CURRICULUM VITAE

1. Contact information

Name:	Valeria Isabel Razmilic-Neira
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2. Personal information

Date of birth:	XX of July of 19XX
Citizenship:	Chilean

3. Research interest

Specialized metabolites discovery through genome mining.

Polyketides and non-ribosomal peptides biosynthesis.

Development of genome scale models to study *Streptomyces* metabolism.

Metabolic and genetic engineering to optimize/increase metabolites production.

Biotechnological Microbiology.

4. Education

January, 2017. Doctor in Engineering Sciences mention Chemical Engineering and Biotechnology, Universidad de Chile, Santiago, Chile.

March, 2011 – December, 2016. PhD student Chemical engineering and Biotechnology, Universidad de Chile, Santiago, Chile.

September, 2013 - June, 2014. Internship in Molecular Microbiology of *Streptomyces*, John Innes Centre, Norwich, UK.

May, 2010. Bioengineer degree, Universidad de Concepción, Concepción, Chile.

March, 2005 - 2010. Bioengineering major, Universidad de Concepción, Concepción, Chile.

1993-2004. Primary school and high school, Colegio de la Salle, Talca, Chile.

5. Work experience

April, 2021 – to date. Post-doctoral researcher in Fondecyt project N° 3210775. Production of lasso peptides from actinobacteria isolated from the Atacama Desert as a novel source of bioactive compounds. Centre for Biotechnology and Bioengineering (CEBIB), University of Chile, Santiago, Chile.

May, 2018 – March, 2021. Post-doctoral researcher in Basal Project FB-0001. To explore the biotechnological potential of Actinobacteria isolated from the Atacama Desert. Centre for Biotechnology and Bioengineering (CEBIB), University of Chile, Santiago, Chile.

January, 2017 – May, 2018. Post-doctoral researcher in the Newton project JIC #CA586 "Bioprospecting the Atacama Desert: the discovery and enhancement of novel therapeutic drugs from actinomycetes" and Basal Project FB-0001. Centre for Biotechnology and Bioengineering (CEBIB), University of Chile, Santiago, Chile.

March – April, 2018. Post-doctoral researcher (internship) at University of Newcastle, England, UK.

April- August, 2017. Post-doctoral researcher (internship) at University of Newcastle, England, UK.

March - July, 2015. Assistantship in Project Course. Faculty of Physical and Mathematical Sciences, Universidad de Chile, Santiago, Chile.

March - July, 2012. Assistantship in Modern Biotechnology Laboratory Techniques. Department of Chemical Engineering and Biotechnology, Universidad de Chile, Santiago, Chile.

March - July, 2012. Assistantship in Project Course. Faculty of Physical and Mathematical Sciences, Universidad de Chile, Santiago, Chile.

January, 2010 – February, 2011. Researcher in charge of laboratory and field assays, in Project INNOVA BIOBIO 08-PCS1-312: Development of biotechnology tools for *Fusarium circinatum* control in *Pinus radiata* plant nursery. Forest pathology laboratory, Universidad de Concepción, Concepción, Chile.

August – October, 2009. Assistantship in Plant Health. Faculty of Forest sciences, Universidad de Concepción, Concepción, Chile.

March – July, 2008. Assistantship in cell biology. Faculty of Biological sciences, Universidad de Concepción, Concepción, Chile.

January, 2006. Research assistant. Centre of Pomaceous laboratory, Universidad de Talca, Talca, Chile.

6. Publications

Gomez-Escribano J. P., Castro J. F., Razmilic V., Jarmusch S. A., Saalbach G., Ebel R., Jaspars M., Andrews B., Asenjo J.A., Bibb M. J. (2019). Heterologous expression of a cryptic gene cluster from *Streptomyces leeuwenhoekii* C34^{T} yields a novel lasso peptide, leepeptin. (Submitted to Applied and Enviromental Microbiology). J.F.C., V.R. and S.A.J. contributed equally to this work.

Carro L., Castro J. F., Razmilic V., Nouioui I., Pan C., Igual J. M., Jaspars M., Goodfellow M., Bull A. T., Asenjo J. A., Klenk H.P. (2019). Uncovering the potential of novel micromonosporae isolated from an extreme hyper-arid Atacama Desert soil. *Scientific reports*, 9(1), 4678. Doi: 10.1038/s41598-019-38789-z

Carro L., Razmilic V., Nouioui I., Richardson L., Pan C., Golinska P., Asenjo J. A., Bull A. T., Klenk H.P., Goodfellow M. (2018). Hunting for cultivable Micromonospora strains in soils of the Atacama Desert. *Antonie van Leeuwenhoek*, 111, 1375-1387. Doi: 10.1007/s10482-018-1049-1

Castro J. F.[#], Razmilic, V.[#], Gomez-Escribano J. P., Andrews B., Asenjo J. A., Bibb M. (2018). The 'gifted' actinomycete *Streptomyces leeuwenhoekii*. *Antonie van Leeuwenhoek*, 111, 1433-1448. Doi: 10.1007/s10482-018-1034-8. #Joint first authors.

Razmilic V.[#], Castro J. F.[#], Marchant F.[#], Asenjo, J. A., Andrews, B. (2018). Metabolic modelling and flux analysis of microorganisms from the Atacama Desert used in biotechnological processes. Antonie van Leeuwenhoek. *Antonie van Leeuwenhoek*, 111, 1479-1491. Doi: 10.1007/s10482-018-1031-y. #Joint first authors.

Razmilic, V., Castro, J. F., Andrews, B., Asenjo, J. A. (2018) Analysis of metabolic networks of *Streptomyces leeuwenhoekii* C34 by means of a genome scale model: prediction of modifications that enhance the production of specialised metabolites. *Biotechnology and Bioengineering*, 115, 1815-1828. Doi: 10.1002/bit.26598.

Razmilic V. (2017). Metabolism analysis of *Streptomyces leeuwenhoekii* C34 with a genome scale model and identification of biosynthetic genes of specialized metabolites by genome mining. Universidad de Chile (Thesis for the degree of Doctor in Engineering Sciences mention Chemical Engineering and Biotechnology).

Campodonico, M. A., Vaisman, D., Castro, J. F., Razmilic, V., Mercado, F., Andrews, B. A., Feist A. M., & Asenjo, J. A. (2016). Acidithiobacillus ferrooxidans's comprehensive model driven analysis of the electron transfer metabolism and synthetic strain design for biomining applications. *Metabolic Engineering Communications*, 3, 84-96.

Castro, J. F., Razmilic, V., Gomez-Escribano, J. P., Andrews, B., Asenjo, J. A., and Bibb, M. J. (2015). Identification and Heterologous Expression of the Chaxamycin Biosynthesis Gene Cluster from *Streptomyces leeuwenhoekii*. *Applied and environmental microbiology*, *81*(17), 5820-5831.

Gomez-Escribano, J. P., Castro, J. F., Razmilic, V., Chandra, G., Andrews, B., Asenjo, J. A., and Bibb, M. J. (2015). The *Streptomyces leeuwenhoekii* genome: de novo sequencing and assembly in single

contigs of the chromosome, circular plasmid pSLE1 and linear plasmid pSLE2. *BMC genomics*, *16*(1), 485.

Castro, J., Razmilic, V. and Gerdtzen, Z. (2013). Genome based metabolic flux analysis of *Ethanoligenens harbinense* for enhanced hydrogen production. *International Journal of Hydrogen Energy*, 38: 1297-1306.

Razmilic V. (2010). Antifungal activity of plant extract and bacteria native of Chile against *Botrytis cinerea* and inhibition of spore adhesion to rose petals. Universidad de Concepción (Thesis for the degree of Bioengineer).

7. Presentation and participation in Conferences

29 – 31 July, 2019: Oral Presentation "Strains from the Atacama Desert as producers of specialised metabolites" at X Workshop CEBIB "Metabolic Engineering, Bioinformatics and Genomics for Biotechnological Application", Hotel Sheraton San Cristobal, Santiago, Chile.

03 – 05 December, 2018: Oral Presentation "*Micromonosporas* from the Atacama Desert as producers of specialised metabolites" at IX Workshop CEBIB "Bioinformatics, Genomics, and Bioengineering in Biotechnological Applications", Hotel Dreams, Temuco, Chile.

29 November – 01 December, 2017: Oral Presentation "Isolation of *Micromonosporas* and other Actinobacteria strains from the Atacama Desert" at VII Workshop CEBIB "Genomics, Metabolic Engineering and Bioinformatics in Biotechnological Applications", Hotel Antofagasta, Antofagasta, Chile.

30 November - 02 December, 2016: Oral Presentation "Genomic potential of *Streptomyces leeuwenhoekii* C34 for producing specialised metabolites" at V Workshop CEBIB "Genomics, Metabolic Engineering and Bioinformatics in Biotechnological Applications", Hotel Radisson, Puerto Varas, Chile.

04-06 July, 2016: Oral Presentation "Prediction of modifications that enhance the production of specialized metabolites in *Streptomyces leeuwenhoekii* C34" at IV Workshop CEBIB "Fostering Collaborations in Biotechnology, Bioengineering and Bioinformatics", Hotel Radisson, Santiago, Chile.

02-04 December, 2015: Oral Presentation "Genome scale model of *Streptomyces leeuwenhoekii* C34: toward improving specialised metabolites" at III Workshop CEBIB "Genomics, Metabolic Engineering and Bioinformatics in Biotechnological Applications", Santa Cruz, Chile.

08-10 July, 2015: Poster Presentation "Development of a genome-scale model of *Streptomyces leeuwenhoekii*" at II Workshop CEBIB "Bioinformatics and Mathematical Modelling in Biotechnological, Molecular Genetics and Ecophysiological Applications", Hotel Manquehue, Santiago.

26-28 November, 2014: Oral Presentation "*Streptomyces leeuwenhoekii*: searching for specialised metabolites" at I Workshop Centre of biotechnology and Bioengineering CEBIB, Marbella, Chile.

13-21 September, 2014: Attended Summer School on “Microbial Specialised Metabolites: Origins and Applications”, Dubrovnik, Croatia.

28 August, 2014: Oral Presentation “Genome mining of *Streptomyces leeuwenhoekii* C34, an isolate from the Atacama Desert, for discovery of novel natural products and development of a genome scale model”. Antofagasta, Chile.

14-17 April, 2014: Attended the Society of General Microbiology annual conference in Liverpool, UK.

18 November, 2013: Attended the Young Microbiologists Symposium, John Innes Centre, Norwich, UK.

16-18 October, 2013: Attended the Annual Science Meeting, John Innes Centre, Norwich, UK.

30-31 October, 2012: Oral Presentation in Workshop “A Microbiological Overview of the Atacama Desert: Novel Natural Products of Extreme Environments”, University of Chile, Santiago, Chile.

5-7 December, 2011: Oral Presentation “Modelo a escala genómica de *Acidithiobacillus ferrooxidans* ATCC 23270” at V Workshop of the Cell dynamics and Biotechnology institute (ICDB), Resort Marbella, Chile.

9-12 November, 2010: Presentation in XIX Chilean society of phytopathology conference, Antifungal and anti-adhesive activity of plant extract and bacteria native of Chile against *Botrytis cinerea.* Pucón, Chile.

13-16 October, 2009: Attended V Biotechnology engineering student’s meeting, Santiago, Chile.

6-9 August, 2008: Attended XXV Biochemistry student’s national conference, Concepción, Chile.

16-20 October, 2005: Attended XIX Annual meeting of cell biology society of Chile, Pucón, Chile.

8. Awards

Fondecyt Postdoctoral research project funding. Year obtained 2021. Awarded by the National Agency of research and development (ANID).

Assistance to Events and Short Courses for Doctorate Students Grant. Year obtained: 2014. Grant awarded by the National commission of science and technology (CONICYT) to finance the assistance to the summer school “Microbial Specialised Metabolites: Origins and Applications” at Dubrovnik, Croatia.

Doctoral Internship Abroad Grant. Year obtained: 2012. Grant awarded by CONICYT for doing a nine months internship at John Innes Centre, University of East Anglia, UK.

National Doctorate fellowship. Year obtained: 2011. Fellowship granted by CONICYT to finance and support my Ph.D. studies at Santiago, Chile.

Best engineering student, 2009 promotion of Bioengineer major. Year Obtained: 2009. University of Concepción, Concepción, Chile.

Best high school student. Year Obtained: 2004. Colegio de la Salle, Talca, Chile.

9. Languages

Spanish ability. First language.

English ability. TOEFL (March, 2013): 27 of 30 points in reading, 28 of 30 points in listening, 20 of 30 points in speaking and 22 of 30 points in writing. TOEFL total score: 97.