TROPIMUNDO 2

ERASMUS MUNDUS JOINT MASTER IN TROPICAL BIODIVERSITY AND ECOSYSTEMS

NAME, UNIVERSITY Local Coordinator

Valérie BURTET-SARRAMEGNA, University of New-Caledonia

Bibliographic sketch narrative (max. 300 words)

Valérie Burtet is currently Professor of Biochemistry and Molecular Biology at the University of New Caledonia (UNC). Originally from New Caledonia (NC), Valérie studied at the Université Paul Sabatier in Toulouse, France, where she completed a bachelor's, master's and doctorate in Biochemistry and Molecular Biology. She then spent two years as a post-doctoral fellow in Sydney, Australia, before being recruited as assistant professor and then professor at UNC, where she has worked since 2005. Since her recruitment at UNC, Valérie has been working on the biochemical and molecular adaptations developed by the flora and microorganisms of NC, which have enabled them to survive severe environmental constraints, with the aim of better understanding, protecting and preserving them. NC is a global biodiversity hotspot, home to many unique ecosystems and treasures, including *Amborella trichopoda*, the sister of all flowering plants on the planet, endemic to NC. The island is also renowned for its metal-rich ecosystems, which have fostered the emergence of an adapted flora, more than 80% of which is endemic and home to one of the world's largest reservoirs of nickel-hyperaccumulating species. These species fascinate the scientific community because of their ability to extract Nickel from the soil and accumulate it in their aerial parts at very high concentrations, making them particularly promising for effective phytoremediation or ecological restoration strategies. Valerie and her team are working on deciphering the mechanisms and microbial interactions that could help to better understand this hyperaccumulation phenotype. Valérie' team involves 5 permanent professors/associate professors, two of which are microbiologists, and two others are biochemists/molecular biologists/physiologists. Additionally, the lab also encompasses a support team of technicians and engineers (4 people) and 6 PhD students: 3 of them are working on the characterization of the bacteriome of endemic species and ecosystems from NC.

1	**Family name**	BURTET-SARRAMEGNA	
2	**First name**	Valérie	
3	**Place and Date of birth**	16.08.1076 at Nouméa New-Caledonia	
4	**Nationality**	Française	
5	**E-mail**	Valerie.burtet@unc.nc	
6	**Education / Professional studies**		
	Dates (from-to)	Institution	Degree/diploma
	1996	University of Toulouse, France	Bachelor's degree in Biochemistry & molecular Biology
	1998	University of Toulouse, France	Master's degree in Biochemistry & molecular Biology
	2002	University of Toulouse, France	PhD

	2020	University of New-Caledonia		Habilitation to supervise research
7	**Language skills** Grade skill 1-5 (1 = basic, 5 = excellent, * = mother tongue)			
	Language	Speaking	Reading	Writing
	French	*	*	*
	English	4	5	4
8	**Membership of professional bodies**			
9	**Other Skills**			
10	**Name of organisation currently working for and Present position in the organisation**		University of New-Caledonia Professor of Biochemistry and Molecular Biology	
11	**Years with the organisation**		19	
12	**Long-term experience in selected countries/territories**			
	Country	Date	Details	
	Australia	2002-2005	Researcher at the Victor Chang Cardiac Research Institute, Sydney	
	New-Caledonia	2005-Present	Assistant Professor and Professor at UNC	
13	**Professional experience record**			
	Location	Date	Organisation	
1	**New-Caledonia**	2005-Present	University of New-Caledonia	
	Position	Professor of Biochemistry and Molecular Biology		
	Responsibilities	Head of the Sustainability Sciences Master's program major Climate change and environmental sciences Head of the International Relations department (2005-2010)		
2	**New-Caledonia**	2005-Present	University of New-Caledonia	
	Position	Pro-vice chancellor Research and International		
	Responsibilities	Head of the research and International policies of UNC		
14	**Publications**			
	Number of publications in peer-reviewed journals			
	30			
	10 publications that are most representative in the field of tropical biodiversity and ecosystems			

1. **One Thousand Plant Transcriptomes and Phylogenomics of Green Plants ;** One Thousand Plant Transcriptomes Initiative : NATURE, 2019. https://doi.org/10.1038/s41586-019-1693-2
2. **The Amborella genome and the evolution of flowering plants. Amborella** Genome Project. Science. 2013 Dec 20;342(6165):1241089. doi: 10.1126/science.1241089.
3. A preliminary survey of nickel, manganese and zinc (hyper)accumulation in the flora of Papua New Guinea from herbarium X-ray fluorescence scanning. Christina Do ; Farida Abubakari ; Amelia Corzo Remigio ; Gillian K. Brown ; Lachlan W. Casey ; **Valérie Burtet-Sarramegna ;** Vidiro Gei ; Peter D. Erskine ; Antony van der Ent ; Chemoecology ; January 2020 ; DOI: 10.1007/s00049-019-00293-1
4. Investigating some mechanisms underlying stress metal adaptations of two Burkholderia sensu lato species isolated from New Caledonian ultramafic soils. Alexandre Bourles, Hamid Amir, Simon Gensous, Flavie Cussonneau, Valerie Medevielle, Farid Juillot, Alexis Bazire, Michael Meyer, **Valerie Burtet-Sarramegna**, Yvon Cavaloc,Philippe Jourand, Linda Guentas ; European Journal of Soil Biology 97 (2020) 103166 2020, DOI: 10.1016/j.ejsobi.2020.103166
5. Wide Cross-species RNA-Seq Comparison Reveals Convergent Molecular Mechanisms Involved in Nickel Hyperaccumulation Across Dicotyledons. García de la Torre, Vanesa; Majorel, Clarisse; Rigaill, Guillem; González, Dubiel; Soubigou-Taconnat, Ludivine; Pillon, Yohan; Barreau, Louise; Thomine, Sébastien; Fogliani, Bruno; **Burtet-Sarramegna, Valerie**; Merlot, Sylvain ; New Phytologist, **2020 ;** DOI: 10.1111/nph.16775 ; Impact factor (2018): 7,299
6. Pauline Bonaventure, Linda Guentas, **Valérie Burtet-Sarramegna**, Luc Della Patrona, Clarisse Majorel, Valérie Médevielle, Monika Le Mestre & Hamid Amir (05 Jul 2024): Metal extraction capacities of the two halophytes Sesuvium portulacastrum and Suaeda australis from New Caledonian estuaries contaminated with metals, Bioremediation Journal, DOI: 10.1080/10889868.2024.2362350
7. Pauline Bonaventure, Linda Guentas, **Valérie Burtet-Sarramegna** & Hamid Amir. Potential of Halophytes-Associated Microbes for the Phytoremediation of Metal-Polluted Saline Soils ; (2023) ; Applied Sciences 13(7):4228 ; DOI: 10.3390/app13074228
8. A Combination of Histological, Physiological, and Proteomic Approaches Shed Light on Seed Desiccation Tolerance of the Basal Angiosperm **Amborella** trichopoda. Villegente M, Marmey P, Job C, Galland M, Cueff G, Godin B, Rajjou L, Balliau T, Zivy M, Fogliani B, **Sarramegna-Burtet V,** Job D. Proteomes. 2017 Jul 28;5(3). pii: E19. doi: 10.3390/proteomes5030019.
9. Two new species of Diversispora (arbuscular mycorrhizal fungi; Glomeromycota) colonizing roots of endemic shrubs on nickel mine tailings in New-Caledonia" Mycological Progress. 2024. 10.1007/s11557-024-01961-5
10. Investigating some mechanisms underlying stress metal adaptations of two Burkholderia sensu lato species isolated from New Caledonian ultramafic soils. Alexandre Bourles, Hamid Amir, Simon Gensous, Flavie Cussonneau, Valerie Medevielle, Farid Juillot, Alexis Bazire, Michael Meyer, **Valerie Burtet-Sarramegna**, Yvon Cavaloc,Philippe Jourand, Linda Guentas ; European Journal of Soil Biology 97 (2020) 103166 2020, DOI: 10.1016/j.ejsobi.2020.103166

15	**Number of conference presentations (between brackets invited contributions)**		
	International : 17, National : 11 & Invited talks : 2		
16	**Most important awards**		
	Award	Award date	Issuing oranisation
1			
2			