DANIELA VERGARA, PhD • verdaniela@gmail.com, daniela.vergara@colorado.edu •@CannaGenomics •VergaraScience.com

EDUCATION

2007-2013	Ph.D. Major: Ecology, Evolution, Behavior - Minor: Genetics Indiana University Bloomington Advisor: Curtis M. Lively
2000 -2006	Microbiologist Universidad de los Andes Bogotá, Colombia

WORK EXPERIENCE

Present	Research Associate University of Colorado Boulder
Present	President and Founder Agricultural Genomics Foundation (501(C)3 non-profit)
Present	Director of Genomic Services Front Range Biosciences
Present	Cannabis cultivation and breeding consultant
2018 – 2019	Director of Genomic Services Steep Hill, Inc.
2013 – 2018	Postdoctoral Researcher University of Colorado Boulder
2012 – 2013	Assistant Instructor Indiana University
2011 – 2012	Research Assistant Indiana University
2007 – 2010	Assistant Instructor Indiana University
2006 – 2007	Associate Investigator Programa de Estudio y Control de Enfermedades Tropicales (PECET) Universidad de Antioquia, Medellín Colombia
2005 Second Semester	Intern Programa de Estudio y Control de Enfermedades Tropicales (PECET) Universidad de Antioquia, Medellín Colombia
2005 First Semester	Research assistant at CIMPAT Laboratory, Universidad de los Andes, Bogotá, Colombia.

TEACHING EXPERIENCE

University of Colorado Boulder (Instructor):
Plants and Society (Ebio3590) – Fall 2020
Modern *Cannabis* Science (Ebio4460)- Summer and Fall 2020

Indiana University (Assistant Instructor):
- Biology of Birds (L-376), Spring and Summer Semesters 2013, Spring Semester 2010
- Honors Evolution (S-318), Fall Semester 2010
- Fungi Lab (B-352), Fall Semester 2009
- Biology Lab (L-113), Spring and Fall Semesters 2008
- Evolution and Diversity (L-111), Fall Semester 2007

Universidad de los Andes (Teacher's Assistant):
- Cellular Biology, 2005 First Semester

- Cellular and Organism Biology Lab, 2002 Second Semester

GRANTS AND SCHOLARSHIPS

2017 CSU Pueblo Institute of *Cannabis* research
2017 New Phytologist Next Generation Scientists Award
2015 AAAS Mass Media Science & Engineering Fellowship (Declined)
2013 Louise Constable Hoover Fellowship, Indiana University
2011 Doctoral Dissertation Improvement Grant, National Science Foundation
2010 Committee for Research and Exploration Grant, The National Geographic Society
2010 Louise Constable Hoover Fellowship, Indiana University
2009 Senior Research Grant Indiana Academy of Science

PUBLICATIONS

* Undergraduate student co-author

Vergara D, Feathers C.M*, Huscher E.L, Holmes B, Haas J.A, Kane N.C. Widely assumed phenotypic associations in *Cannabis sativa* lack a shared genetic basis. **Submitted**

Vergara D, Gaudino R, Blank T, Keegan B. Modeling Cannabinoids from a large sample of *Cannabis sativa* chemotypes**.** *Plos One* 15(9): e0236878. https://doi.org/10.1371/journal.pone.0236878

Kovalchuk I, Pellino M, Rigault P, van Velzen R, Ebersbach J, Ashnest J.R, Mau M, Schranz M.E, Alcorn J, Laprairie R.B, McKay J.K, Burbridge C., Schneider D, **Vergara D**, Kane N.C, Sharbel T.F. 2020. The Genomics of *Cannabis* and Its Close Relatives. *Annual Review of Plant Biology* 71:713-739

Vergara D, Huscher E.L, Gaudino R, Torres A, Givens R.M, Kane N.C. 2019. Gene duplications associated with phytochemistry in *Cannabis sativa. AoB Plants 11: 6*

Bernal X, Rojas B, Pinto M.A, Mendoza-Henao A, Herrera-Montes A, Herrera-Montes M.I, Franco A.D.C, Ceron-Souza I, Paz A, **Vergara D** *et al.* 2019. Empowering Latina scientists. *Science*. 6429:363

Smith C.C.S, Scordato E.S.C, Taylor S.A, Tittes S, **Vergara D**. 2018. Book Review: Molecular Population Genetics. Matthew Hahn. *Molecular Ecology*. 27:24

Shocket M, **Vergara D**, Sickbert A, Walsman J, Strauss A, Hite J, Duffy M, Cáceres C, Hall S. 2018. Parasite rearing and infection temperatures jointly influence disease transmission and shape seasonality of epidemics. *Ecology*. 99:9

Gibson A.K, Delph L.F, **Vergara D,** Lively C.M. 2018. Periodic, parasite-mediated selection for and against sex. *The American Naturalist.* 192(5):537-551

Pisupati B.R, **Vergara D**, Kane N.C. 2018. Diversity and evolution of the repetitive genomic content in *Cannabis sativa*. *BMC Genomics* 19:156

Vergara D, Bidwell C, Gaudino R, Torres A, Du G, Ruthenburg T, deCesare K, Land D.P, Hutchison K.E, Kane N.C. 2017. Compromised External Validity: Federally Produced *Cannabis* Does Not Reflect Legal Markets. *Scientific Reports*. 7:46528.

Vergara D, Baker H*, Clancy K*, Keepers K.G., Mendieta P.J*, Pauli C.S*, Tittes S.B, White K.H. Kane N.C. 2016. Genetic and Genomic Tools for *Cannabis sativa. Critical*

Reviews in Plant Sciences. 35:364-377.

Lynch, R.C., **Vergara D**, Tittes S.B, White K.H, Schwartz C.J, Gibbs M.J, Ruthenburg T.C., Land D.P., Kane N.C. 2016. Genomic and Chemical Diversity in Cannabis*. Critical Reviews in Plant Sciences*. 35:349-363.

Gray, D. J., Baker H, Clancy K*, Clarke R. C., deCesare K., Fike J., Gibbs M. J., Grotenhermen F., Kane N. C., Keepers K. G., Land D. P., Lynch R. C., Mendieta J. P.*, Merlin M., Müller-Vahl K., Pauli C. S.*, Pearson B. J., Rhan B., Ruthenberg T. C., Schwartz C. J., Tittes S. B., **Vergara D**., White K. H., and Trigiano R. N. 2016. Current and Future Needs and Applications for Cannabis. *Critical Reviews in Plant Sciences* 35:425-426.

Vergara D, Fuentes J.A, Stoy K.S*, Lively C. Evaluating shell variation across different populations of a freshwater snail. 2016. *Molluscan Research*. 1-13

White K.H, **Vergara D**, Keepers K.G, Kane N.C. 2016. The complete mitochondrial genome for *Cannabis sativa. Mitochondrial DNA Part B: Resources*.

Vergara D, White K.H, Keepers K.G, Kane N.C. 2015. The complete chloroplast genomes of *Cannabis sativa* and *Humulus lupulus*. *Mitochondrial DNA*. 2:1-2

Vergara D, Jokela J, Lively C. 2014. Infection dynamics in coexisting sexual and asexual populations support the Red Queen Hypothesis. *The American Naturalist* 184:S1

Soper D.M, King K.C, **Vergara D**, Lively C. 2014. Exposure to parasites increases promiscuity in a freshwater snail. *Biology Letters* 10:4

Vergara D, King K.C, Lively C, Jokela J. 2013. The fine-scale geographic mosaic of sex and infection in New Zealand lakes. *The American Naturalist* 182:4

Acosta L.A, Mondragon-Shem K, **Vergara D**, Velez-Mira A, Cadena H, Carrillo L.M. 2013. Ampliación de la distribución de *Lutzomyia longipalpis* en Colombia. Aumento del riesgo de la leishmaniosis visceral *Biomédica* 33:2, 319-325

Koskella B, **Vergara D**, Lively C. 2011. Experimental evolution of sexual host populations in response to sterilizing parasites. *Evolutionary Ecology Research*, 13:315-322.

Vergara D, Velasquez L.E. 2009. Larvas de Digenea en *Melanoides tuberculata* (Gastropoda: Thiaridae) en Medellin, Colombia. *Acta Biológica Colombiana*. 14:1, 135-142.

Vergara D, Bejarano E.E, Velez I.D. 2008. Anomalías Morfológicas en Diferentes Estructuras de Cinco Especies de *Lutzomyia* (Diptera: Psychodidae). *Revista de la Sociedad Entomológica Argentina (RSEA)*, 67:3-4, 87-92.

Vergara D, Bejarano E.E., Carrillo L.M., Velez I.D. 2008. Primer Informe de *Lutzomyia yuilli* (Young & Porter 1972) y *Lutzomyia triramula* (Fairchild & Hertig 1952) (Diptera: Psychodidae) en el Departamento de Caldas, Colombia. *Biota Neotropica*, 8:3,251-253

Vergara D, Bejarano E.E., Carrillo L.M., Sierra D., Velez I.D. 2008. Primer Registro de *Lutzomyia scorzai* y *Lutzomyia reburra* (Diptera: Psychodidae) en Antioquia, Colombia. *Revista Colombiana de Entomología*, 34:1,102-104

Guhl F, Aguilera G, Pinto N, **Vergara D.** 2007. Actualización de la Distribucion Geográfica y Ecoepidemiología de la Fauna de Triatominos (Reduviidae: Triatominae) en Colombia. *Biomédica*, 1, 143-162

OTHER GENOMIC RESOURCES

- *Cannabis sativa* cultivar Carmagnola annotated chloroplast. NCBI Accession KP274871
- *Cannabis sativa* cultivar Carmagnola annotated mitochondrion. NCBI Accession KR059940
- *Cannabis sativa* cultivar Dagestani annotated chloroplast. NCBI Accession KR779995
- *Humulus lupulus* cultivar Saaze annotated chloroplast. NCBI Accession KT266264
- *Erythroxylum novogranatense* cultivar pajarito annotated chloroplast. NCBI Accession KX256287
- *Cannabis sativa* cultivar Kompolti annotated mitochondrion. NCBI Accession MT361980.1
- *Cannabis sativa* cultivar USO31 annotated mitochondrion. NCBI Accession MN599027.1

OTHER EDUCATIONAL RESOURCES

Development of the course *Modern Cannabis Science* through the Agricultural Genomics Foundation

PATENTS

Pauli C., Clancy K., **Vergara D.,** Kane N.C. Method for differentiating cannabis plant cultivars based on cannabinoid synthase paralogs. **Filed**.

SELECTED SCIENTIFIC CONFERENCES AND PUBLIC TALKS

2010, 2011, 2012, 2013, 2016, 2017, 2019 Presenter: Evolution Meeting
2018, 2019 Guest Speaker: Cannaciencia. Colombia.
2017, 2018, 2019 Guest Speaker: Cannabisalud. México.
2017 Presenter: New Phytologist Next Generation Scientists Meeting
2017 Speaker: Institute of Cannabis Research Conference. Pueblo, Colorado.
2017 Presenter: Brown Bag Seminar. University of Colorado, Boulder.
2017 Guest Speaker: Cannabis Clinicians Colorado. Denver, Colorado.
2015, 2016, 2017 Guest Speaker: Women Grow. Boulder/Denver, Colorado
2015 Guest Speaker: Cannabis Symposia. University of Colorado, Boulder.
2015 Guest Speaker: Department of Biological Sciences Seminar Series. University of Denver. Denver, Colorado.
2015 Guest Speaker: Denver Museum of Nature and Science. Denver, Colorado
2014 Guest Speaker: Developing a Marketing Strategy for MBA students. University of Colorado, Anschutz medical Campus
2013 Guest Speaker: EAWAG- Aquatic Research Institute. Zurich, Switzerland
2012 Presenter: Ecology and Evolution of Infectious Diseases. Ann Arbor, Michigan
2012 Presenter: Brown Bag Seminar. Indiana University, Bloomington
2012 Guest Speaker: Statistical Consulting (S690). Indiana University, Bloomington

2011 Guest Speaker: School Colegio Bolivar. Cali, Colombia
2009 Presenter: IGERT Symposium: Evolution, Development and Genomics, Indiana University, Bloomington.

MENTORSHIP AND VOLUNTEER WORK

Research Mentor:
Present: One student on genome, and statistical analysis in R.
2018-2019: Two students on statistics and scientific writing.
Undergraduate student on Genomics, programing, and genome assembly.
2016-2018: Two undergraduate students on statistics and scientific writing.
Undergraduate student on Geometric Morphometrics and statistics analyses.
2015-2016: Undergraduate student on field work, statistics and scientific writing
Two undergraduate students on statistics and scientific writing
One Masters student on scientific writing
2014-2015: Two undergraduate students in PCR amplification technique.
Undergraduate student on Geometric Morphometrics.
Three undergraduate students in scientific writing
2013: Two undergraduate students on Flow Cytometry technique
2012: Undergraduate student on Flow Cytometry and Geometric Morphometrics
2009-2010: two undergraduate students on PCR and microsatellite analysis

Volunteer:
2013-2014: Denver Museum of Nature and Science
2013: Ethnic Diversity Panel, Communication in the classroom (G203)
2012: Middle Way House- Domestic Violence & Rape Crisis Shelter

OTHER PROFESSIONAL ACTIVITIES

Founder:
Cannabis Genomics Research Initiative (www.cannabisgenomics.org) Group at the University of Colorado Boulder aiming to understand the Cannabis Genome.

President and Founder:
Agricultural Genomics Foundation (www.agriculturalgenomics.org) Non-profit organization that educates about *Cannabis* science and makes genomic tools available to farmers, scientists, and interested users.

Reviewer For:
- Molecular Ecology
- Biological Journal of the Linnean Society
- National Science Foundation Division of Environmental Biology
- Scientific Reports
- Plos
- PeerJ

Legal work:
- *Cannabis* expert witness

Memberships:

- Society for the Study of Evolution (SSE)
- Red Colombiana de Biología Evolutiva- COLEVOL (Colombian Network for Evolutionary Biology)

TECHNICAL AND MOLECULAR SKILLS

Languages: R, Python, Awk.
Tools: Burrows-Wheeler Aligner, SAMtools, VCFtools, SplitsTree, OG draw, fastSTRUCTURE, Structure, MEGA, JELLYFISH, FreeBayes, BLAST, among others.
Operating systems: Windows XP, Linux, Mac OS X.
Molecular Skills: DNA extraction, PCR, library prep, Microsatellites

PUBLIC OUTREACH

2014-Present Writing for a general audience about *Cannabis* science at www.cannabisgenomics.org/blog
2014-Present Public speaker, Cannabis Genomics
2013-2015 Writing for a general audience in Spanish about evolution at www.acienciaabierta.wordpress.com

SELECTED POPULAR PRESS COVERAGE

- April 2017 *The Atlantic* "The Government's Weed Is Terrible… and that's a big problem for medical marijuana research."
- April 2017 *Science* "A new neglected crop: cannabis"
- February 2017 *FiveThirtyEight* "Why That Maui Wowie Doesn't Hit You the Same Way Every Time"
- November 2016 *Science* "Government pot is less potent than commercial pot, questioning dozens of scientific studies"
- October 2016 *The Rooster* "The government's weed is wack! And that's bad for science."
- June 2015 *Fortune* "High times: Behind the scenes at a women's pot conference"
- February 2015 *Fusion* "How genetics is changing the marijuana industry"
- February 2014 *Daily Camera* "CU-Boulder prof pursues deepest-ever exploration of the cannabis genome"
- May 2014 *Science Daily* "Red queen hypothesis: Does exposure to parasites makes species resilient?"
- May 2014 *Iowa Now* "Researchers test whether Red Queen hypothesis makes species resilient"
- March 2014 *The Rocky Mountain Collegian* "Understudied cannabis research to increase"
- March 2014 *Culture* "Knowledge is Power: Say Hello to the Cannabis Genome Project"