

AGUSTIN CALATRONI

Senior Director, Biostatistics Strategy in NIAID-funded Statistical Coordinating Center at Rho since 2005, as such I design, implement, analyze and report on multicenter randomized, observational, and mechanistic clinical trial studies related to asthma, allergy, and immunology. Furthermore, I provide internal and industry sponsors statistical consulting on complex and novel statistical methodologies.



[View a PDF of this CV](#)

EDUCATION

- 2002 | 2000** ● **M.S., Master of Statistics**
North Carolina State University
Mu Sigma Rho Honors Society
Raleigh, NC
- 1996 | 1995** ● **M.A., Masters en Sciences économiques**
Université Paris 1 Panthéon-Sorbonne
Summa cum laude
Paris, France
- 1995 | 1991** ● **B.S., Maîtrise en Sciences économiques**
Université d'Aix-Marseille III
Summa cum laude
Aix-en-Provence, France

INDUSTRY POSITIONS

- Current | 2005** ● **Principal Statistical Scientist I**
Rho, Inc.
(2021) Senior Director, Biostatistics Strategy
(2017) Principal Statistical Scientist I
(2011) Statistical Scientist
(2005) Senior Biostatistician
Durham, NC
San Diego, CA
 - Lead statistician on a broad-based number of projects including multiple protocol programs, providing input into study design, sample size calculations, and written statistical analysis plans.
 - Leads the development and review of statistical analysis, including tables, listings, and figures with continuous interactions among clients and regulatory agencies.
 - Serve as a lead consultant on both internally and externally high complexity statistical projects and statistical programming modeling with either SAS or R.
 - Expertise in multiple imputation, analysis of count data, linear mixed models, nonlinear mixed model and generalized (additive) mixed models.

CONTACT

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FLUENT LANGUAGES



SOFTWARE SKILLS

R & RStudio
SAS
H2O.ai (ML)
HTML/CSS

THERAPEUTIC AREAS

Asthma
Atopic Disease
Food Allergy
Hematology
Immunology
Microbiome

- 2005
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2002

Statistician
 Center for Human Growth and Development
 University of Michigan

📍 Ann Arbor, MI

 - Statistical reports and displays for client projects, for presentation at meetings or conferences, and for publication in regulatory documents or professional journals.
- 2002
|
1996

Computer Support Specialist
 SMT (SportsMEDIA Technology Corp)

📍 Durham, NC

 - Data & Statistical Integration TV Graphics for auto racing
 - 🏆 2000 EMMY winner *ESPN Seedworld NASCAR coverage*
- 2000
|
1998

Applied Economist
 AMP Incorporated

📍 Harrisburg, PA

 - Worked on the creation of a more accurate ways to forecast within the organization to maintain a methodical sales forecasting process by applying direct input from sales & marketing.



TEACHING & MENTORING

- 2022
|
2020

Wonderful Wednesday (WW) Challenge
 Statisticians in the Pharmaceutical Industry (PSI) Visualisation
 Special Interest Group (VIS SIG)

📍 Webinar

 - 📺 [Visualisations of multiple endpoints over times](#)
 - 📊 [Visualizations and Dashboards Contributions](#)
 - 🎙️ [Interviewed for the Effective Statistician podcast](#)
- 2020
|
2011

Industry Mentor
 The Statistical and Applied Mathematical Sciences Institute (SAMSI)
 Industrial Math/Stat Modeling Workshop (IMSM)

📍 Raleigh, NC

 - Objective is to expose graduate students in mathematics, engineering, and statistics to challenging and exciting real-world problems arising in industrial and government laboratory research.
 - [Rho Participates in Innovative Graduate Student Workshop for the 8th Consecutive Time](#)
 - 📺 [2019 Continuous glucose monitors \(CGMs\) w/ Functional Data Analysis](#)
- 2017

AAAAI NHLBI & NIAID Invited Course Faculty
 Clinical Trial Designs to Predict Asthma Exacerbations

📍 Atlanta, GA

 - Discuss clinical trial designs that have identified predictive biomarkers for asthma medications
 - Discuss methods to identify prognostic predictors for asthma exacerbations with the goal of developing strategies to prevent them and to define the potential challenges of interpreting data for subpopulations in a clinical trial

🗣️ I have been fortunate to have had exceptional mentorship in my profession. Mentoring is a critical element to nurture and grow a great collaborative problem-solving team. This cultivates an environment of continued education, growth, and leadership development. I had mentor members of our group on project guidance and statistical advice.

- 2015 ● **AstraZeneca-Sanger Drug Combination Prediction DREAM Challenge**
 Advancing Cancer Treatment with Artificial Intelligence 📍 Workshop
- Open innovation competition hosted by Sage Bionetworks using crowdsourcing to identify new solutions to pressing pharmaceutical research and development challenges
 - Stacking models approach combining several machine learning techniques into one predictive model in order to decrease the variance (bagging), bias (boosting) and improve the predictive accuracy
 - 🏆 Rho Innovation Award
- 2014 ● **AAAAI/NIEHS Invited Course Faculty**
 NHANES: Getting to Grips with the Big Data 📍 San Diego, CA
- Interpret the role that allergen/endotoxin exposures and allergic sensitization play in allergic diseases
 - Apply new, standardized methods in indoor allergen assessment
 - Review strategic objectives of NHANES and the allergy component
- 2013 ● **📺 Rho Wide Corporate Training**
 Visualizing Multivariate Data 📍 Chapel Hill, NC
 Turning Information Into Understanding
- 🏆 Rho Presidential Award for *Outstanding Innovation for statistical visualizations*

📈 SELECTED DATA SCIENCE WRITING

- 2022 ● **Interactive dashboards without Shiny**
 UseR conference 📍 Virtual
 📄 [github](#)
- 2021 ● 🏆 **2021 RStudio Honorable Mention Table Contest**
 dataxray: An interactive table interface for data summaries 📄 [github](#)
- 2020 ● 🏆 **2020 RStudio Honorable Mention Table Contest**
 The Big Mac Index Table 📄 [github](#)
- 2018 ● **Visualization of The Museum of Modern Art (MoMA) Collection using Trelliscope**
 Scalable, flexible, interactive approach to visualizing data 📄 [github](#)
 📍 Blog
- 2017 ● **CRANsearcher** 📄 [R](#)
 RStudio Addin for Searching Packages in CRAN Database Based on Keywords 📄 [github](#)
 📍 R Package
- 2016 ● **The Development of Model Ensembles Using Cross Validation for Open Source Data Challenges**
 UseR conference 📄 [github](#)
 📍 Palo Alto, CA

📄 Our industry is driven by data. Every phase of our trials requires us to collect, monitor, analyze, and report data. While each of these steps is equally important, reporting is arguably the most impactful step. When we report data, we give them to key decision-makers and invite them to interpret the data and draw conclusions. As part of the Center for Applied Data Visualization I been researching and promoting the best practices and tools for visualizing and reporting data. As such, I developed dozens of novel graphics for both static reports and interactive web-based use. [Examples for data visualization and statistical graphics](#)

2008

- **Estimation of the Correlation Coefficient with Left Censored and Repeated Measures Data**

Joint Statistical Meetings

📍 Denver, CO



SELECTED PUBLICATIONS

2022

- **Mepolizumab for Urban Children with Exacerbation-Prone Eosinophilic Asthma: A Randomised Controlled Trial**

The Lancet [in press]

2021

- **Development of a human skin commensal microbe for bacteriotherapy of atopic dermatitis and use in a phase 1 randomized clinical trial**

Nature Medicine

2019

- **Distinct nasal airway bacterial microbiotas differentially relate to exacerbation in pediatric patients with asthma**

Journal of Allergy and Clinical Immunology

2019

- **The nonlesional skin surface distinguishes atopic dermatitis with food allergy as a unique endotype**

Science Translational Medicine

2019

- **Longitudinal Phenotypes of Respiratory Health in a High-Risk Urban Birth Cohort**

American Journal of Respiratory and Critical Care Medicine

2019

- **Early decrease in basophil sensitivity to Ara h 2 precedes sustained unresponsiveness after peanut oral immunotherapy**

Journal of Allergy and Clinical Immunology

• 📺 [The Application of Data Driven Approaches to Flow Cytometric Analysis of Basophil Activation Testing](#)

2019

- **The association of allergic sensitization patterns in early childhood with disease manifestations and immunological reactivity at 10 years of age**

Clinical & Experimental Allergy

2019

- **A computerized decision support tool to implement asthma guidelines for children and adolescents**

The Journal of Allergy and Clinical Immunology: In Practice

• 🔄 [Interactive figure lets users explore the data](#)


2018

- **Early-life home environment and risk of asthma among inner-city children**

Journal of Allergy and Clinical Immunology

✍️ Together as a team of investigators we are motivated by discovery and results to improve health, extend life, and enhance quality of life. We achieve this by helping our federal and academic clients run clinical trials and epidemiological studies, while also guiding them through complex complex and novel statistical methodology in manuscript writing, and presentations.

As a Principal Statistician for the Statistical and Clinical Coordinating Center at the Inner-City Asthma Consortium (ICAC), the Atopic Dermatitis Research Network (ADRN) and Immune Tolerance Network (ITN), I provide statistical expertise as well as scientific leadership in developing clinical trials to study asthma interventions, allergen immunotherapy and environmental exposures and their roles in allergy and asthma; translational research as well as the analysis of big omics-data.

- 2018 ● **Enhanced plasmacytoid dendritic cell antiviral responses after omalizumab**
Journal of Allergy and Clinical Immunology
- 2018 ● **Sensitization and Exposure to Pets: The Effect on Asthma Morbidity in the US Population**
Journal of Allergy and Clinical Immunology: In Practice
- 2017 ● **Effects of Omalizumab on Rhinovirus Infections, Illnesses, and Exacerbations of Asthma**
American Journal of Respiratory and Critical Care Medicine
- 2017 ● **Graphic depiction of bioinformatics data**
Journal of Allergy and Clinical Immunology
•  [Source code, data and results for all figures](#)
- 2017 ● **Can we predict fall asthma exacerbations? Validation of the seasonal asthma exacerbation index**
Journal of Allergy and Clinical Immunology
- 2017 ● **Minimally important differences and risk levels for the Composite Asthma Severity Index**
Journal of Allergy and Clinical Immunology
•  [Simulation material for the Composite Asthma Severity Index \(CASI\)](#)
- 2015 ● **Preseasonal treatment with either omalizumab or an inhaled corticosteroid boost to prevent fall asthma exacerbations**
Journal of Allergy and Clinical Immunology
- 2015 ● **DNA methylation and childhood asthma in the inner city**
Journal of Allergy and Clinical Immunology
- 2011 ● **Randomized trial of omalizumab (anti-IgE) for asthma in inner-city children**
New England Journal of Medicine
•  [GAMMapp : a Shiny app for exploring longitudinal and seasonal data](#)