



innovative
medicines
initiative



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initiative



PRECISESADS

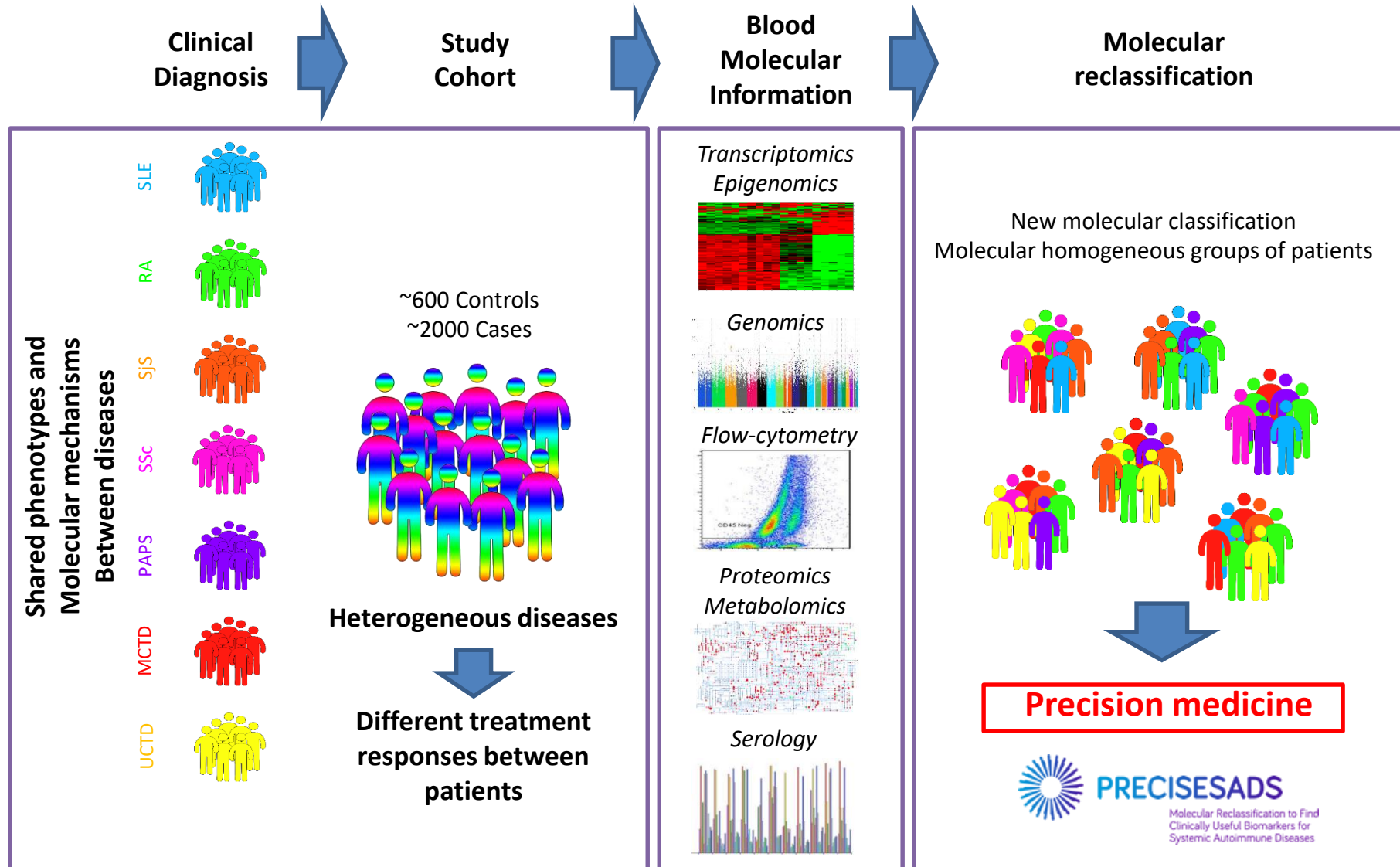
Molecular Reclassification to Find
Clinically Useful Biomarkers for
Systemic Autoimmune Diseases

The PRECISESADS Project: Towards a new molecular classification of Autoimmune Diseases

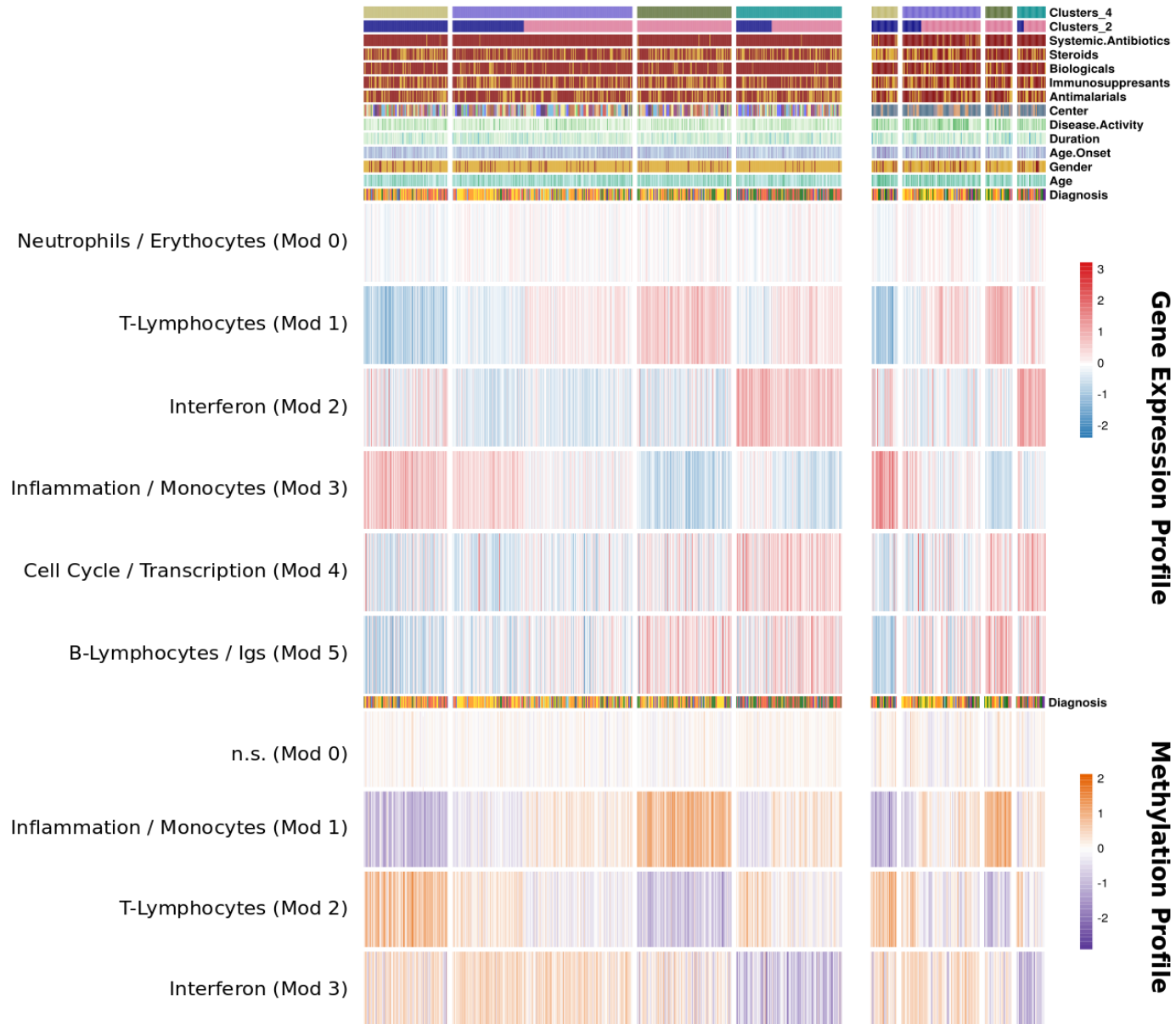
Daniel Toro Dominguez

22 & 23 October 2018 • IMI Scientific Symposium • Brussels, Belgium

PRECISESADS: Towards a new molecular classification of Autoimmune Diseases



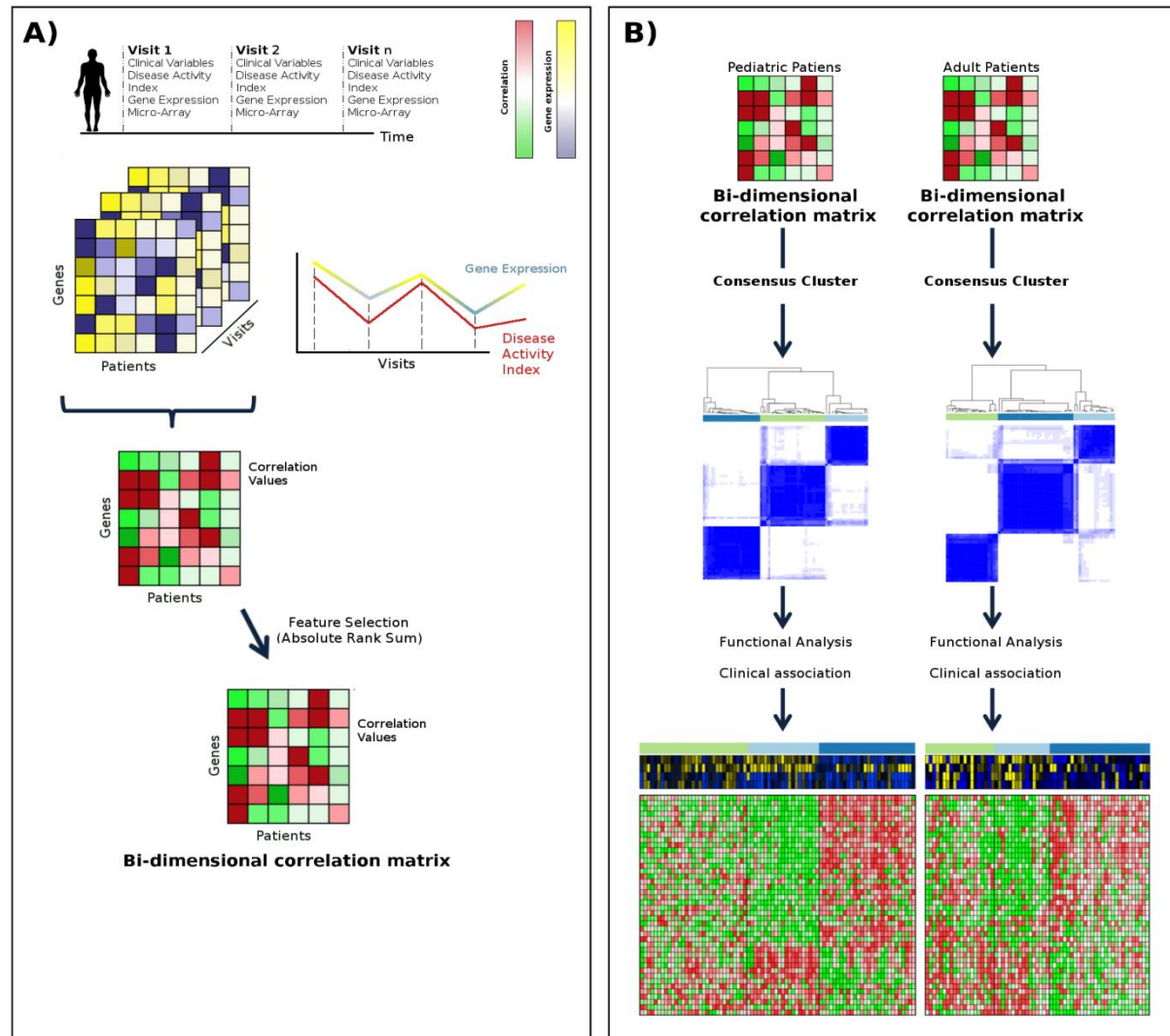
Molecular Clustering



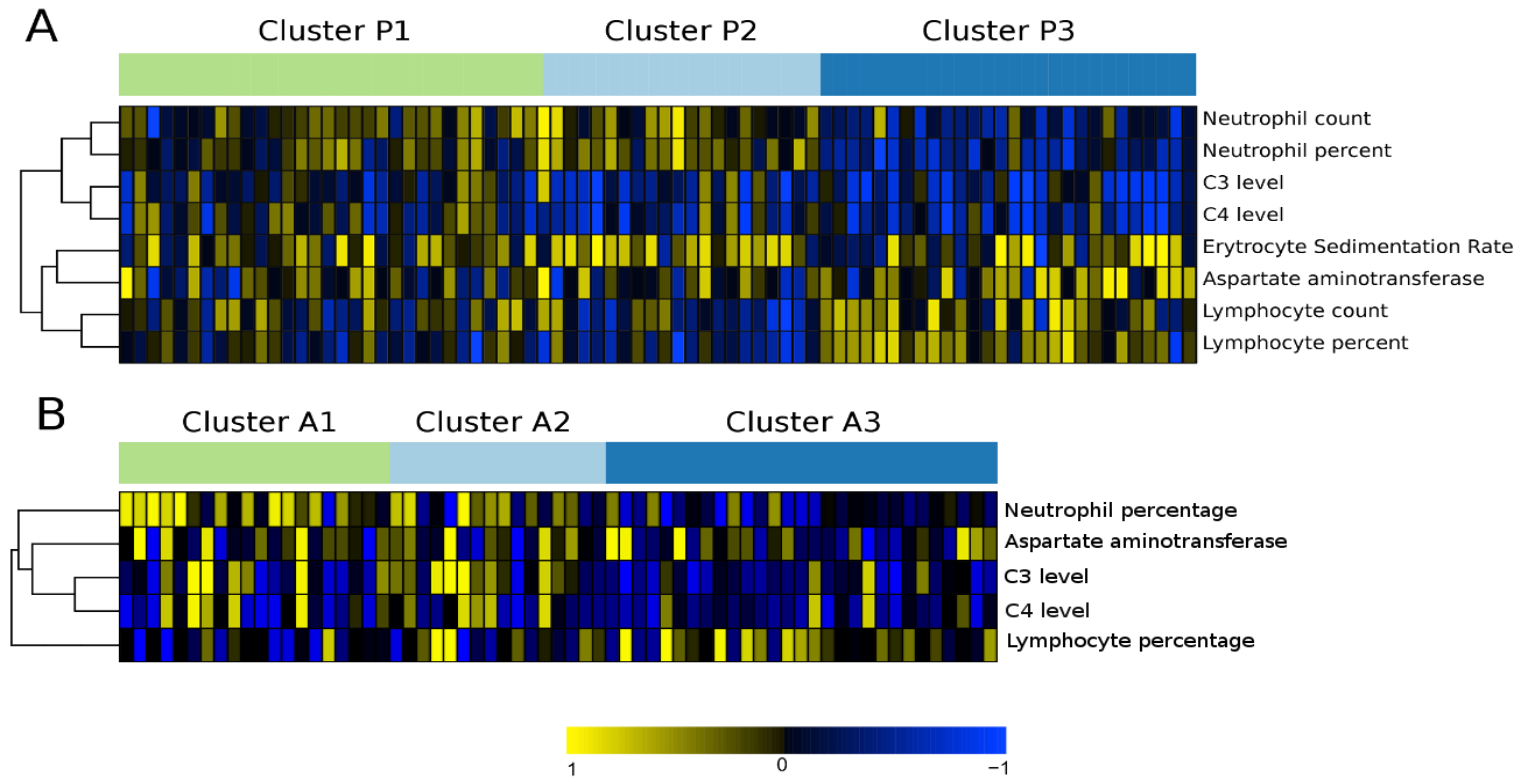
PRECISESADS (Longitudinal Study)

Longitudinal Stratification of Gene Expression Reveals Three SLE Groups of Disease Activity Progression

Daniel Toro Dominguez, Jordi Martorel Marugan, Daniel Goldman, Michelle Petri, M.D, Pedro Carmona Sáez*, Marta E. Alarcón Riquelme*



Clinical characterization



- We obtained **three subgroups** of Lupus patients based on longitudinal gene expression data and disease activity patterns
- The subgroups are **functionally and clinically different**. Group 3 is mediated by **lymphocyte** functions, group 2 is mediated by **neutrophil** functions and Group 1 has heterogeneous functions.
- Group 1 is characterized by the enrichment of patients that develop **proliferative and severe nephritis**.
- These results suggest a **new classification of Lupus patients** based on molecular data that opens a new scenario for a better diagnosis and therapeutic interventions.