Johnson C, DeMorrow S, Hargrove L, **Kennedy L**, Graf A, and Francis H. Recruitment of mast cells into the tumor microenvironment via c-kit/SCF increases human cholangiocarcinoma proliferation and angiogenesis. Podium presentation at DDW meeting, May 2014.

111. Han Y, Meng F, Hargrove L, Graf A, **Kennedy L**, Francis T, and Francis H. Regulation of cholangiocyte proliferation by the miR-215b/HDC/HA/VEGF axis in the MDR2$^{-/-}$ mouse model of primary sclerosing cholangitis. Poster presentation at International Congress, EASL, April 2014.

112. Graf A, Hargrove L, Ohtsu H, Francis T, Ueno Y, **Kennedy L**, Hodges K, Greene JF, Nguyen Q, and Francis H. Knockout of the histidine decarboxylase (HDC) gene regulates biliary hyperplasia in cholestatic bile duct ligated (BDL) mice. Poster presentation at Academic Operations Research Days, May 2014.

113. **Kennedy L**, Francis T, Graf A, Greene JF, Francis H, Nguyen Q, and Hargrove H. The mast cell stabilizer, cromolyn sodium, reduces bile duct ligated-induced biliary hyperplasia: A novel role for the in vivo paracrine influence of mast cells on biliary proliferation. Poster presentation at Academic Operations Research Days, May 2014.