|  |  |
| --- | --- |
| **Luna L. Sánchez-Reyes** | Postdoctoral Researcher, O’Meara Lab |
|  |  |
| **Phone**: + 1 (917) 891 7599 | Department of Ecology and Evolutionary Biology |
| **Email**: lsanche7@utk.edu | ­University of Tennessee, Knoxville |
|  | Hesler Biology Building 425A |
| **Github**: https://github.com/LunaSare | 1406 Circle Drive, Knoxville, TN 37996 |
|  |  |

**– Curriculum Vitae –**

|  |  |
| --- | --- |
|  | **Education** |
|  |  |
| 2016 | **PhD, Biological Sciences,** Graduate Program of Biological Sciences, Universidad Nacional Autónoma de México (UNAM). |
|  | Dissertation: “*Evaluación de métodos para la reconstrucción del proceso de diversificación y su relación con la historia macroevolutiva de taxa vivientes* [Evaluation of methods for species diversification process reconstruction and its relationship with the macroevolutionary history of extant taxa]”. |
|  | Advisor: Susana A. Magallón Puebla, Department of Botany, Institute of Biology, UNAM. |
|  |  |
| 2010 | **B.Sc., Biology**, Facultad de Ciencias, UNAM. |
|  | GPA: 9.78/10 |
|  | Dissertation: “*Genómica de poblaciones asociada a los nichos ecológicos de Escherichia coli* [Population genomics associated to the ecological niches of *Escherichia coli*]”. |
|  | Advisor: Andrea González-González, Department of Evolutionary Ecology, Institute of Ecology, UNAM. |
|  |  |

|  |  |
| --- | --- |
|  | **Expertise and skills** |
|  |  |
|  | **Programming languages**: R (advanced), perl (basic), BASH scripting (basic), python (basic).  **Markup languages**: rmarkdown (advanced), LaTeX (medium), html (basic). |
|  |  |
|  | **Software**: Genome-scale nucleotide alignment (MAUVE, Muscle, Clustal), phylogenetic reconstruction and tree dating (BEAST, PATHd8, r8s, PhyML, treePL, MrBayes, BLADJ), time dependent species diversification analyses (RPANDA, laser, BAMM, TreePar), tree simulation (RPANDA, TreePar, ape). |
|  |  |
|  | **Subject areas**: Bioinformatics, probability, data analysis, comparative analysis, phylogenetics, molecular clock, tree dating, tree simulation, species diversification, population genetics, population genomics, molecular evolution, anchored hybrid enrichment, machine learning, spatial analysis, science communication. |
|  |  |
|  | **Wet lab**: DNA extraction (bacteria and plants), PCR, gel electrophoresis, bacterial collection maintenance, herbarium preparations, DNA and gene expression profiling (micro- and macroarrays). |

|  |  |
| --- | --- |
|  | **Professional experience** |
|  |  |
| 2017-present | Postdoctoral researcher at the O’Meara lab working with the Datelife project.  R package development: [www.github.com/phylotastic/datelife](http://www.github.com/phylotastic/datelife) and [rphylotastic](http://www.github.com/phylotastic/rphylotastic)  Website development: [www.datelife.org](http://www.datelife.org/query) |
|  |  |
| 2017 | Research Assistant, National Program for Support of Research and Technological Innovation Projects (PAPIIT), Mexico.  “*Investigando las causas de la megadiversidad: Factores asociados a la diversificación macroevolutiva de cuatro grupos vegetales mesoamericanos* [Studying the causes of megadiversity: Factors associated to macroevolutionary diversification of four Mesoamerican vegetal groups]”.  Leading Researchers: Susana A. Magallón Puebla, Instituto de Biología, UNAM; Gerardo A. Salazar Chávez, Instituto de Biología, UNAM |
|  |  |
| 2016 | Intensive workshop organizer and main teacher: Introduction to R for biology. Internal courses of the Department of Botany, Institute of Biology, UNAM. |
|  |  |
| 2014 | Teaching assistant, Biological Sciences Graduate Program, UNAM.  Course: *Biología Filogenética* [Phylogenetic Biology]. Fall Semester.  Teaching assistant, B.Sc. Biology Program of the Faculty of Sciences, UNAM. Course: *Sistemática II* [Systematics level II]. Fall Semester.  Research visitor, Institute of Biology of the Ecole Normale Supérieure (ENS)  Paris, France. June – July.  Leading Researcher: Hélène Morlon, National Council of Scientific Research (CNRS), France. |
|  |  |
| 2013 | Research visitor. Center for Applied Mathematics (CMAP), Polytechnique School, Paris-Saclay, France. September – December.  Leading Researcher: Hélène Morlon, CNRS, France. |
|  |  |
| 2010-2011 | Research assistant, PAPIIT project: *Evaluación de marcadores genéticos para un microarreglo diagnóstico de enfermedades diarreicas en el Pacífico Mexicano utilizando metagenómica* [Evaluation of genetic markers for the development of a microarray for the diagnosis of enteric disease in the Mexican Pacific Ocean using metagenomics]. |
|  | Leading Researchers:  Valeria Souza, Laboratory of Molecular and Experimental Evolution, Department of Evolutionary Ecology, Institute of Ecology, UNAM, Mexico. |
|  | Rosario Morales, Laboratory of Bacterial Genomics, Department of Microbiology and Parasitology, Institute of Medicine, UNAM, Mexico. |
|  |  |
| 2009-2010 | Research assistant, National Researchers Systems (SNI) Level III Project: *Transferencia horizontal en bacterias entéricas diarréicas y la evolución de la patogénesis* [Horizontal transfer in diarrheagenic enteric bacteria and the evolution of pathogenesis]. |
|  | Leading Researcher: Luis Enrique Eguiarte Fruns, Laboratory of Molecular and Experimental Evolution, Department of Evolutionary Ecology, Institute of Ecology, UNAM, Mexico. |
|  |  |

|  |  |
| --- | --- |
|  | **Peer- reviewed Published work**  **and in Progress** |
|  | **Number of citations: 378** |
|  |  |
| In prep. | **Sánchez-Reyes L.L.**, Brian O’Meara. DateLife: Leveraging databases and analytical tools to reveal the dated Tree of Life. |
|  |  |
| In prep. | Barba-Montoya J.A., **Sánchez-Reyes L.L.,** Magallón S. Do pollination syndromes influence diversification rates of columnar cacti (core-Pachycereeae, Echinocereeae, Cactaceae)? |
|  |  |
| 2019 | Nguyen, V.D., Nguyen, T.H., Tayeen, A.S.M., Laughinghouse, H.D.,  **Sánchez-Reyes, L.L.,** Pontelli, E., O’Meara, B., Stoltzfus, A. (2018). Phylotastic: improving access to tree-of-life knowledge with flexible, on-the-fly delivery of trees. bioRxiv, 419143. In review in Methods in Ecology and Evolution. |
|  |  |
| 2018 | Flores-Abreu I., Trejo-Salazar R. E., **Sánchez-Reyes L.L.**, Good S. V., Magallón S., García-Mendoza A., Eguiarte L.E. Tempo and mode in coevolution of *Agave sensu lato* (Agavoideae, Asparagaceae) and its bat pollinators, Glossophaginae (Phyllostomidae). In review in Molecular Phylogenetics and Evolution. |
|  |  |
| 2018 | Magallón, S., **Sánchez-Reyes, L.L.,** & Acevedo, S.G. Thirty clues to the exceptional diversification of flowering plants. bioRxiv, 279620.  Annals of Botany doi:10.1093/aob/mcy182 |
|  |  |
| 2018 | De-Nova, J.A., **Sánchez-Reyes, L.L.,** Eguiarte, L.E., & Magallón, S. (2018). Recent radiation and dispersal of an ancient lineage: The case of *Fouquieria* (Fouquiericeae, Ericales) in North American deserts. Molecular phylogenetics and evolution, 126, 92-104. |
|  |  |
| 2017 | Fragoso-Matínez I., Salazar G., Magallón S., **Sánchez-Reyes L.L.,** Sazatornil F., Lemmon A., Lemmon E., Granados C. A pilot study applying the Plant Anchored Hybrid Enrichment method to New World Sages (*Salvia* subgenus Calosphace; Lamiaceae). Molecular Phylogenetics and Evolution. |
|  |  |
| 2016 | **Sánchez-Reyes L.L,** Morlon H., Magallón S. Uncovering higher-taxon diversification dynamics form clade age and species-richness data. Systematic Biology, syw088. |
|  |  |
| 2015 | Magallón, S., Gómez-Acevedo, S., **Sánchez-Reyes, L. L.** & Hernández-Hernández, T. (2015). A metacalibrated time-tree documents the early rise of flowering plant phylogenetic diversity. New Phytologist, 207:437-453. |
|  |  |
| 2012 | González-González, A., **Sánchez-Reyes, L.L.**, Sapien, G.D., Eguiarte, L.E., Souza, V. 2012. Hierarchical clustering of genetic diversity associated to different levels of mutation and recombination in *Escherichia coli*: a study based on Mexican isolates. Infection, Genetics and Evolution, 13:187-197. |
|  |  |

|  |  |
| --- | --- |
|  | **Other publications** |
|  |  |
| 2012 | **Sánchez-Reyes L.L.**, A. González-González, L.E. Eguiarte, V. Souza. Capítulo 15. *Patogénesis bacteriana: Ecología y evolución* [Bacterial pathogenesis: Ecology and Evolution]. *Cardiología Evolutiva* [Evolutionary Cardiology]. Eds. Sánchez-Torres G., V. Guarner-Lans. Lulu, México, D.F. |
|  |  |
| 2011 | **Sánchez-Reyes LL**. 2011. *La evolución de los seres vivos* [The evolution of living beings]. Cienciorama. Online publication. <http://www.cienciorama.unam.mx/a/pdf/190_cienciorama.pdf> |
|  |  |

|  |  |
| --- | --- |
|  | **Invited talks** |
|  |  |
| 2017 | **Sánchez-Reyes L.L**. *Bioinformática de la diversidad: procesos evolutivos desde bacterias hasta plantas con flor* [Diversity bioinformatics: Evolutionary processes from bacteria to flowering plants].  Instituto Potosino de Ciencia y Tecnología [Potosin Institute of Science and Technology] (IPICyT), San Luis Potosí, Mexico, Institutional Seminar, 22 June. |
|  |  |
| 2014 | **Sánchez Reyes LL**, S. Magallón, H. Morlon. Multiple shifts in diversification and rate of origin of higher clades might explain species richness heterogeneity in flowering plants.  Invited speaker, Colloquium “Empirical approaches to phylogenetic comparative methods in plant science”, Botany 2014: New Frontiers in Botany. 26 – 30 July, Boise, Idaho, USA. |
|  |  |
| 2013 | **Sánchez Reyes L.L.,** S. Magallón, H. Morlon. Reconstruction of the species diversification process and its relationship with the macroevolutionary history of living taxa.  Paris-Sud University, France, Seminars, 12 December. |
|  |  |

|  |  |
| --- | --- |
|  | **Meetings** |
|  |  |
| 2019 | Evolution Meeting 2019, 22-25 June, Providence, Rhode Island, USA.  - Symposium accepted. Diversification through time, space and lineages: relationships between data quality and good inferences. Organizer.  - Talk contribution. **Sánchez Reyes LL**, B. O’Meara. Leveraging databases and analytical tools to reveal the dated Tree of Life: How much of it can we use to understand the diversification of Life on Earth?  - Poster contribution. **Sánchez Reyes LL**, B. O’Meara. DateLife: Leveraging databases and analytical tools to reveal the dated Tree of Life. |
| 2018 | Evolution Meeting 2018, 18 – 22 August, Montpellier, France.  Poster contribution accepted. \*Could not attend due to visa issues.  **Sánchez Reyes LL**, B. O’Meara. DateLife: Leveraging databases and analytical tools to reveal the dated Tree of Life. |
|  |  |
| 2018 | Society of Systematic Biologists standalone meeting 2018, 1 – 4 June, Columbus, Ohio, USA.  Oral contribution. **Sánchez Reyes LL**, B. O’Meara. DateLife: Leveraging databases and analytical tools to reveal the dated Tree of Life. |
|  |  |
| 2016 | Evolution Meeting 2016, 17 – 21 June, Austin, Texas, USA.  Oral contribution. **Sánchez Reyes LL**, S. Magallón, H. Morlon. Uncovering macroevolutionary diversification dynamics from clade age, species richness and taxonomic structure. |
|  |  |
| 2015 | Evolution Meeting 2015. 26 – 30 June, Guarujá, Brasil.  Oral contribution. **Sánchez Reyes LL**, S. Magallón, H. Morlon. Taxonomic structure and the primary drivers of macroevolutionary dynamics. |
|  |  |
| 2014 | Botany 2014: New Frontiers in Botany. 26 – 30 July, Boise, Idaho, USA.  Oral contribution at the Colloquium “Empirical approaches to phylogenetic comparative methods in plant science”: **Sánchez Reyes LL**, S. Magallón, H. Morlon. Multiple shifts in diversification and rate of origin of higher clades might explain species richness heterogeneity in flowering plants. |
|  |  |
| 2014 | Evolutionary Plant Radiations: Where, When, Why and How? 13 – 14 June, Institute of Systematic Botany, University of Zurich, Switzerland.  Poster contribution. **Sánchez Reyes LL**, S. Magallón, H. Morlon. Models of diversification and the age-richness relationship in Angiosperms: Multiple shifts and rates of origin. |
|  |  |
| 2013 | Evolution Meeting 2013. 21 – 25 June, Snowbird, Utah, USA.  Oral contribution. **Sánchez Reyes LL**, S. Magallón, H. Morlon. Models of species diversification and the age-richness relationship paradigm. |
|  |  |
| 2008 | Congreso Mexicano de Ecología: La ecología mexicana en tiempos de cambio global [Mexican Congress of Ecology: Mexican Ecology in Times of Global Change], 16 – 21 November, Mérida, Yucatán, México.  Poster contribution. **Sánchez Reyes LL**, A. González González, L.E. Eguiarte Fruns, V. Souza Saldívar. Genómica de poblaciones asociada a los nichos ecológicos de *Escherichia coli* [Population genomics associated to the ecological niches of *Escherichia coli*]. |
|  |  |

|  |  |
| --- | --- |
|  | **Awards and Distinctions** |
|  |  |
| 2017 - 2025 | Chair Fellow, National Council of Science and Technology (CONACyT), Mexico. Total of $4.8M Mexican Pesos (~$250k USD). ***Declined for current position***. |
|  |  |
| 2016 | Society of Systematic Biologists (SSB) Ernst Mayr Symposium Award Finalist. |
|  |  |
| 2011-2016 | Mexican National Scholarship for graduate studies, National Council of Science and Technology (CONACYT) 410511/262540  Total of $1.56M Mexican Pesos (~$120k USD) |
|  |  |
| 2015 | Society of Systematic Biologists (SSB) International Students Travel award $500 USD |
|  |  |
| 2015 | Mexican National Program for the Advancement of Patenting and Innovation (PROFOPI) Third Place Awarded as coauthor of the technologic development “*Macroarreglo para detección en muestras ambientales y biológicas de microorganismos enteropatógenos* [Macroarray for entheropathogenic microorganism detection in environmental and biological samples]”, Patent MX/a/2014/003938. |
|  | $40k Mexican Pesos (~$3k USD) |
|  |  |
| 2012 | PBDB Workshop 2012: Paleobiology Database Intensive Workshop in  Analytical Methods. Department of Biological Sciences, Macquarie University.  25 June – 29 de July. Lodging and travel expenses covered by organizers.  Professors: Dr. John Alroy, Macquarie University; Dr. Gene Hunt, Smithsonian; Dr. David Polly, Indiana University; Dr. Peter Wagner, Smithsonian; Dr. Thomas Olszewski, Texas A & M. |
|  |  |
|  |  |

|  |  |
| --- | --- |
|  | **Synergistic Activities** |
|  |  |
| 2017 - present | Group Coordinator, Pipeline for Mentoring Women in STEM, University of Tennessee, Knoxville. Coo-coordinator: Charlotte Chang, National Institute for Mathematical and Biological Synthesis (NIMBioS), University of Tennessee, Knoxville |
|  |  |
| 2012 - present | Reviewer International Journal of Organic Evolution, Evolution; Journal of Biogeography. |
|  |  |

|  |  |
| --- | --- |
|  | **Languages** |
|  |  |
|  | **Spanish**, native |
|  | **English**, fluent (speaking, reading, writing) |
|  | **French**, fluent (speaking, reading, writing) |
|  | **Nahuatl**, basic (speaking, reading, writing) |
|  | **Portuguese**, basic (speaking) |
|  | **Japanese**, basic (speaking) |