

FASI

FOOD ALLERGY SCIENCE INITIATIVE

Dear Friends,

We've had a truly tremendous year at FASI. On behalf of our Board, Staff, and our broader community, I am delighted to share highlights of **FASI's Scientific Progress and Impact** over the past fiscal year.

FY 2023 Highlights

22 Grants



\$6.8 Million Funded



**21 Investigators & 12
Institutions**



49 Scientific Papers



2 Patents



FASI Leading the Science of Food Allergies

When FASI launched in 2016, there was an enormous gap in the scientific understanding of food allergies, particularly why certain people had allergic responses to foods and what triggered these responses. By supporting foundational science in 20+ labs across the US, FASI has catalyzed an exciting new interdisciplinary field of food allergy research bridging the fields of neuroscience, immunology, cellular biology, and microbiology.

In fiscal year 2023, FASI invested \$6.8 million across 22 grants to 21 investigators at 12 institutions, bringing the total it has invested in food allergy research since its inception to \$37 million. This past fiscal year, FASI scientists published 49 scientific papers and filed two patents. In May 2023, 350+ scientists from FASI and around the world gathered to share breakthrough research at [FASI's Annual Symposium](#).

Food-Gut-Brain Connections

Ever wonder what happens in the brain when you eat a particular food? FASI scientists are unlocking how the intricate communication system between the brain and gut triggers whether eating a food causes an allergic reaction or not. [Dr. Ruslan Medzhitov](#) and [Dr. Esther Borges Florsheim](#) have isolated how ingestion of an allergen in a food activates brain mechanisms of aversion even before allergic reactions happen in the gut. Together, with [Dr. Stephen Liberles](#) and [Dr. Marcelo Dietrich](#), they are further investigating how this newly identified neural circuit is linked to food allergies.

Cellular Landscape of the Intestines

Did you know that the network of nerves in our intestines is bigger than those in our brain and spinal cord? With support from FASI, [Dr. Ramnik Xavier](#) has completed the first single cell atlas of the enteric nervous system, the network of neurons and supporting cells throughout the gastrointestinal tract. While this network of nerves is known to control numerous aspects of our digestion, the landmark work by Dr. Xavier and other FASI investigators have identified novel pathways by which these neurons also participate in our immune responses to allergens. For example, [Dr. Vijay Kuchroo](#) has helped elucidate how specific gut neurons respond to signals from our immune system and orchestrate allergic inflammation. With this new knowledge, FASI investigators are positioned to identify new ways to intervene with the pathways that drive allergies.

Allergies and Skin Disease

Could a better understanding of the skin lead to food allergy therapies? FASI scientists have made breakthrough connections in understanding the skin's role in food allergies and

including the connection between food allergies and other allergic skin diseases like atopic dermatitis. FASI investigator [Dr. Andrew Wang](#) discovered a unique pathway by which the development of oral food allergies can be exacerbated when damaged skin is exposed to allergens, suggesting signals from our skin can travel to our guts. In related work, [Dr. Carrie Sokol](#) has identified how allergens can activate nerves in our skin which then drive allergic immune responses. These discoveries are paving a path towards food allergies therapies targeted through the skin.

FASI Drug Discovery Accelerator

FASI's Senior Vice President of Research, [Dr. Carlos Bosques](#), has built a team of scientists within FASI's new Drug Discovery Accelerator, that will translate the breakthrough science into real-world food allergy therapies for patients across the world. FASI is actively developing the tools necessary to bring these therapeutic concepts to life and will begin the first phase of new compound development later this year. FASI's Drug Discovery Accelerator is an exciting expansion of our mission made possible by the dedication of scientists and generous support from our donors and partners.

100% of donations made to FASI go towards groundbreaking scientific research. We need our community to help us cure food allergies. Please consider supporting FASI to create a world without food allergies. A tax-deductible contribution can be made on our [website](#).

Thank you for your continued support of FASI's mission! Have a wonderful summer!

Sincerely yours,

