

# Stanford

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## Lucia Aronica

Casual - Non-Exempt, Medicine - Med/Stanford Prevention Research Center

### SUPERVISORS

- Christopher Gardner

### Bio

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#### BIO

For over fifteen years, my research has focused on epigenetics - how environmental factors can influence gene activity and health outcomes. Unlike fixed genetics, epigenetic modifications are flexible and can store cellular memories from diet, stress, toxins, etc. This offers exciting potential for personalized health, as epigenetic markers can reveal susceptibility for exposure-driven diseases like obesity, diabetes, cardiovascular disease, and cancer.

I currently lead epigenetic analysis for the DIETFITS study by Dr. Christopher Gardner, the largest trial ever on low carb versus low fat diets for weight loss. My goal is to understand how weight loss alters gene activity through epigenetic changes, and whether these biomarkers can guide personalized diet strategies.

I also teach Nutritional Genomics at Stanford Continuing Studies, Stanford Sports Medicine, and the Stanford Center for Professional Development. As an award-winning science communicator, I use innovative formats like digital drawings to explain complex epigenetics concepts.

Additionally, I serve as an advisor to personal genomics companies, self-tracking technology startups, and investors in precision health research. I am passionate about translating epigenetics into practical lifestyle advice to optimize wellbeing.

#### PROJECTS

- Epigenetic Biomarkers for Precision Medicine in Obesity - Stanford University
- Sex/Gender Differences in Diet Adherence and Weight Loss - Stanford University
- Nutrigenetic Analysis in the iPOP Study - Stanford University

#### LINKS

- Diet and Gene Expression Course: <https://academy.draronica.com/diet-and-gene-expression>
- Stanford Bioscience teaching webpage: <https://stanfordbioscience2016.wordpress.com/>

### Professional

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#### WORK EXPERIENCE

- Research Project Leader - Max F. Perutz Laboratories (MFPL) (2011 - 2014)
- Visiting Scholar - University of Oxford, UK (2013 - 2014)

- Visiting Scholar - University of Southern California (2011 - 2012)

## Publications

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### PUBLICATIONS

- **Unveiling the epigenetic impact of vegan vs. omnivorous diets on aging: insights from the Twins Nutrition Study (TwINS).** *BMC medicine*  
Dwaraka, V. B., Aronica, L., Carreras-Gallo, N., Robinson, J. L., Hennings, T., Carter, M. M., Corley, M. J., Lin, A., Turner, L., Smith, R., Mendez, T. L., Went, H., Ebel, et al  
2024; 22 (1): 301
- **Corrigendum: Weight, insulin resistance, blood lipids, and diet quality changes associated with ketogenic and ultra low-fat dietary patterns: a secondary analysis of the DIETFITS randomized clinical trial.** *Frontiers in nutrition*  
Aronica, L., Landry, M. J., Rigdon, J., Gardner, C. D.  
2023; 10: 1275498
- **Weight, insulin resistance, blood lipids, and diet quality changes associated with ketogenic and ultra low-fat dietary patterns: a secondary analysis of the DIETFITS randomized clinical trial.** *Frontiers in nutrition*  
Aronica, L., Landry, M. J., Rigdon, J., Gardner, C. D.  
2023; 10: 1220020
- **Evidence for the carbohydrate-insulin model in a reanalysis of the Diet Intervention Examining The Factors Interacting with Treatment Success (DIETFITS) trial.** *The American journal of clinical nutrition*  
Soto-Mota, A., Pereira, M. A., Ebbeling, C. B., Aronica, L., Ludwig, D. S.  
2023
- **Reply to T Kalayjian and EC Westman.** *The American journal of clinical nutrition*  
Gardner, C. D., Landry, M. J., Aronica, L., Cunanan, K. M., Kim, S. H.  
2022
- **Effect of a Ketogenic Diet versus Mediterranean Diet on HbA1c in Individuals with Prediabetes and Type 2 Diabetes Mellitus: the Interventional Keto-Med Randomized Crossover Trial.** *The American journal of clinical nutrition*  
Gardner, C. D., Landry, M. J., Perelman, D., Petlura, C., Durand, L. R., Aronica, L., Crimarco, A., Cunanan, K. M., Chang, A., Dant, C. C., Robinson, J. L., Kim, S. H.  
2022
- **Genetic Biomarkers of Metabolic Detoxification for Personalized Lifestyle Medicine.** *Nutrients*  
Aronica, L., Ordovas, J. M., Volkov, A., Lamb, J. J., Stone, P. M., Minich, D., Leary, M., Class, M., Metti, D., Larson, I. A., Contractor, N., Eck, B., Bland, et al  
2022; 14 (4)
- **Personalized Lifestyle Intervention and Functional Evaluation Health Outcomes Survey: Presentation of the LIFEHOUSE Study Using N-of-One Tent-Umbrella-Bucket Design.** *Journal of personalized medicine*  
Lamb, J. J., Stone, M., D'Adamo, C. R., Volkov, A., Metti, D., Aronica, L., Minich, D., Leary, M., Class, M., Carullo, M., Ryan, J. J., Larson, I. A., Lundquist, et al  
1800; 12 (1)
- **Identification of Nrl1 Domains Responsible for Interactions with RNA-Processing Factors and Regulation of Nrl1 Function by Phosphorylation.** *International journal of molecular sciences*  
Mikolaskova, B., Jurcik, M., Cipakova, I., Selicky, T., Jurcik, J., Polakova, S. B., Stupenova, E., Dudas, A., Sivakova, B., Bellova, J., Barath, P., Aronica, L., Gegan, et al  
2021; 22 (13)
- **Associations of Changes in Blood Lipid Concentrations with Changes in Dietary Cholesterol Intake in the Context of a Healthy Low-Carbohydrate Weight Loss Diet: A Secondary Analysis of the DIETFITS Trial.** *Nutrients*  
Vergara, M., Hauser, M. E., Aronica, L., Rigdon, J., Fielding-Singh, P., Shih, C. W., Gardner, C. D.  
2021; 13 (6)
- **Adherence to Ketogenic and Mediterranean Study Diets in a Crossover Trial: The Keto-Med Randomized Trial.** *Nutrients*  
Landry, M. J., Crimarco, A. n., Perelman, D. n., Durand, L. R., Petlura, C. n., Aronica, L. n., Robinson, J. L., Kim, S. H., Gardner, C. D.  
2021; 13 (3)
- **Genetic variants for personalised management of very low carbohydrate ketogenic diets.** *BMJ nutrition, prevention & health*

- Aronica, L., Volek, J., Poff, A., D'agostino, D. P.  
2020; 3 (2): 363–73
- **Examining differences between overweight women and men in 12-month weight loss study comparing healthy low-carbohydrate vs. low-fat diets.** *International journal of obesity (2005)*  
Aronica, L., Rigdon, J., Offringa, L. C., Stefanick, M. L., Gardner, C. D.  
2020
  - **RW-2018-Research Workshop: The Effect of Nutrition on Epigenetic Status, Growth, and Health**  
Skinner, M., Lumey, L. H., Fleming, T. P., Sapienza, C., Hoyo, C., Aronica, L., Thompson, J., Nichol, P. F.  
WILEY.2019: 627–37
  - **Changes in blood lipid concentrations associated with changes in intake of dietary saturated fat in the context of a healthy low-carbohydrate weight-loss diet: a secondary analysis of the Diet Intervention Examining The Factors Interacting with Treatment Success (DIETFITS) trial** *AMERICAN JOURNAL OF CLINICAL NUTRITION*  
Shih, C. W., Hauser, M. E., Aronica, L., Rigdon, J., Gardner, C. D.  
2019; 109 (2): 433–41
  - **Changes in blood lipid concentrations associated with changes in intake of dietary saturated fat in the context of a healthy low-carbohydrate weight-loss diet: a secondary analysis of the Diet Intervention Examining The Factors Interacting with Treatment Success (DIETFITS) trial.** *The American journal of clinical nutrition*  
Shih, C. W., Hauser, M. E., Aronica, L., Rigdon, J., Gardner, C. D.  
2019
  - **RW-2018-Research Workshop: The Effect of Nutrition on Epigenetic Status, Growth, and Health.** *JPEN. Journal of parenteral and enteral nutrition*  
Skinner, M. n., Lumey, L. H., Fleming, T. P., Sapienza, C. n., Hoyo, C. n., Aronica, L. n., Thompson, J. n., Nichol, P. F.  
2019
  - **A systematic review of studies of DNA methylation in the context of a weight loss intervention** *EPIGENOMICS*  
Aronica, L., Levine, A. J., Brennan, K., Mi, J., Gardner, C., Haile, R. W., Hitchins, M. P.  
2017; 9 (5): 769-787
  - **A systematic review of studies of DNA methylation in the context of a weight loss intervention** *Epigenomics*  
Aronica, L., et al  
2017
  - **The spliceosome-associated protein Nrl1 suppresses homologous recombination-dependent R-loop formation in fission yeast.** *Nucleic acids research*  
Aronica, L., Kasperek, T., Ruchman, D., Marquez, Y., Cipak, L., Cipakova, I., Anrather, D., Mikolaskova, B., Radtke, M., Sarkar, S., Pai, C., Blaikley, E., Walker, et al  
2016; 44 (4): 1703-1717
  - **A Tetrahymena Hsp90 co-chaperone promotes siRNA loading by ATP-dependent and ATP-independent mechanisms** *EMBO JOURNAL*  
Woehrer, S. L., Aronica, L., Suhren, J. H., Busch, C. J., Noto, T., Mochizuki, K.  
2015; 34 (4): 559-577
  - **How Healthy Eating Could Starve Out Cancer**  
Aronica, L.  
Europe PubMed Central.  
2014
  - **The Tetrahymena Argonaute-Binding Protein Giw1p Directs a Mature Argonaute-siRNA Complex to the Nucleus** *CELL*  
Noto, T., Kurth, H. M., Kataoka, K., Aronica, L., DeSouza, L. V., Siu, K. W., Pearlman, R. E., Gorovsky, M. A., Mochizuki, K.  
2010; 140 (5): 692-703
  - **Study of an RNA helicase implicates small RNA-noncoding RNA interactions in programmed DNA elimination in Tetrahymena** *GENES & DEVELOPMENT*  
Aronica, L., Bednenko, J., Noto, T., DeSouza, L. V., Siu, K. W., Loidl, J., Pearlman, R. E., Gorovsky, M. A., Mochizuki, K.  
2008; 22 (16): 2228-2241

## **PRESENTATIONS**

- Diet and Gene Expression: From Honeybees to Humans - Nutrition 2018, American Society for Nutrition
- Research Workshop: The Effect of Nutrition on Epigenetic Status, Growth, and Health - ASPEN 2018 Nutrition Science & Practice Conference
- Diet and Gene Expression: The Epigenetics of Low-Carb and Low-Fat Diets - AHS Symposium 2017