

# The Systems Biology of Clinical Organ Transplantation

The Roche Organ Transplantation Research Foundation (ROTRF) was launched in 1998 with the mission to advance the science of organ transplantation and improve the care and long-term outcomes of transplant patients. The priority of the ROTRF is to support clinically oriented research projects that will impact on clinical organ transplantation.

This symposium will highlight how new technologies and approaches can complement the conventional analysis of patient material and lead to a better understanding of the disease state of transplant patients.

The first talk, presented by *Dr Halloran*, will focus on the challenges presented by the complexity and multiplicity of the data related to the disease states in organ transplantation, including data analysis, storage and interpretation. A systems biology approach will be proposed as a means to address these challenges.

The subsequent presentations will provide examples of molecular research in different areas of clinical organ transplantation, and illustrate how the methods used may contribute to a systems biology approach for clinical transplantation.

*Dr Kaminski* will outline the molecular pathogenesis of pulmonary fibrosis and explain how a combined approach incorporating traditional molecular biology methods, new emerging technologies and advanced bioinformatic approaches may help identify key regulatory molecules. Such molecules may serve as potential biomarkers to improve diagnosis and disease outcome, or as targets for the development of novel therapeutic agents.

*Dr Iwakoshi* will address the consequences of donor-specific antibodies (DSA) on graft outcome. The use of novel technologies for quantifying human B cell responses in highly sensitized patients will be discussed, with the long-term goal of developing therapies to control the production of alloantibody in such patients.

*Dr Matas* will present preliminary results of the Long-term Deterioration of Kidney Allograft Function (DeKAF) study indicating that cluster analysis based on BANFF score may be of prognostic value for the identification of distinct phenotypes. This may represent a first step towards developing intervention trials for each phenotype.

For further information on the ROTRF or the symposium, please visit our [information booth # 4](#) at ATC 2009 or [www.rotrf.org](http://www.rotrf.org)

# ROTRF Luncheon Satellite Symposium

**John B. Hynes Convention Center  
Boston, USA  
Room # 312  
Saturday, May 30, 2009, 12:45 – 14:00**



## *The Systems Biology of Clinical Organ Transplantation*

**Moderators:** **J. Andrew Bradley**, *University of Cambridge, Cambridge, UK*  
**Allan D. Kirk**, *Emory University, Atlanta, USA*

12:45–12:55 **Introduction**  
**Allan D. Kirk**

12:55–13:10 **The Systems Biology Approach to Clinical Research in Organ Transplantation**  
**Philip F. Halloran**, *University of Alberta, Edmonton, Canada*

13:10–13:25 **Using System Biology Approaches to Demystify Fibrosis**  
**Naftali Kaminski**, *University of Pittsburgh Medical Center, Pittsburgh, USA*

13:25–13:40 **Tracking Human Alloantigen-specific B Cells**  
**Neal N. Iwakoshi**, *Emory University, Atlanta, USA*

13:40–13:55 **Late Deterioration of Kidney Allograft Function: Preliminary Results from the DeKAF Study**  
**Arthur J. Matas**, *University of Minnesota, Minneapolis, USA*

13:55–14:00 **Closing Remarks**  
**J. Andrew Bradley**

Please note that lunch will be provided inside the symposium room before the start of the symposium.

Presented for attendees of the American Transplant Congress.

This symposium is supported by the ROTRF. This is not an official function/event of the American Transplant Congress. There are no charges for admission to this symposium.