Accelerating Medicines Partnership® Autoimmune and Immune-Mediated Diseases (AMP® AIM) Program

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Advisory Committee on Research on Women’s Health (ACRWH)
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AMP by the Numbers

9 Programs

$772M Total Investment

8+ Years

28 Industry Partners

15 NIH Institutes and Cross-Institute Programs

29 Non-Profits

As of June 2022

Slide adapted from FNIH
AMP Topics

AMP Alzheimer’s Disease (AD) ‘1.0’ Project A: Biomarkers

AMP AD ‘1.0’ Project B: Target Discovery and Preclinical Validation

AMP RA/SLE

AMP Type 2 Diabetes

AMP AIM

AMP Parkinson’s Disease

AMP Common Metabolic Diseases

AMP Schizophrenia

AMP Bespoke Gene Therapy Consortium

AMP Heart Failure


Slide adapted from FNIH
AMP RA/SLE: Goals to identify prioritized targets for RA and SLE

**Disease ‘Deconstruction’**

- Identify **cells of interest**
- Identify and track **marker** using single-cell analytics and cross-validate expression in subsets
- Identify **intracellular pathways, cell subset and state, ligand/receptor expression, and clinical correlations**
- Identify **cell populations and effector pathways**
  - Biomarkers
  - Targets for therapy
  - Molecular classifications of disease

**Transformative approach toward precision medicine**

- Infrastructure for **target tissue research biopsies**
- **Disaggregation** standard operating procedures
- Rapidly evolving **single cell technologies**
- New **bioinformatics** strategies

**AMP RA/SLE approaches now applied widely with broad impact**

Slide adapted from FNIH
AMP AIM Builds on Key Outcomes of AMP RA/SLE

AMP RA/SLE Disease ‘Deconstruction’

Identify the puzzle pieces

AMP AIM Disease ‘Reconstruction’

Put the pieces back together
How Disease ‘Reconstruction’ Leads to Deliverables

- Discover how innate and adaptive cells of the immune system and tissue resident cells interact to drive inflammation and clinical disease
- Map anatomic locations, neighborhood pathology, cell-to-cell and receptor-to-ligand interactions
- Define how these cell and molecular pathologies are common across diseases and across tissues

- Advance understanding of how cell-cell interactions activate specific mechanisms of disease through spatial analytics
- Accelerate discovery of new mediators of disease through “interactome” analytics
- Integrate at a systems level across tissues and diseases, combining the above with epigenetics and genomics to identify target molecules in causative pathways of disease
AMP AIM Vision

• Index and map cells and pathways in

Systemic Lupus Erythematosus
Sjögren’s Disease
Rheumatoid Arthritis
Psoriatic Spectrum Disorder

Female:Male
9:1 7:1 3:1 1.5:1

• Discover how these pathways and cells interact through new analytics in different diseases to identify specific and shared disease mechanisms

Images courtesy of AMP AIM investigator Dr. Judith James and elsewhere
AMP AIM Tools and Processes

Build on RA/SLE Foundation

Repertoire

Histology

Genotype

Synovium, Kidney, Salivary gland

Skin

Blood & Urine

AutoAb Profiling

CITE-seq

Spatial Mapping

Metabolomics

Lipidomics

Proteomics

Knowledge / Data Portal

Elucidate Cell Mediators and New Targets

Slide adapted from FNIH
AMP AIM has Many Partners

Program Launched Q4 2021

Total Committed $65+ M

Public Sector Partners

NIH National Institute of Arthritis and Musculoskeletal and Skin Diseases
NIH National Institutes of Health Office of Research on Women’s Health
NIH National Eye Institute Research Today, Vision Tomorrow
NIH National Institute of Allergy and Infectious Diseases
NIH National Institute of Dental and Craniofacial Research

Private Sector Partners

AbbVie
Arthritis Foundation
Lupus Foundation of America
Lupus Research Alliance
National Psoriasis Foundation
Bristol Myers Squibb
GSK
Janssen
UCB
Novartis
Pfizer
Sanofi
Sjögren’s Foundation
Dear Colleagues,

We are pleased to announce a new and exciting program designed to create a more robust cadre of researchers dedicated to women’s health research. The National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) and the NIH Office of Research on Women’s Health (ORWH) are partnering to launch a pilot program to support and train research scholars by helping them acquire and hone team science leadership and mentoring skills. The Team Science Leadership Scholars Program (LSP) will be funded by ORWH and embedded within the Accelerating Medicines Partnership® Autoimmune and Immune-Mediated Diseases (AMP®@AIM) program, which NIAMS and ORWH both support.

September 14, 2022

Dr. Lindsey Criswell
Director, NIAMS

Dr. Janine Clayton
Director, ORWH
Team Science Leadership Scholar Program to Advance Women’s Health Connects the Strengths of NIAMS and ORWH

NIAMS
- Research on autoimmune diseases affecting women
- Career development
- Team science infrastructure through AMP AIM

Team Science Leadership Scholar Program
- Advance leadership and mentoring skills of promising women’s health researchers committed to working within a large network of stakeholders
- Provide opportunities to leverage expertise of professionals with diverse knowledge and skill sets to address complex issues

ORWH
- Research on the health of women
- Career development

Slide adapted from Dr. Janine Clayton
Goals for Team Science Leadership Scholars in Women’s Health

- Leverage AMP AIM infrastructure for new clinical, biologic or analytic questions
- Integrate with AMP AIM working groups and disease teams
- Provide team science and leadership training
- Prepare the next generation of women’s health leaders in rheumatic and skin diseases

Graphic adapted from AMP AIM investigator Dr. Judith James
Team Science Leadership Scholars in Women’s Health Proposal

- National search for candidates
- 3-4 Scholars selected for 2-3 years
  - Supported by ORWH and the NIH Office of Data Science Strategy (ODSS)
- Responsibilities:
  - Lead projects that are synergistic with AMP AIM goals
  - Gain training and experience in leadership and mentoring
  - Interact with senior and junior investigators within the Network and with scientists and leaders from industry and non-profit organizations represented on the AMP AIM steering committee
THANK YOU!