Rosa Paula Cuevas

rochiecuevas@gmail.com | 925-844-4768 | Pittsburg 94565 CA
LinkedIn: https://linkedin.com/in/rosa-paula-cuevas | GitHub: https://github.com/rochiecuevas

Selected Data Science Projects

(SQL, Python, HTML, CSS, JavaScript, Tableau)

Natural Language Processing

- Extracting summaries and identifying trends from over 5000 scientific abstracts authored by staff from the International Rice Research Institute (https://enigmatic-plains-87359.herokuapp.com/)
- Keyword extraction, sentiment analysis for poems (https://young-bastion-43943.herokuapp.com/)

Data Visualisation

- Dashboard for belly button microbial diversity (https://still-brook-99773.herokuapp.com/)
- Visualising trends of NY Citi Bike ridership in 2018 (https://rochiecuevas.github.io/Citi_Bike/)
- Finding patterns in alien sightings: (https://rochiecuevas.github.io/UFO_Sightings/)

Machine Learning

- Exploratory analysis of hotel guest ratings data (https://github.com/janelcv/Hotel_Rating_Analysis)
- Classification of wheat grains into colour classes through logistic regression of spectrometric data

Publications

Journal Articles

1. Graham-Acquaah, S., A. Mauromoustakos, R.P. Cuevas, J.T. Manful. 2019. Difference in physicochemical properties of commercial rice from urban markets in West Africa. Journal of Food Science and Technology 57: 1505–1516.
2. Demont, M., M.C. Custodio, J. Ynion, A. Samaddar, R.P. Cuevas, A. Ray (Chakravarti), S.K. Mohanty. 2019. What affects households' food choice in West Bengal? Geography and You 19(24): 26–30.
3. Custodio, M.C., R.P. Cuevas, J. Ynion, A.G. Laborte, M.L. Velasco, M. Demont. 2019. Rice quality: How is it defined by consumers, industry, food scientists, and geneticists? Trends in Food Science and Technology 92: 122–137.
4. Anacleto, R., S. Badoni, S. Parween, V.M. Butardo, G. Misra, R.P. Cuevas, M. Kuhlmann, T.P. Trinidad, A.C. Mallillin, C. Acuin, A.R. Bird, M.K. Morell, N. Sreenivasulu. 2019. Integrating a genome-wide association study with a large-scale transcriptome analysis to predict genetic regions influencing the glycaemic index and texture in rice. Plant Biotechnology Journal 17(7): 1261–1275.
5. Cuevas, R. P., C. J. Domingo, N. Sreenivasulu. 2018. Multivariate-based classification of predicting cooking quality ideotypes in indica germplasm. Rice 11: 56.
6. Misra, G., S. Badoni, C.J. Domingo, R.P. Cuevas, C. Llorente, E.G.N. Mbanjo, N. Sreenivasulu. 2018. Deciphering the genetic architecture of cooked rice texture. Frontiers in Plant Science 9: 1405.
7. Cuevas, R. P., A. de Guia, M. Demont. 2017. Developing a framework of gastronomic systems research to unravel drivers of food choice. International Journal of Gastronomy and Food Science 9: 88–99.

8. Cuevas, R. P., V. O. Pede, J. McKinley, O. Velarde, M. Demont. 2016. Rice grain quality and consumer preferences: A case study of two rural towns in the Philippines. PLOS One 11(3): e0150345.
9. Cuevas, R. P., M. Demont. 2015. Rice: An international staple. SansRival 5 (3): 12–13.
10. Anacleto, R., R. P. Cuevas, R. Jimenez, C. Llorente, E. Nissila, N. Sreenivasulu. 2015. Prospects of breeding high-quality rice using post-genomic tools. Theoretical and Applied Genetics 128 (8): 1449–1466.
11. Sreenivasulu, N., V. M. Butardo, G. Misra, R. P. Cuevas, R. Anacleto, P. B. Kavi Kishor. 2015. Designing climate-resilient rice with ideal grain quality suited for high-temperature stress. Journal of Experimental Botany. 66 (7): 1737–1748.
12. Butardo, V. M., V. D. Daygon, M. L. Colgrave, P. M. Campbell, A. P. Resurreccion, R. P. Cuevas, S. A. Jobling, I. Tetlow, S. Rahman, M. K. Morell, M. A. Fitzgerald. 2012. Biomolecular analysis of starch and starch granule proteins in the high-amylose rice mutant Goami 2. Journal of Agricultural and Food Chemistry. 60 (46): 11576–11585.
13. Boualaphanh, C., M. Calingacion, R. P. Cuevas, D. Jothityangkoon, J. Sanitchon, M. A. Fitzgerald. 2011. Yield and quality of traditional and improved Lao varieties of rice. ScienceAsia 37: 89–97.
14. Tran, N. A., V. D. Daygon, A. P. Resurreccion, R. P. Cuevas, H. M. Corpuz, M. A. Fitzgerald. 2011. A single nucleotide polymorphism in the *Waxy* gene explains a significant component of gel consistency. Theoretical and Applied Genetics 123(4): 519– 525.
15. Cuevas, R. P., V. D. Daygon, M. K. Morell, R. G. Gilbert, M. A. Fitzgerald. 2010. Using chain-length distributions to diagnose genetic diversity in starch biosynthesis. Carbohydrate Polymers 81(1): 120–127.
16. Cuevas, R. P., J. Peate, M. A. Fitzgerald, R. G. Gilbert. 2010. Structural differences between hot-water- soluble and hot-water-insoluble fractions of starch in waxy rice (*Oryza sativa* L.). Carbohydrate Polymers 81: 524–532.
17. Cuevas, R. P., V. D. Daygon, H. M. Corpuz, R. Reinke, D. L. E. Waters, M. A. Fitzgerald. 2010. Melting the secrets of gelatinization temperature. Functional Plant Biology 37(5): 439–447.
18. Cuevas, R. P., M. A. Fitzgerald. 2007. Linking starch structure to rice cooking quality. IREC Farmers' Newsletter 177: 16–17.
19. Fukuta, Y., E. Araki, L. Ebron, R. P. Cuevas, D. Mercado-Escueta, G. S. Khush, J. E. Sheehy, H. Tsunematsu, H. Kato. 2006. Identification of low tiller gene in two rice varieties, Aikawa 1 and Shuho of rice (*Oryza sativa* L.). JIRCAS Working Rep. 46: 86– 92.

Book Chapters

1. Cuevas, R.P., M.C. Custodio, J. Ynion, A. Samaddar, M. Demont. A toolkit for gastronomic systems research to capture diversity and drivers of food choice and identify entry points for novel food products and nutritional interventions. In: Gastronomy and Food Science. Amsterdam, The Netherlands: Elsevier. In press.
2. Lapis, J. R., R. P. Cuevas, N. Sreenivasulu, L. Molina. 2018. Measurement of head rice recovery in rice. In: Rice Grain Quality: Methods and Protocols. Ed: N. Sreenivasulu. New York: Springer. pp. 89–98.
3. Santos, M. V., R. P. Cuevas, N. Sreenivasulu, L. Molina. 2018. Measurement of rice grain dimensions and chalkiness, and rice grain elongation using image analysis. In: Rice Grain Quality: Methods and Protocols. Ed: N. Sreenivasulu. New York: Springer. pp. 99–108.
4. Jimenez, R., L. Molina, I. Zarei, J. R. Lapis, R. Chavez, R. P. Cuevas, N. Sreenivasulu. 2018. Method development of near-infrared spectroscopy approaches for nondestructive and rapid

estimation of total protein in brown rice flour. In: Rice Grain Quality: Methods and Protocols. Ed: N. Sreenivasulu. New York: Springer. pp. 109–136.
5. Molina, L., R. Jimenez, N. Sreenivasulu, R. P. Cuevas. 2018. Multi-dimensional cooking quality classification using routine quality evaluation methods. In: Rice Grain Quality: Methods and Protocols. Ed: N. Sreenivasulu. New York: Springer. pp. 137–150.
6. Cuevas, R. P., P. S. Takhar, N. Sreenivasulu. 2018. Characterization of mechanical texture attributes of cooked milled rice by Texture Profile Analyses and unraveling viscoelastic properties through rheometry. In: Rice Grain Quality: Methods and Protocols. Ed: N. Sreenivasulu. New York: Springer. pp. 151–168.
7. Molina, L., J. R. Lapis, N. Sreenivasulu, R. P. Cuevas. 2018. Determination of macronutrient and micronutrient content in rice grains using Inductively Coupled Plasma-Optical Emission Spectrometry (ICP-OES). In: Rice Grain Quality: Methods and Protocols. Ed: N. Sreenivasulu. New York: Springer. pp. 253–264.
8. Molina, L., J. R. Lapis, N. Sreenivasulu, R. P. Cuevas. 2018. Determination of cadmium concentration in milled and brown rice grains using graphite furnace atomic absorption spectrometry. In: Rice Grain Quality: Methods and Protocols. Ed: N. Sreenivasulu. New York: Springer. pp. 265–276.
9. Cuevas, R. P., M. A. Fitzgerald. 2012. Genetic Diversity of Rice Grain Quality. In: Genetic Diversity in Plants. Rijeka: InTech. pp. 285–310.

Reports

Custodio, M. C., M. Demont, A. G. Laborte, C. Diaz, J. Ynion, R. Islam, R. P. Cuevas, N. C. Paguirigan. 2016. Rapid Value Chain Assessment and Rice Preferences of Consumers, Farmers, and Other Rice Value Chain Actors in Bangladesh. TRB Report. Los Baños, Philippines: International Rice Research Institute.

Selected Technical Presentations

1. Cuevas, R. P., M. C. Custodio, J. Ynion, A. Samaddar, S. K. Mohanty, M. Demont. 2018. We are what we eat: Understanding the drivers of food choice and nutritional outcomes in eastern India from a gastronomic systems perspective. 3rd Agriculture, Nutrition and Health Academy Week, Accra (Ghana).
2. Cuevas, R. P., A. de Guia, M. Demont. 2018. Consumer valuation of cultural heritage: Estimating the value of Cordilleran "heirloom rice" through the gastronomic systems research (GSR) approach. Food and Feed Technology Center-Kasetsart University International Seminar on Promoting Rice Farmers' Market through Value-adding Activities, Bangkok (Thailand).
3. Demont, M., R. P. Cuevas, M. C. Custodio, A. Samaddar, S. K. Mohanty, J. Ynion. 2017. Improving nutrition through gastronomic systems research. FAO-RAP "Asia and the Pacific Symposium on Sustainable Food Systems for Healthy Diets and Improved Nutrition", Bangkok (Thailand).
4. Capistrano, P. C., R. P. Cuevas, R. A. Reaño, D. O. Manzanilla, M. T. Wanawan, V. A. Tapat, A. E. Cope, C. M. Vera Cruz. 2017. Diversity analysis of farmer-grown heirloom and traditional rice varieties in five provinces of the Philippines. National Biotechnology Week, Muñoz (Philippines).
5. Cuevas, R. P. 2016. Why do we need to understand rice grain quality? Seminar on Cereal Grain Products: Importance of Assessing Its Quality, Polytechnic University of the Philippines, Manila (Philippines).

6. Cuevas, R. P. 2016. In pursuit of the perfect rice variety. 2016 Research Fortnight, University of Santo Tomas, Manila (Philippines).
7. Cuevas, R. P., C. J. Domingo, R. Anacleto, L. Samadio, N. Sreenivasulu. 2015. Exploring the diversity of rice quality through sensory evaluation. Nestlé Conference, Lausanne (Switzerland).
8. Cuevas, R.P. 2012. Grain quality evaluation approaches as tools in rice breeding. Mars Lunch & Learn, Los Angeles (USA).
9. Concepcion, J. C., R. P. Cuevas, A. Madrid, Jr., T. Atienza, R. Jimenez, A. P. Resurreccion, M.A. Fitzgerald. 2012. Connecting the dots from amylose content to cooked rice texture. International Young Scientists Conference, Los Baños (Philippines).
10. Cuevas, R. P., L. Quiatchon, M. A. Fitzgerald. 2011. Effect of nitrogen nutrition on quality and consumer perception of three popular rice varieties and a low-chalk line. International Network for Quality Rice meeting, Bangkok (Thailand).
11. Cuevas, R. P., R. Jimenez, A. P. Resurreccion, M. A. Fitzgerald. 2011. Where does amylose end and amylopectin begin? Philippine Chemical Congress, Cebu City (Philippines).
12. Cuevas, R. P., M. A. Fitzgerald, R. G. Gilbert. 2010. A new fraction of starch that helps explain eating quality in rice (Oryza sativa L.), International Rice Congress, Hanoi (Vietnam).
13. Peate, J., R. P. Cuevas, T. Witt, R. Cave, M. J. Gidley, M. A. Fitzgerald, S. Seabrook, R. G. Gilbert. 2009. Useful information from size separation data for branched polymers. Fourth International Symposium on the Separation and Characterization of Natural and Synthetic Macromolecules, Amsterdam (Netherlands).
14. Cuevas, R. P., J. Peate, M. Gaborieau, R. G. Gilbert, M. A. Fitzgerald. 2008. Structural differences between two fractions of starch from waxy rice (Oryza sativa L.). AACC International Annual Meeting, Honolulu (USA).
15. Cuevas, R. P., M. A. Fitzgerald. 2008. Hot-water soluble component of starch contributes to RVA peak viscosity. Starch: 4th International Meeting on Starch Structure and Functionality, Nottingham (United Kingdom).
16. Cuevas, R. P., M. A. Fitzgerald, R. G. Gilbert. 2007. Cooking properties of the starch granule. International Network for Quality Rice meeting, Los Baños (Philippines).

Professional Development

- Defining Leadership, International Rice Research Institute (2016)
- Multivariate Data Analysis, International Rice Research Institute (2013)
- Gender and Diversity Training, International Rice Research Institute (2013)
- Rice Survivor, International Rice Research Institute (2013)
- Media Skills Training for Senior Professionals, International Rice Research Institute (2013)
- PRINCE2 Foundation Certification, International Rice Research Institute (2013)
- Sensory evaluation training and laboratory visits, USDA, Mars NA, UC Davis (2012)
- Short Course on Sensory Evaluation of Foods, University of the Philippines Los Baños (2012)
- Enhancing Global Rice Research Leadership: Graduate Studies for Leadership in Rice Science, International Rice Research Institute (2011–2012)
- Introductory Course on R-CropStat, International Rice Research Institute (2011)
- Basic Experimental Design and Data Analysis, International Rice Research Institute (2011)
- IRRI Filipino Scientists Association Photography Workshop, International Rice Research Institute (2010)
- Introduction to R, International Rice Research Institute (2010)

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- Writing and Production for an E-Developmental Radio Program, University of the Philippines Los Baños (2002)

Recognitions

- UNLEASH Fellowship, Copenhagen, Denmark (2017)
- Science Agora Feature Session Speaker, Tokyo, Japan (2016)
- Gawad Natatanging Lagunenese (Outstanding Lagunense Award), Laguna, Philippines (2010)
- Poster paper competition award, 4th International Meeting on Starch Structure and Functionality, University of Nottingham, UK (2008)
- C&E Student Travel Booster, American Association of Cereal Chemistry International Annual Meeting, Honolulu, HI (2008)
- Bank of the Philippine Islands Science Award (2002)
- University of the Philippines Los Baños College of Arts and Sciences Outstanding Student Award (2001)