**ALCOHOLIC LIVER AND PANCREATIC DISEASES (ALPD) and CIRRHOSIS** constitute leading-life style diseases around the globe. The Southern California Research Center for ALPD and Cirrhosis unifies 57 investigators from major academic institutions in Southern California to pursue a common mission of being a leader in research, training, and outreach for the diseases. The center, since its inception in 1999, has devoted its efforts for development and use of clinically relevant animal models to gain novel insights into the molecular mechanisms underlying the predisposition to advanced ALPD. These efforts culminated to recent ground-breaking discoveries which have significantly advanced our understanding of synergistic ALPD caused by alcohol and a second hit. The center’s interactive environment and infrastructure have facilitated in the past 5 years, a 152% increase in research base to nearly $10M/year (Fig. 2); 4 new U01/P01 programs; 198 publications; generation of 14 NIH-funded early-stage investigators; transition of 8 postdocs to faculty positions; training 166 graduate and 20 undergraduate students; and organizing 3 community seminars and 4 international symposia. As a unique national resource, the center has provided to scientific communities across the nation: 229 rodents as ALPD models and 241 model samples for 17 outside investigators; 329 liver cell isolation preparations for 14 investigators; and support for grant acquisition and application by 12 outside investigators since the last renewal.

The center will continue to strive as a unique scientific center of excellence in ALPD and cirrhosis by promoting: 1) environment conducive for leading-edge research on the center’s theme: elucidation of the priming and sensitizing mechanisms for ALPD; 2) provision of unique models, in-

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Kinji Asahina is an Assistant Professor of Research in the Department of Pathology at the Keck School of Medicine of the University of Southern California. Kinji is also a center member of the Southern California Research Center for ALPD and Cirrhosis, and serves its Non-parenchymal Liver Cell Core as Co-Director.

Kinji was born in Tokyo, Japan. After graduating from Shimane University in 1994, he went to Hiroshima University and received his Ph.D. in 1999. For his Ph.D., he studied amphibian metamorphosis (how a tadpole becomes a frog) and limb regeneration. Although he was fascinated with developmental biology of amphibia, he became more interested in cell differentiation of higher vertebrates and decided to join Hiroshima Tissue Regeneration Project as a Research Fellow. During his tenure with the Institute, he investigated liver development, regeneration, and injury. He identified pleiotrophin as a new mitogen for hepatocytes secreted from hepatic stellate cells (HSCs) in liver development and injury.

Between 2002 and 2006, Kinji was an Assistant Professor at Tokyo Medical and Dental University, where his primary goal was to induce hepatocyte differentiation from embryonic stem cells. He succeeded in rescuing injured mouse liver by transplantation of embryonic stem cell-derived hepatocytes without formation of tumor. He was funded several research grants from the government and mentored 15 doctoral students in the laboratory. Although the stem cell was a hot topic, he was eager to initiate his unique research project on basic biology of the liver, which would possibly lead to further understanding and development of new applications of stem cells to cure diseases. In particular, he was interested in the origin and function of HSCs in embryos, because no one knew about them at that time.

Luckily, Kinji happened to learn that Dr. Hide Tsukamoto, Professor of Pathology at USC and Director, Southern California Research Center for ALPD and Cirrhosis, was interested in starting a new program for developmental biology of HSCs. After meeting with him, Kinji decided to join USC as a Visiting Research Scholar in 2007. Under the mentorship of Dr. Tsukamoto, Kinji not only developed a research project on HSC development, but also learned how to write NIH grant proposals. In 2009, he demonstrated, for the first time, that HSCs are mesodermal in origin (Hepatology 2009). He also found that mesothelial cells covering liver surface migrate inward and give rise to HSCs in hepatogenesis (Hepatology 2011). Based on these findings, he successfully obtained pilot project grants from the Southern California Research Center for ALPD and Cirrhosis (2009–2010) and USC Research Center for Liver Diseases (2011), and a R01 grant from NIAAA (2011–2016). Recently, Kinji’s group has identified that mesothelial cells are HSC progenitor cells and participate in the formation of fibrotic septa by differentiating into myofibroblasts in liver fibrosis (PNAS 2013). To date, Kinji has published 42 papers and is the first or corresponding author on 18 papers.

The main focus on his current research program are: 1) the contribution of mesothelial cells in alcohol-induced liver fibrosis; 2) the mechanisms of mesothelial-mesenchymal transition; and 3) the roles of different mesenchymal cells participate in liver fibrosis.

Kinji very much enjoyed fishing, scuba diving, and hiking in Japan, but nowadays he is preoccupied in his LA laboratory.
14TH ANNUAL SYMPOSIUM/RETREAT

THE SOUTHERN CALIFORNIA RESEARCH CENTER for ALPD and CIRRHOSIS hosted its 14th annual symposium on October 5–6, 2012. This whole day symposium served as another retreat designed to critically review and evaluate the center’s research components by the advisory board members and research project investigators. The symposium showcased presentations on the center’s research projects, cores and pilot project program. The whole day symposium/retreat was followed by a 2-hr morning discussion session on the 6th at the DoubleTree by Hilton Los Angeles Downtown where the advisory board members and center investigators reviewed and discussed the concrete logistic approaches to enhance the center’s potential.

The symposium was followed by a reception at Chaya Downtown where close to 70 center members and friends enjoyed great wine and food, including sushi. The 2012 best abstract awards were presented by Vijay Kalra and Kinji Asahina to Alexander Wree, Maria Lauda Tomasi and Yoon Seok Roh from Ariel Feldstein, Shelly Lu and Ekihiro Seki’s laboratories, respectively. On behalf of Alexander and Lauda, their respective mentors accepted the awards. A special thanks to Jon Nalick and Raymond Wu for providing the photographs.

7TH ISALPD/C

THE SOUTHERN CALIFORNIA RESEARCH CENTER for ALPD and CIRRHOSIS was a proud co-sponsor of the 7th International Symposium for Alcoholic Liver and Pancreatic Diseases and Cirrhosis with the theme of “Alcohol, Pancreatitis and Viral Hepatitis: New Challenges” in Beijing, China on September 6 and 7, 2012. This symposium brought together 58 world renowned speakers/moderators, 80 poster presenters, and total over 300 attendees from 8 countries to discuss the most current and cutting-edge research on viral hepatitis, alcoholic liver disease, and pancreatic disease. Dr. Ken Warren, Acting Director of the National Institute on Alcoholic Abuse and Alcoholism (NIAAA), National Institutes of Health (NIH), made special opening remarks in the symposium, followed by many excellent lectures from prominent scientists that cover basic and clinical research on alcoholic liver disease and viral hepatitis. Discussion of poster sessions was led by prominent and young scientists as moderators. The 8th symposium will be held in New Delhi, India on November 16–17, 2013 under the leadership of Drs. Shiv Kumar Sarin and Raj Lakshman. Thank you, Dr. Bin Gao for providing the pictures.
The Metabolomics Core

The Center Has Recently Established a Metabolomics Core, which is located in the MMR 3rd floor on the USC Health Science Campus. Its mission is to provide Center members with metabolomic resources and services for cutting edge biomedical discovery and therapeutic development research.

Stable isotope (13C and 2H) based metabolomic analysis of metabolic pathways is a strength of the Core. The Core routinely analyzes glucose metabolism (aerobic glycolysis vs. glucose oxidation, direct vs. indirect glycogenesis, oxidative vs. non-oxidative pentose cycle, gluconeogenesis, and glucose futile cycling), lipid metabolism (de novo fatty acid synthesis, fatty acid elongation and desaturation, lipolysis and fatty acid oxidation, cholesterol metabolism, and lipid composition analysis), amino acid and other organic acid metabolism (TCA cycle activity, methyl donor/one carbon metabolism, and protein turnover study), and DNA/RNA turnovers. The Core is also capable of performing quantitative analysis of metabolites of specific pathway(s).

The Metabolomics Core networks with the Animal Core to provide stable isotope based metabolic profiling and flux analysis in animal models. This allows assessing whole body and tissue specific metabolism, as well as metabolic crosstalk among tissues. Cell-type specific metabolomic analysis can be achieved in vitro, and ex vivo through interactions between Metabolomics Core and Nonparenchymal Cell Core of the Center. The Core has successfully carried out metabolomic studies in hepatic macrophages, stellate cells, and tumor initiating cells.

The Metabolomics Core is co-directed by Dr. Jun Xu Assistant Professor of Research (USC) and Dr. Paul Lee (UCLA), who have combined 40 years of experience in metabolomic analysis. If you have questions about the Core’s services, please send an email to: Dr. Jun Xu at junx@usc.edu.

If you would like to meet with any of our guest speakers, please contact: Asma Deras at asmadera@usc.edu or (323)442-3121. Meeting space is limited and will be arranged based on first-come, first-served basis.

Congratulations!!!

New Grant Acquisitions by Center Members

(Annual Direct Costs)

1. Brenner, David A., 2P42ES010337-11A1, 04/26/12–03/31/17, $100,000
2. Pandol, Stephen J., VA Merit, 04/01/12–03/31/16, $150,000
3. Pandol, Stephen J., P01CA163200-01, 07/01/12–06/30/17, $150,000
4. Seki, Ekihiro, 2P42ES010337-11A1 Sub Proj ID: 8808, 04/26/12–03/31/17, $100,000
5. Machida, Keigo, American Cancer Society, 07/01/12–06/30/16, $180,000
6. Xu, Jun, Alcoholic Beverage Medical Research Foundation, 01/01/12–12/31/13, $43,479
7. Morgan, Timothy R., 1U01AA021886-01, 08/01/13–07/31/18, $1,200,000
8. Tsukamoto, Hidekazu, VA Merit, 04/01/13–03/31/17, $195,000


33. Tomasi ML, Li TW, Li M, Mato JM, Lu SC. Inhibition of human methionine adenosyltransferase 1A transcription by coding region methylation. J.Cell Physiol 2012 Apr;227(4):1583-91. PMCID:PMC3183271


14TH ANNUAL SYMPOSIUM/RETREAT GROUP PHOTO