

# Henry Patricia Secaira Morocho

*Curriculum Vitae/Resume*

## PERSONAL DETAILS

<i>Nationality</i>	Ecuadorian - Spanish
<i>Address</i>	Virgen del Sagrario N12, Madrid, 28027, Spain.
<i>Birth</i>	June 24, 1996
<i>Phone</i>	(+34) 634458887
<i>Mail</i> com	patrickhenryk@hotmail.com - henrry.secairamorocho@gmail.

## EDUCATION

<b>Bachelor of Science</b> <i>Yachay Tech University, Urcuqui Ecuador</i> BSc in Biology, Magna Cum Laude Honor	2014-2019
<b>Master of Science</b> <i>Universidad Autónoma de Madrid, Madrid, Spain</i> MSc in Bioinformatics and Computational Biology	2020-Present

## WORK-RESEARCH EXPERIENCE

<b>Research Scholarship</b> <i>Spanish National Centre for Biotechnology, Evolutionary Systems Laboratory, Madrid, Spain</i> Jae Intro Scholarship at the Evolutionary Systems Laboratory. Research project: Network analysis of deep sequencing data to understand the adaptive responses of viral populations to varying environments. Supervisor: Dr. Susanna Manrubia.	2020-2021
<b>Young Researcher</b> <i>Young Researcher MIND Research Group</i> MIND is a multidisciplinary research group created with the vision of strengthening the collaboration of researchers from different parts of the world to work on projects that are strongly linked to top technology applied to the benefit of mankind. Member since October 2020.	2020-Present
<b>Internship</b> <i>CENBIO Research Center, Synthetic Biology Laboratory, Quito, Ecuador</i> Internship at the CENBIO Research Center, Synthetic Biology Laboratory at UTE University. Supervisors: Dr. Carlos Barba, Dr. Linda Guamán.	2020

**Researcher****2019***Applied Microbiology Group - Yachay Tech University*

Researcher of the article: "Serology for Neosporosis, Q fever and Brucellosis to assess the cause of abortion in two dairy cattle herds in Ecuador" (<https://doi.org/10.1186/s12917-019-1924-7>) as part of the Applied Microbiology group. Supervisors: Dr. Jacobus de Waard, Dr. Miguel Garcia-Bereguain.

**Internship****2019***Agencia de Regulacion y Control Fito y Zoonosanitario (Agrocalidad), Quito, Ecuador*

Internship at the Molecular Biology Laboratory, Animal and Plant diagnostic area of Agrocalidad at Quito, Ecuador. Supervisor: Ing. David Jarrin.

**Mentor - Volunteer****2019***Victor Manuel Guzman High School - Yachay Tech University*

Mentor of high school students, Inspirathon project. Supervisors: Dr. German Martin Merino, Dra. Anna Foster.

**Research Scholarship****2018***Mathematical and Theoretical Biology Institute, Arizona State University, USA*

Student researcher of the Mathematical and Theoretical Biology Institute (MTBI) summer program held at Arizona State University. Research project: Spatial Dynamics of Myeloid-Tumor Cell Interactions During Early Non-Small Adenocarcinoma Development. Supervisors: Dr. Adrian Smith, Dr. Viswanathan Arunachalam, Dr. Carlos Castillo-Garsow. Manuscript available at: <https://bit.ly/2P4Fmi2>

**Guide - Volunteer****2017***Yachay Tech University - Yachay Botanical Garden*

Guide of the Yachay Botanical Garden for visiting groups of orphan children during May-June, 2019. Supervisor: Dr. Hugo Romero-Saltos.

**Research Assistant****2017***Yachay Tech University*

Student Research Assistant at the project Latin America Genomics Center held at Yachay Tech University during September - November, 2017. Supervisor: Dr. Jürgen Reichardt.

**Teaching Assistant****2017***Yachay Tech University*

Teaching Assistant of the General Botany course at Yachay Tech University during September - December, 2017. Supervisor: Dr. Hugo Romero-Saltos.

**PUBLICATIONS**

**Secaira-Morocho, H.**, Castillo, J. A., & Driks, A. (2020). Diversity and Evolutionary Dynamics of Spore Coat Proteins on Spore-forming Species of Bacillales *Microbial Genomics*. <https://doi.org/10.1099/mgen.0.000451>

Castillo, J. A., **Secaira-Morocho, H.**, Maldonado, S., & Sarmiento, K. N. (2020). Diversity and evolutionary dynamics of antiphage defense systems in *Ralstonia solanacearum* species complex. *Frontiers in Microbiology*, 11, 961. <https://doi.org/10.3389/fmicb.2020.00961>

## HONORS AND AWARDS

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### Honor Roll

2019

*School of Biological Sciences and Engineering at Yachay Tech University - Best Students, Urcuqui, Ecuador*

### The Undergraduate Book Award

2019

*School of Biological Sciences and Engineering at Yachay Tech University, Urcuqui, Ecuador*

### Mobility Scholarship

2014-2019

*Instituto de Fomento al Talento Humano, Ecuador*

## COURSES

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### Synthetic Biology

2020

*Synthetic Biology Course - UTE University, Quito, Ecuador*

### AgroTech Workshop

2017

*Túnel de la Ciencia - Yachay Tech University*

### WWF's Russel E. Train Education for Nature Workshop

2017

*Mindo Cloud Forest Foundation*

### I Birds festival

2017

*Cotacachi - Cayapas Ecological Reserve*

### Use and Technology Difussion Workshop

2017

*FabLab - Yachay EP*

## SKILLS

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#### Languages

Spanish (Mother Language)  
English (Fluent)

#### Software , LINUX

MS OFFICE, L<sup>A</sup>T<sub>E</sub>X, R, PYTHON/B<sub>I</sub>OPYTHON

#### Personal

Responsible, Focused, Enthusiast, Teamwork, Leadership

## INTERESTS

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*Academic*      Bioinformatics, Biostatistics, Genomics, Systems Biology, Biomathematics, Evolutionary Biology, Microbiology

*Personal*      Cycling, History, Music, Literature, Movies, Videogames

## CONTACT REFERENCES

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### **Susanna Manrubia**

*Associate Professor - Evolutionary Systems  
Spanish National Centre for Biotechnology  
smanrubia@cnb.csic.es*

### **Jose Antonio Castillo**

*Professor and Researcher of the School of Biological Sciences and Engineering  
Yachay Tech University, Urcuquí, Ecuador  
jcastillo@yachaytech.edu.ec*

### **Viswanathan Arunachalam**

*Associate Professor of the Department of Statistics  
Universidad Nacional de Colombia, Bogotá, Colombia  
varunachalam@unal.edu.co*