

Lucia Aronica

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EDUCATION

PhD, Natural Sciences, University of Vienna, Austria 2006-2010
M.Sc. with Honors (Medical Biotechnology), University Federico II, Naples, Italy 2000-2005

EXPERIENCE

R&D Lead, Nutrition Science - Genomics, Metagenics Inc. Mar 2019-Present
 • Leading real-world-clinical trials for biomarker-driven personalized lifestyle medicine

Lecturer, *Stanford University* June 2018-Present
 • Epigenetics, Nutrigenomics, and Personalized Nutrition

Postdoctoral Scholar, *Stanford University* Feb 2015-2018
 Academic Mentor: Prof Christopher Gardner
 • Secured highly competitive *Marie Curie Global Fellowship* (EU), scoring #1 in the life sciences panel
 • Identified candidate epigenetic biomarkers for precision medicine in obesity in the DIETFITS clinical trial. Trial registration: [clinicaltrials.gov NCT01826591](https://clinicaltrials.gov/ct2/show/study/NCT01826591).

Research Project Leader, Max F. Perutz Laboratories (*MFPL*), Austria 2011-2014
 • Secured highly competitive *Hertha-Firnberg* grant (Austrian Science Fund, FWF)
 • Supervised master student in independent research project

Visiting Scholar, Prof. Timothy Humphrey's lab, *University of Oxford*, UK 2014
 • Produced data for joint-publication on cancer epigenetics

Visiting Scholar, Prof. Susan Forsburg's lab, University of Southern California 2011-2012
 • Produced data for joint-publication on cancer epigenetics

Postdoctoral Fellow, Prof. Renee Schroeder's lab, *MFPL*, Austria 2010-2011
 • Conceived independent project proposal on the role of epigenetic factors in DNA damage and cancer

PhD Fellow, Dr. Kazufumi Mochizuki lab, *IMBA*, Austria 2006-2010
 • Made landmark discoveries in the field of small RNA biology
 • Won PhD dissertation award from Schaumayer Foundation

HONORS AND AWARDS**Independent funding**

Marie Skłodowska-Curie Action Global Fellowship (European Union, \$310,000) 2016-2019
 Hertha Firnberg Fellowship (Austrian Science Fund, FWF, \$280,000) 2011-2014
 FP6 Marie Curie Actions Early Stage Training (MEST-CE-2005-019676, \$95,000) 2007-2010

Science communication

[People's Choice Award](#), *Europe Pubmed Central* science writing competition, 2014

Doctoral Thesis Award (Schaumayer Foundation, Vienna, Austria), 2010

[First Prize](#), Scientific communication competition *Famelab Austria*, 2009

TEACHING EXPERIENCE

Current courses

Diet and Gene Expression: You Are What You Eat, *Stanford Continuing Studies* and *CHPR M.S. Program*

Epigenomics and Microbiomics in Precision Health, *Stanford Center for Professional Development (SCPD)*, *Genetics Department*

Longing for Longevity: From Biology to Biohacking, *Stanford Continuing Studies*

Ketogenic and Fast-Mimicking Diets: Facts, Fads and Fiction, *Stanford Continuing Studies*

Past Courses

Physiology for Engineers, *San Jose State University*, 2017 - 2018

Personalized Nutrition for Athletes, *Stanford Sports Medicine* (1 lecture/quarter)

Low-Carbohydrate Diets in Sports and Performance, *Poliquin Institute*, 2017

Genetics and Epigenetics, *Stanford Bioscience Honours Academy*, *Universidad del Desarrollo*, Chile, Winter 2016, [Classroom website](#)

Me & 23: Epigenetics in Precision Health, *Stanford University* (Biocore), Fall 2015

Molecular Biology, *University of Vienna*, Spring 2013

Laboratory Biochemistry, *University of Vienna*, Summer 2013

PUBLIC AND PROFESSIONAL SERVICE

Editorial Boards and Peer-Review Activities

- Editorial Board Member, *Frontiers in Genetics*
- Editorial Board Member, *MDPI life*
- *Scientific Reports* (Nature Publishing Group)
- *RNA Biology*

Advisory Committees

- Director of Epigenetics, Apeiron Genomics
- Medical Advisor, Span Health
- Chief Science Advisor, Naturalis Nordica

Community Service Related to Professional Work

Stanford Human Biology Podcast: [Epigenomics and Diet](#)

Producer of [teaching videos](#), science podcast *Goggles Optional*

Speaker, science outreach event *Nerd Nite* (San Francisco, CA)

Speaker, [Food Salons](#) (Woodside, CA)

Role Model, European Union campaigns *Science is a girl thing!* and [Wissensraum](#)

Professional Organizations

- Member, Personalized Medicine Coalition (PMC)
- Member, American Society for Parenteral and Enteral Nutrition (ASPEN)
- Member, American Society for Nutrition (ASN)

ADDITIONAL TRAINING

- **Human Nutrition**, *Stanford University*, 2015
- **Mobile Health**, *Stanford University*, 2015
- **Microbes, Gut and Cancer**, *Stanford University*, 2015
- **Introduction to Programming with R**, *Stanford University*, 2015
- **Modern Statistics for Modern Biology**, *Stanford University*, 2015
- **Genome-Wide Approaches in Life Sciences**, *Welcome Trust Center*, Cambridge, UK, 2013
- **Leadership And Team Management**, *ÖVS Austria*, 2013

PUBLICATIONS

Manuscripts in Preparation

Aronica L, Gardner CD, Haile RW, Hitchins MP. “Epigenetic biomarkers of weight loss response on a low carbohydrate vs. low fat diet”

Aronica L, Rigdon J, Gardner CD. Effects of a Ketogenic-like and Ornish-like Diet on Weight Loss and Chronic Disease Risk Factors in the DIETFITS Randomized Clinical Trial.

Published Articles

Adrian Soto-Mota, Mark A. Pereira, Cara B. Ebbeling, **L. Aronica**, David S. Ludwig, Evidence for the Carbohydrate-Insulin Model in a Reanalysis of the DIETFITS Trial, *The American Journal of Clinical Nutrition*, 2023. <https://doi.org/10.1016/j.ajcnut.2022.12.014>.

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, J.S. Genetic Biomarkers of Metabolic Detoxification for Personalized Lifestyle Medicine. *Nutrients* 2022, 14, 768. <https://doi.org/10.3390/nu14040768>

Gardner, C. D.; Landry, M. J., Perelman, D., Petlura, C. Durand, L. R., **Aronica, L.**, *et al.* Effect of a ketogenic diet versus Mediterranean diet on glycated hemoglobin in individuals with prediabetes and type 2 diabetes mellitus: The interventional Keto-Med randomized crossover trial. *The American Journal of Clinical Nutrition*, Volume 116, Issue 3, September 2022, Pages 640–652, <https://doi.org/10.1093/ajcn/nqac154>

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, E.; Contractor, N.; Eck, B.; Ordovas, J.M.; Bland, J.S. Personalized Lifestyle Intervention and Functional Evaluation Health Outcomes SurVEy: Presentation of the LIFEHOUSE Study Using N-of-One Tent–Umbrella–Bucket Design. *J. Pers. Med.* 2022, 12, 115. <https://doi.org/10.3390/jpm12010115>

Vergara, M., Hauser, M. E., **Aronica, L.**, Rigdon, J., Fielding-Singh, P., Shih, C. W., Gardner, C. D. 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* 2021; 13 (6) <https://pubmed.ncbi.nlm.nih.gov/34200027>

Landry, M. J., Crimarco, A., Perelman, D., Durand, L. R., Petlura, C., **Aronica, L.**, Robinson, J. L., Kim, S. H., Gardner, C. D. Adherence to Ketogenic and Mediterranean Study Diets in a Crossover Trial: The Keto-Med Randomized Trial. *Nutrients* 2021; 13 (3) <https://pubmed.ncbi.nlm.nih.gov/33802709/>

Aronica L, Volek J, D'Agostino D, Poff A. Genetic variants for personalised management of very low carbohydrate ketogenic diets. *BMJ Nutrition, Prevention & Health* (2020) <http://dx.doi.org/10.1136/bmjnp-2020-000167>

Aronica, L., Rigdon, J., Offringa, L.C. et al. Examining differences between overweight women and men in 12-month weight loss study comparing healthy low-carbohydrate vs. low-fat diets. *Int J Obes* 45, 225–234 (2021). <https://doi.org/10.1038/s41366-020-00708-y>

Skinner, M., Lumey, L.H., Fleming, T.P., Sapienza, C., Hoyo, C., **Aronica, L.**, Thompson, J. and Nichol, P.F. (2019), RW-2018—Research Workshop: The Effect of Nutrition on Epigenetic Status, Growth, and Health. *Journal of Parenteral and Enteral Nutrition*, 43: 627-637. <https://doi.org/10.1002/jpen.1536>

Nguyen CL, Hauser M, **Aronica L**, Rigdon J, Gardner CD. [Changes in blood lipid concentrations associated with changes in intake of dietary saturated fat in the context of a healthy low-carbohydrate diet: a secondary analysis of the DIETFITS trial.](#) *American Journal of Clinical Nutrition*, 2019

Aronica L, Levine AJ, Brennan K, Mi J, Gardner CD, Haile RW, Hitchins MP “[A systematic review of studies of DNA methylation in the context of a weight loss intervention](#)”. *Epigenomics*. 2017 May;9(5):769-787.

Aronica L*, Kasperek T, Ruchman D** *et al.* “[The Spliceosome-Associated Protein Nrl1 Suppresses Homologous Recombination-Dependent R-Loop Formation In Fission Yeast](#)”. *Nucleic Acid Research*, 2015 Dec 17. *Corresponding author

Woehrer SL, **Aronica L**, Shuren JH, *et al.* “[A Tetrahymena Hsp90 co-chaperone promotes siRNA loading by ATP-dependent and ATP-independent mechanisms](#)”. *EMBO Journal*, 2015 Jan 14.

Noto T, Kurth HM, Kataoka K, **Aronica L**, *et al.* “[The Tetrahymena argonaute-binding protein Giw1p directs a mature argonaute-siRNA complex to the nucleus](#)”. *Cell*, 2010 Mar 5; 140(5): 692-703.

Aronica L, Bednenko J, Noto T *et al.* “[Study of an RNA helicase implicates small RNA–noncoding RNA interactions in programmed DNA elimination in Tetrahymena](#)”. *Genes and Development*, 2008 Aug 15; 22(16): 2228-4.

Books

Nutrigenomics, Nutrigenetics and Personalized Nutrition (in preparation). CRC Press, Taylor & Francis Group

Schroeder R, **Aronica L**. “Die Erfindung des Menschen” (“From Molecules to Mankind”). Residenz Verlag, 2016

Digital Publications

Aronica L. “How healthy heating could starve out cancer” (2014, PubMed People’s Choice Award)

Research Monographs

Aronica L. "Analysis of conjugation induced genes in *Tetrahymena*." (2010, Vienna University Press)

CONFERENCE PRESENTATIONS

Invited Talks (5 Of 30 Total)

- Clinical applications of nutrigenetics in personalized detox strategies, *Personalized Lifestyle Medicine Institute 2022*
- Maximizing clinical benefit by biomarker-driven health care, patient stratification and individualized nutritional therapeutic strategies, *ASPEN Research Symposium 2021*
- Diet and Gene Expression: From Honeybees to Humans, *American Society for Nutrition, 2018*

- Epigenomics in Personalized Nutrition, *ASPEN Research Symposium* 2018
- 3rd European Nutrigenomics Summer School, University of Camerino, 2018

Selected Poster Presentations (3 Out Of 25 Total)

- **Aronica L.** Sex/Gender Effects on Diet Adherence and Weight Loss. *Obesity Week*, 2019
- **Aronica L.** A Systematic Review of Studies of DNA Methylation in the Context of a Weight Loss Intervention, *Obesity Week*, 2017
- **Aronica L.** Environmental Epigenetics in Health and Disease, 15th Annual Community Health Symposium, *Stanford University*, 2016

SKILLS

- Leadership**
 - Teach, inspire and motivate others
 - Promote change and innovative ideas
 - Manage projects, people and budgets
- Communication**
 - Award-winning communication skills in both English and German
 - Outstanding ability to deliver complex scientific information to lay audiences
 - Excellent visual communication skills (digital drawing, videos, etc.)
- Languages**
 - Italian: native speaker
 - English: fluent oral and written
 - German: fluent oral and written
- Programming**
 - Basic command of dataset analysis using R