

Prof. Dr. Steven Dooley



University Professor and Head of Section of Molecular Hepatology & Alcohol Associated Diseases – Department of Medicine II – Medical Faculty Mannheim

C-TIP-HCC Coordinator

Role in LiSyM-Cancer

- Coordinator and project leader in C-TIP-HCC
- Cellular processes that occur in the liver in response to damage, e.g. from alcohol abuse or malnutrition, specifically in the role of TGF β family members, their signaling pathway regulators and target genes.

Expertise

- Liver cell biology, liver diseases, clinical translation, and systems biology
- Generating quantitative data with cutting edge technologies, e.g. laser-scanning microscopy, 2D/3D quantitative imaging, GeoMx imaging and spatial RNA-profiling, human and mouse liver cells, time-lapse data monitoring
- Mouse reporter and disease models

Degrees

- PhD studies at the Institute of Human Genetics, University of Saarland in Homburg
- Graduated in Biology at the University at Kaiserslautern

Professional Experience

- Since 2004, Full Professor at Heidelberg University
- 1998, Group Leader and Assistant Professor in the Department of Clinical Chemistry and Pathobiochemistry at the University Hospital RWTH Aachen
- Postdoc research on Molecular Cancer Research at the Institute of Human Genetics University of Kaiserslautern

Honors and Awards (selection)

- Gábor-Szász-Award of the Deutsche Vereinte Gesellschaft für Klinische Chemie und Laboratoriums-Medizin for outstanding scientific merits.

Publications

2026-06-10	Transient suppression of the ECM1 gatekeeper is essential for HGF/c-MET-driven liver regeneration
2026-04-29	Phosphatidylserine-Dependent Clearance of Damaged Red Blood Cells by Liver Sinusoidal Endothelial Cells in Alcohol-Related Liver Disease <i>Biology</i>
2026-03-14	Semi-automated isolation of parenchymal and non-parenchymal liver cells from mice and humans with enhanced stellate cell fraction <i>Cell & Bioscience</i>
2025-12-01	Immunoglobulin G binding as a quantitative marker of hepatocellular death across acute and chronic liver injury
2025-12-01	NADPH oxidase 1/4 dual inhibition impairs transforming growth factor-beta protumorigenic effects in cholangiocarcinoma cancer-associated fibroblasts <i>Signal Transduction and Targeted Therapy</i>
2025-10-01	Transforming Growth Factor- β Signaling in Alcohol-Associated Liver Disease <i>The American Journal of Pathology</i>
2025-09-01	From cirrhosis to cancer: α -SMA+ CAF and CD68+ macrophage rewiring in the cirrhosis–HCC transition <i>79. Jahrestagung der DGVS mit Sektion Endoskopie Jahrestagung der Deutschen Gesellschaft für Allgemein- und Viszeralchirurgie mit den Arbeitsgemeinschaften der DGAV und Jahrestagung der CACP</i>
2025-08-02	The interplay between biomechanics and cell kinetics explains the spatial pattern in liver fibrosis
2025-07-17	ECM1 expression in chronic liver disease: Regulation by EGF/STAT1 and IFN γ /NRF2 signalling. <i>JHEP Rep</i>
2025-06-07	Regulation of essential hepatocyte functions and identity by super-enhancers in health and disease
2025-06-05	TGF- β serves as a critical signaling determinant of liver progenitor cell fate and function
2025-02-06	ECM1 attenuates hepatic fibrosis by interfering with mediators of latent TGF-beta1 activation. <i>Gut</i>
2025-02-06	ECM1 attenuates hepatic fibrosis by interfering with mediators of latent TGF- β 1 activation <i>Gut</i>
2025-01-01	TGF- β critically determines the activation state of both, the macrophage subpopulation that is particularly recruited in the context of MASH progression, as well as of TAMs <i>41. Jahrestagung der Deutschen Arbeitsgemeinschaft zum Studium der Leber</i>
2024-11-05	The TGF-beta1 target WISP1 is highly expressed in liver cirrhosis and cirrhotic HCC microenvironment and involved in pro- and anti-tumorigenic effects. <i>Biochem Biophys Res Commun</i>
2024-09-29	Role of WISP1 in Stellate Cell Migration and Liver Fibrosis <i>Cells</i>
2024-09-09	Direct Ingestion of Oxidized Red Blood Cells (Efferocytosis) by Hepatocytes. <i>Hepat Med</i>
2024-08-23	A digital liver twin demonstrating the interplay between biomechanics and cell kinetics can explain fibrotic scar formation

2024-08-01	Retinoic acid generates a beneficial microenvironment for liver progenitor cell activation in acute liver failure. <i>Hepatol Commun</i>
2024-07-13	Tumour-specific activation of a tumour-blood transport improves the diagnostic accuracy of blood tumour markers in mice. <i>EBioMedicine</i>
2024-03-01	ERRγ-inducible FGF23 promotes alcoholic liver injury through enhancing CYP2E1 mediated hepatic oxidative stress <i>Redox Biology</i>
2024-02-16	A liver digital twin for in silico testing of cellular and inter-cellular mechanisms in regeneration after drug-induced damage. <i>iScience</i>
2024-02-08	TGFβ1 inhibition drives hepatocellular carcinoma proliferation through induction of toll-like-receptor signalling <i>International Journal of Experimental Pathology</i>
2024-01-01	Progression of MASLD goes along with significant changes of a recruited and TGFβ sensitive macrophage population <i>Zeitschrift für Gastroenterologie</i>
2024-01-01	Insulin Determines Transforming Growth Factor β Effects on Hepatocyte Nuclear Factor 4α Transcription in Hepatocytes <i>The American Journal of Pathology</i>
2024-01-01	Direct Ingestion of Oxidized Red Blood Cells (Efferocytosis) by Hepatocytes <i>Hepatic Medicine: Evidence and Research</i>
2024-01-01	The Interplay of TGF-β1 and Cholesterol Orchestrating Hepatocyte Cell Fate, EMT, and Signals for HSC Activation <i>Cellular and Molecular Gastroenterology and Hepatology</i>
2023-12-12	Extracellular Matrix Protein 1 Attenuates Hepatic Fibrosis by Inhibiting TSP-, ADAMTS-, and MMP-Mediated Latent TGF-β1 Activation
2023-12-07	Rapid dexamethasone treatment inhibits LPS-induced cytokine storm in mice
2023-08-15	TGF-β1 inhibits cholesterol metabolism in hepatocytes to facilitate cell death, EMT and signals for HSC activation.
2023-08-01	GPNMB induces hepatic steatogenesis and modulates liver cancer cells <i>Zeitschrift für Gastroenterologie</i>
2023-07-01	Tolerance of repeated toxic injuries of murine livers is associated with steatosis and inflammation <i>Cell Death & Disease</i>
2023-05-01	Acute liver injury induces expression of FGF23 in hepatocytes via orphan nuclear receptor ERRγ signaling <i>Genes & Diseases</i>
2023-04-01	Capsaicin receptor TRPV1 maintains quiescence of hepatic stellate cells in the liver via recruitment of SARM1 <i>Journal of Hepatology</i>

2023-01-01	Repeated toxic injuries of murine liver are tolerated through minute steatosis and mild inflammation <i>39. Jahrestagung der Deutschen Arbeitsgemeinschaft zum Studium der Leber</i>
2023-01-01	Monitoring TGF-β1 effects on liver cells in vivo <i>39. Jahrestagung der Deutschen Arbeitsgemeinschaft zum Studium der Leber</i>
2023-01-01	Retinoic acid generates a beneficial microenvironment for liver progenitor cell activation in acute liver failure <i>39. Jahrestagung der Deutschen Arbeitsgemeinschaft zum Studium der Leber</i>
2023-01-01	Hepatocytes reprogram liver macrophages involving control of TGF-β activation, influencing liver regeneration and injury <i>Hepatology Communications</i>
2022-07-09	Serum Glial Cell Line-Derived Neurotrophic Factor (sGDNF) Is a Novel Biomarker in Predicting Cirrhosis in Patients with Chronic Hepatitis B <i>Canadian Journal of Gastroenterology and Hepatology</i>
2022-04-20	FOXA2 prevents hyperbilirubinaemia in acute liver failure by maintaining apical MRP2 expression <i>Gut</i>
2022-03-07	A hierarchical regulatory network ensures stable albumin transcription under various pathophysiological conditions <i>Hepatology</i>
2022-02-01	Transforming growth factor β latency: A mechanism of cytokine storage and signalling regulation in liver homeostasis and disease <i>JHEP Reports</i>
2022-01-18	Liver specific, systemic and genetic contributors to alcohol-related liver disease progression <i>Zeitschrift für Gastroenterologie</i>
2022-01-18	Inflammation in alcohol-associated liver disease progression <i>Zeitschrift für Gastroenterologie</i>
2022-01-01	Multi-omics profiling identifies molecular signatures of acute-on-chronic liver failure in Abcb4KO mice upon chemical intoxication <i>38. Jahrestagung der Deutsche Arbeitsgemeinschaft zum Studium der Leber</i>
2022-01-01	Insulin-controlled C/EBPα expression determines the impact of TGF-β on HNF4α transcription in hepatocytes <i>38. Jahrestagung der Deutsche Arbeitsgemeinschaft zum Studium der Leber</i>
2022-01-01	FOXA2 inhibits hyperbilirubinemia through maintaining apical MRP2 expression in acute liver failure <i>38. Jahrestagung der Deutsche Arbeitsgemeinschaft zum Studium der Leber</i>
2022-01-01	Downregulation of ECM1 in hepatocytes as a damage response to liver injury <i>38. Jahrestagung der Deutsche Arbeitsgemeinschaft zum Studium der Leber</i>
2022-01-01	Cold shock protein YB-1 upregulates MDR1 transcription and thus contributes to cholangiocarcinoma chemoresistance to cisplatin <i>38. Jahrestagung der Deutsche Arbeitsgemeinschaft zum Studium der Leber</i>
2021-12-14	Follistatin-controlled activin-HNF4α-coagulation factor axis in liver progenitor cells determines outcome of acute liver failure <i>Hepatology</i>