



Elsa Sola

Instructor, Medicine - Gastroenterology & Hepatology

CLINICAL OFFICE (PRIMARY)

- **Stanford Gastroenterology and Digestive Health Clinic**

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Bio

BIO

Elsa Sola, MD, PhD is an Instructor and physician-scientist at the Division of Gastroenterology and Hepatology. She specializes in caring for patients with chronic liver diseases (alcohol-related liver disease, fatty liver, viral hepatitis), particularly those with cirrhosis. Dr Sola obtained her MD and PhD at the University of Barcelona (Spain) and conducted her post-doctoral training at the Institute for Immunity, Transplantation and Infection at Stanford.

Dr. Sola's research interest is focused on understanding the mechanisms leading to the progression of cirrhosis to guide future therapeutic strategies. In particular, Dr. Sola's research sits at the intersection of Hepatology and Immunology and is aimed at elucidating the mechanisms triggering the immune dysfunction in cirrhosis. She is also involved in several national and international collaborations to advance the understanding and treatment of chronic liver diseases.

CLINICAL FOCUS

- Hepatology

ACADEMIC APPOINTMENTS

- Instructor, Medicine - Gastroenterology & Hepatology

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Steering Committee, Acute on chronic liver failure Special Interest Group, American Association for the Study of Liver Diseases (AASLD) (2026 - present)
- Member, American Association for the Study of Liver Diseases (AASLD) (2023 - present)
- Member, Clinical Research Committee, American Association for the Study of Liver Diseases (AASLD) (2023 - 2025)
- Member, International Club of Ascites (2019 - present)
- Member, European Association for the Study of the Liver (EASL) (2010 - present)

PROFESSIONAL EDUCATION

- Postdoctoral Researcher, Stanford University , Immunology (2019)
- PhD, University of Barcelona , Medicine, Hepatology (2013)
- Master on Clinical Research, University of Barcelona, Spain (2013)
- Board Certification, Spain , Gastroenterology and Hepatology (2009)
- Residency, Hospital Clinic Barcelona, Spain , Gastroenterology and Hepatology (2009)
- Medical Education, University of Barcelona, Spain (2004)

PATENTS

- Elsa Sola. "United States Human spleen organoids to model human immune responses", Stanford University, Mar 27, 2025

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Cirrhosis is a common condition and is associated with recurrent complications. Therapeutic options are limited and the management of complications has been similar for the past decades. The only definitive treatment is liver transplantation; however, this is limited by the number of organs and the risk of complications on the waiting list. Patients with cirrhosis present with profound immune disturbances, but to date there are no therapeutic strategies to restore immune responses.

Dr Sola's research interest is focused on understanding the mechanisms of immune dysfunction in cirrhosis to guide the development of future therapeutic options. With her research background in Hepatology and Immunology, Dr Sola is using novel techniques to improve the understanding of cirrhosis progression. She is leveraging her skills in human organoids to develop cirrhosis-derived immune organoids as a platform for investigating mechanisms of immune dysfunction and screening new therapeutic options.

Publications

PUBLICATIONS

- **Real-world use of terlipressin in cirrhosis and acute kidney injury: frequent use beyond hepatorenal syndrome.** *Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association*
Ma, A. T., Juanola, A., Patidar, K. R., Barone, A., Incicco, S., Kulkarni, A. V., Verma, N., Lange, C. M., Xie, Q., Alessandria, C., Reyes, E. C., Maiwall, R., Kim, et al
2025
- **Global epidemiology of acute kidney injury in hospitalised patients with decompensated cirrhosis: the International Club of Ascites GLOBAL AKI prospective, multicentre, cohort study.** *The lancet. Gastroenterology & hepatology*
Patidar, K. R., Ma, A. T., Juanola, A., Barone, A., Incicco, S., Kulkarni, A. V., Hernandez, J. L., Wentworth, B., Asrani, S. K., Alessandria, C., Abdelkader, N. A., Wong, Y. J., Xie, et al
2025
- **Simvastatin and Rifaximin in Decompensated Cirrhosis: A Randomized Clinical Trial.** *JAMA*
Pose, E., Jiménez, C., Zaccherini, G., Campion, D., Piano, S., Uschner, F. E., de Wit, K., Roux, O., Gananandan, K., Laleman, W., Solé, C., Alonso, S., Cuyàs, et al
2025
- **Differential roles of human CD4+ and CD8+ regulatory T cells in controlling self-reactive immune responses.** *Nature immunology*
Chen, X., Ghanizada, M., Mallajosyula, V., Sola, E., Capasso, R., Kathuria, K. R., Davis, M. M.
2025
- **Coupling antigens from multiple subtypes of influenza can broaden antibody and T cell responses.** *Science (New York, N.Y.)*

Mallajosyula, V., Chakraborty, S., Sola, E., Fong, R. F., Shankar, V., Gao, F., Burrell, A. R., Gupta, N., Wagar, L. E., Mischel, P. S., Capasso, R., Staat, M. A., Chien, et al
2024; 386 (6728): 1389-1395

- **Infections in decompensated cirrhosis: Pathophysiology, management, and research agenda.** *Hepatology communications*
Ferguson Toll, J., Solà, E., Perez, M. A., Piano, S., Cheng, A., Subramanian, A. K., Kim, W. R.
2024; 8 (10)
- **GLOBAL SOCIOECONOMIC DISPARITIES AFFECT ACUTE KIDNEY INJURY OUTCOMES IN HOSPITALIZED PATIENTS WITH CIRRHOSIS: AN ANALYSIS OF THE INTERNATIONAL CLUB OF ASCITES GLOBAL AKI STUDY**
Patidar, K., Ma, A., Juanola, A., Barone, A., Incicco, S., Kulkarni, A., Perez Hernandez, J., Wentworth, B., Asrani, S., Alessandria, C., Abdelkader, N., Wong, Y., Pyrsopoulos, et al
LIPPINCOTT WILLIAMS & WILKINS.2024: S1660-S1662
- **Prospective validation of the EASL management algorithm for acute kidney injury in cirrhosis.** *Journal of hepatology*
Ma, A. T., Sole, C., Juanola, A., Escude, L., Napoleone, L., Avitabile, E., Perez-Guasch, M., Carol, M., Pompili, E., Gratacos-Gines, J., Soria, A., Rubio, A. B., Cervera, et al
2024
- **$\gamma\delta$ T cell antigen receptor polyspecificity enables T cell responses to a broad range of immune challenges.** *Proceedings of the National Academy of Sciences of the United States of America*
Guo, J., Chowdhury, R. R., Mallajosyula, V., Xie, J., Dubey, M., Liu, Y., Li, J., Wei, Y. L., Palanski, B. A., Wang, C., Qiu, L., Ohyanan, M., Kask, et al
2024; 121 (4): e2315592121
- **AASLD Practice guidance on Acute-on-chronic liver failure and the management of critically ill patients with cirrhosis.** *Hepatology (Baltimore, Md.)*
Karvellas, C. J., Bajaj, J. S., Kamath, P. S., Napolitano, L., O'Leary, J. G., Solà, E., Subramanian, R., Wong, F., Asrani, S. K.
2023
- **Novel prognostic biomarkers in decompensated cirrhosis: a systematic review and meta-analysis.** *Gut*
Juanola, A., Ma, A. T., de Wit, K., Ganandandan, K., Roux, O., Zaccherini, G., Jimenez, C., Tonon, M., Sole, C., Villaseca, C., Uschner, F. E., Graupera, I., Pose, et al
2023
- **Editorial: composite kidney outcomes in studies with patients with cirrhosis and AKI-Are we ready to "MAKE" the switch?** *Alimentary pharmacology & therapeutics*
Ma, A. T., Sola, E.
2023; 57 (12): 1473-1474
- **NK-like CD8+ $\gamma\delta$ T cells are expanded in persistent Mycobacterium tuberculosis infection.** *Science immunology*
Roy Chowdhury, R., Valainis, J. R., Dubey, M., von Boehmer, L., Sola, E., Wilhelmy, J., Guo, J., Kask, O., Ohyanan, M., Sun, M., Huang, H., Huang, X., Nguyen, et al
2023; 8 (81): eade3525
- **A TLR7-nanoparticle adjuvant promotes a broad immune response against heterologous strains of influenza and SARS-CoV-2.** *Nature materials*
Yin, Q., Luo, W., Mallajosyula, V., Bo, Y., Guo, J., Xie, J., Sun, M., Verma, R., Li, C., Constantz, C. M., Wagar, L. E., Li, J., Sola, et al
2023
- **Assessment of kidney function in cirrhosis: Are we moving closer to accurate estimation of glomerular filtration rate?** *Liver international : official journal of the International Association for the Study of the Liver*
Ma, A. T., Juanola, A., Sola, E.
2022; 42 (5): 957-959
- **Treatment With Simvastatin and Rifaximin Restores the Plasma Metabolomic Profile in Patients With Decompensated Cirrhosis.** *Hepatology communications*
Pose, E., Sola, E., Lozano, J. J., Juanola, A., Sidorova, J., Zaccherini, G., de Wit, K., Uschner, F., Tonon, M., Kazankov, K., Jimenez, C., Campion, D., Napoleone, et al
1800
- **Distinct phenotype of CD4+ T cells driving celiac disease identified in multiple autoimmune conditions.** *Nature medicine*

Christophersen, A., Lund, E. G., Snir, O., Sola, E., Kanduri, C., Dahal-Koirala, S., Zuhlke, S., Molberg, O., Utz, P. J., Rohani-Pichavant, M., Simard, J. F., Dekker, C. L., Lundin, et al

2019