

# Rosa Paula Cuevas, PhD

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## Career Summary

Scientist with 5+ years' combined experience in sensory science, food chemistry, and data science. Has a strong track record for applying various instruments and data analytics tools to understand key sensory attributes in a variety of products, and for working across multidisciplinary teams in correlating sensory data with business objectives. Achievements include a research framework for understanding consumer food choice and a product classifier model, both of which can inform policy and corporate decisions.

## Technical Skills

**Languages:** R, Python, SQL, HTML, CSS, JavaScript

**Data Visualisation and Manipulation:** pandas, matplotlib, ggplot2, circlize, gridExtra, corrplot, Tableau

**Statistical Analysis/ Machine Learning:** regression analysis, hypothesis testing, correlation analysis, random forest, cluster analysis, natural language processing

**Laboratory:** Scientific writing, grain quality and chemistry, sensory evaluation, rheometry, texture profile analysis, capillary electrophoresis, high-performance liquid chromatography, differential scanning calorimetry

## Relevant Experience

**Consultant, Data Analytics**, International Rice Research Institute, Philippines (2019– Present)

- Develops SQL databases containing survey and expert elicitation data gathered by market researchers, consumer specialists, and anthropologists.
- Employs machine learning techniques, natural language processing, and statistical analyses, in Python, to draw insights from survey and expert elicitation data.
- Interprets results of expert elicitations and consumer surveys in the context of impactful decisions towards nutrition and “planetary health diet” food choice interventions for low- to middle-income rice consumers in eastern India.
- Delivered the following: (1) a book chapter describing the methods employed in the Gastronomic Systems Research Framework and toolkit (in press); (2) a technical article on insights derived from expert elicitations about behavioural drivers of food choice in Eastern India (under peer review).

**Scientist**, International Rice Research Institute, Philippines (2015–2018)

- Applied R machine learning packages to model [a novel rice classification scheme](#) based on high-dimension sensory and instrumental data and to develop insights on [consumer food choice](#) in the Philippines based on consumer survey and expert elicitation data.
- Collaborated with economists in conducting a [hedonic pricing analysis](#) for rice grain quality.
- Led internal sensory panels developed based on client objectives.
- Informed breeders and geneticists on grain quality considerations that led to crucial breeding pipeline decisions.

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## Relevant Experience (cont'n)

### Consultant, Sensory Science, International Rice Research Institute, Philippines (2014–2015)

- Developed and maintained an internal sensory evaluation panel and a basic sensory laboratory.
- Developed and adapted instrumental and sensory methodologies for analyses of important sensory attributes.
- Designed and initialised execution of sensory evaluation and instrumental characterisation surveys to develop an understanding of complex sensory attributes of rice.
- Interpreted sensory evaluation and instrumental characterisation results to inform business decisions of various actors in the restaurant industry (e.g., chefs, restaurateurs)

### Post-doctoral Fellow, International Rice Research Institute, Philippines (2010–2014)

- Used statistical techniques to identify and analyse [starch chemistry](#)–rice quality associations.
- Designed streamlined screening tools for defined rice quality targets with plant breeders.

### Researcher, International Rice Research Institute, Philippines (2004–2005)

- Collected data about rice starch properties using differential scanning calorimetry, rheometry, size-exclusion chromatography, and fluorophore-assisted capillary electrophoresis.

### Quality Assurance Supervisor, Antonina Industrial Corporation, Philippines (2003–2004)

- Participated in sensory evaluation of reconstituted powdered beverage products.
- Decreased incidences of environmental and finished-goods microbial contamination and monthly consumer product complaints by ~70% through data-driven changes in business processes.
- Traced potential product losses amounting to approximately ~USD 158,400 through in-depth analyses of data generated by production and logistics departments, which eventually led to the implementation of stricter tolerances to finished-good product weights.

## Education

### University of California, Berkeley Extension – San Francisco, CA, USA

*Certificate, Data Analytics and Visualisation Boot Camp*

### University of Queensland – Brisbane, QLD, Australia

*PhD Agricultural Science*

### University of the Philippines Los Baños – Los Baños, Laguna, Philippines

*BSc Biology, Magna cum Laude*