

# CURRICULUM VITAE

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## EDUCATION

	Doctorate – Ph.D. in Mechanical Engineering
	Area: Thermal and Fluids
<b>2012 – 2016:</b>	Thesis: “ <i>Análisis experimental del efecto de la geometría de la sección transversal y del desempeño de refrigerantes de GWP bajo en la ebullición convectiva en microcanales</i> ”
	Universidade de São Paulo, São Carlos - Brasil
	Master Degree – MSc. in Mechanical Engineering
	Area: Thermal and Fluids
<b>2009 – 2012:</b>	Thesis: “ <i>Estudio teórico y experimental de los padrones de flujo durante ebullición convectiva en el interior de microcanales</i> ”
	Universidade de São Paulo, São Carlos - Brasil
	Graduate en Ingeniería Petrolera y Gas Natural
<b>2005 – 2008:</b>	Universidad Privada Boliviana, Cochabamba - Bolivia
	Titulado por excelencia “ <i>Cum Laude</i> ”

## WORKING EXPERIENCE

	Full Professor
<b>Agosto 2019 – Presente</b>	Pregrado, Universidad Privada Boliviana, UPB, Cochabamba – Bolivia. Disciplines: <i>Thermodynamics, Heat transfer and Energy and turbomachinery</i>
	Director of the Renewable Energies Laboratory
<b>Enero 2022 – Presente</b>	Researcher, Universidad Privada Boliviana, UPB, Cochabamba – Bolivia.
	Professor Half-time
<b>2018 – 2021:</b>	Pregrado, Universidad Privada Boliviana, UPB, Cochabamba – Bolivia. Disciplines: <i>Fluid Mechanics, Transporte de Hidrocarburos I y II</i>

<b>2018 – 2019:</b>	Director de Proyectos y Tesis Escuela de Graduados de Ingeniería
	Postgrado, Universidad Privada Boliviana, UPB, Cochabamba – Bolivia
	Posdoctorado
<b>2016 – 2017:</b>	Brunel University of London, Uxbridge, London, United Kingdom
	Proyecto: “Flow boiling and condensation of mixtures in microscale”
	Ingeniero Junior
<b>2008 – 2009:</b>	CONTA SRL, Cochabamba – Bolivia
	Proyecto: “Mantenimiento de oleoductos y gasoductos YPFB”

### JOURNAL REVIEWER

<b>2014 – Present:</b>	Experimental Thermal and Fluid Sciences
<b>2017 – Present:</b>	International Communications in Heat Mass Transfer
<b>2018 – Present:</b>	International Journal of Heat and Mass Transfer
<b>2019 – Present:</b>	Applied Thermal Engineering
<b>2020 – Present:</b>	Journal of the Brazilian Society of Mechanical Sciences and Engineering
<b>2020 – Present:</b>	Journal of the Brazilian Society of Mechanical Sciences and Engineering
<b>2021 – Present:</b>	Heat Transfer Engineering

### CONGRESS REVIEWER

<b>2015:</b>	Congresso Brasileiro de Engenharia Mecânica – COBEM 2015
<b>2018:</b>	International Congress of Multiphase Flow – ICMF 2018
<b>2023:</b>	International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems, ECOS 2023

### LANGUAGES

i)	Spanish	→ Superior/Native.
ii)	Portuguese	→ Speaking: High Advanced, Writing: High Advanced, Listening: High Advanced, Reading: High Advanced.
iii)	English	→ Speaking: Intermediate Advanced, Writing: High Advanced, Listening: High Advanced, Reading: High Advanced.

### JOURNAL PUBLICATIONS

1. Moya, D. A., Moraga, N. O., Sempértégui-Tapia, D. F., Chávez, C. A. 3-D numerical simulation of forced convection heat transfer in microscale rectangular channels for low GWP refrigerants. Numerical Heat Transfer, Part A: Applications, 1–19, 2024 <https://doi.org/10.1080/10407782.2024.2363499>

2. Miranda, E.P., Sempértegui-Tapia, D.F., Chávez, C.A., Turbulence models performance to predict fluid mechanics and heat transfer characteristics of fluids flow in micro-scale channels, Numerical Heat Transfer; Part A: Applications, 1-20, 2024, <https://doi.org/10.1080/10407782.202422318001>
3. Alcocer-Ayala, D.R., Pozo Vallejo, Y., Sempértegui-Tapia, D.F., Orellana-Lafuente, R., Caso de estudio: impacto de la generación distribuida en redes eléctricas de distribución, Investigación & Desarrollo, v. 23, no. 1, p. 57 – 66, 2023. <https://doi.org/10.23881/idupbo.023.1-4j>
4. Andia-Vargas, J.M., Salinas-Rojas, M., Orellana-Lafuente, R., Sempértegui-Tapia, D.F., Estado del arte sobre la influencia de mezclas etanol-gasolina en el desempeño de motores de combustión interna, Investigación & Desarrollo, v. 23, no. 1, p. 93 – 106, 2023. <https://doi.org/10.23881/idupbo.023.1-7i>
5. Paniagua-Gutiérrez, S.V., Clavijo-Grandon, J.R., Orellana-Lafuente, R., Sempértegui-Tapia, D.F., Evaluación de la generación de energía a partir de la gasificación de residuos sólidos urbanos en Cochabamba-Bolivia, Investigación & Desarrollo, v. 22, no. 1, p. 25-36, 2022. <https://doi.org/10.23881/idupbo.022.1-3i>
6. Alave-Vargas, E.M., Orellana, R.L., Sempértegui-Tapia, D.F., Estado del arte sobre aerogeneradores de eje vertical, Investigación & Desarrollo, v. 22, no. 1, p. 161-172, 2022. <https://doi.org/10.23881/idupbo.022.1-13j>
7. Torrico, A.N., Sempértegui-Tapia, D.F., Orellana, R.L., Análisis y propuesta para la implementación de centrales hidroeléctricas reversibles en Bolivia, Investigación & Desarrollo, v. 22, no. 1, p. 63-74, 2022. <https://doi.org/10.23881/idupbo.022.1-6i>
8. Miranda, E.P., Sempértegui-Tapia, D.F., Chávez C.A., Estudio comparativo sobre modelos de turbulencia en flujo de refrigerantes con bajo GWP en el interior de microcanales, Investigación & Desarrollo, v. 21, p. 79-86, 2021. <https://doi.org/10.23881/idupbo.021.1-6i>
9. Sempértegui-Tapia, D.F., Ribatski, G., The effect of the cross-sectional geometry on saturated flow boiling heat transfer in horizontal micro-scale channels, Experimental Thermal and Fluid Sciences, v. 89, p. 98-109, 2017. <https://doi.org/10.1016/j.expthermflusci.2017.08.001>
10. Sempértegui-Tapia, D.F., Ribatski, G., Flow boiling heat transfer of r134a and low gwp refrigerants in a horizontal micro-scale channel, International Journal of Heat and Mass Transfer, v. 108, p. 2417-2432, 2017. <https://doi.org/10.1016/j.ijheatmasstransfer.2017.01.036>
11. Sempértegui-Tapia, D.F., Ribatski, G., Two-phase pressure drop in horizontal micro-scale channels: experimental data analysis and prediction method development, International Journal of Refrigeration, v. 79, p. 143-163, 2017. <https://doi.org/10.1016/j.ijrefrig.2017.03.024>
12. Sempértegui-Tapia, D.F.; Alves, J.O.; Ribatski, G., Two-phase flow characteristics during convective boiling of halocarbon refrigerants inside horizontal small diameter tubes, Heat Transfer Engineering, v. 34, p. 1073-1087, 2013. <https://doi.org/10.1080/01457632.2013.763543>

## CONGRESS PUBLICATIONS

1. Martinez-Martinez, Z., Orellana-Lafuente, R.J., Sempértegui-Tapia, D.F., Comparative analysis of power generation between concentrated solar power and photovoltaic systems under high altitude conditions, III International Conference on Electrical, Computer and Energy Technologies (ICECET 2023), 16-17 November, Cape Town, South Africa, 2023. <https://doi.org/10.1109/icecet58911.2023.10389354>
2. Sempértegui-Tapia, D.F., Ayma-Ramos, C.A., Soto-Encinas, F., Orellana-Lafuente, R., Case study: optimization tools for the operational dispatch of a hybrid power generation system to reduce diesel fuel consumption, IEEE International Conference on Environmental and Electrical Engineering, EEEIC, 6-9 Junio, Madrid, España, 2023. <https://doi.org/10.1109/eeeic/icpseurope57605.2023.10194739>
3. Alave-Vargas, E.M., Villarroel-Beltran V.R., Orellana-Lafuente, R., Tapia-Siles, C., Sempértegui-Tapia, D.F., Design and simulation of a banki cross-flow wind turbine for highways under high turbulence and high altitude conditions, the 36th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems, ECOS, 25-30 Junio, Las Palmas de Gran Canaria, España, 2023. <https://doi.org/10.52202/069564-0144>
4. Sempértegui-Tapia, D.F., Ayma-Ramos, C.A., Soto-Encinas, F., Orellana-Lafuente, R., Optimization tools for the operational dispatch of power generation systems to reduce diesel fuel consumption, the 36th international conference on efficiency, cost, optimization, simulation and environmental impact of energy systems, ECOS, 25-30 Junio, Las Palmas de Gran Canaria, España, 2023. <https://doi.org/10.52202/069564-0121>
5. Miranda, E.P., Sempértegui-Tapia, D.F., Chávez C.A., Estudio comparativo sobre modelos de turbulencia en flujo de refrigerantes con bajo GWP en el interior de microcanales, Congreso Argentino de Mecánica Computacional, Nov 1-5, Resistencia, Chaco - Argentina, 2021.
6. Sempértegui-Tapia, D.F., Málaga, J.L., Desafíos para la investigación en secado solar térmico en universidades bolivianas a partir de la experiencia regional, 1er Congreso Nacional de Secado y Cocción de Alimentos, Nov 23-27, México, 2020.
7. Sempértegui-Tapia, D.F., Karayiannis, T., Flow boiling characteristics of binary mixtures, 53rd European Two-Phase Flow Meeting, May 22-24, Gdansk, Poland, 2017.
8. Sempértegui-Tapia, D.F., Ribatski, g., Flow boiling heat transfer and two-phase pressure drop of isobutane in a 1.1 mm diameter tube, 23th International Congress of Mechanical Engineering, December 6-11, Rio de Janeiro, RJ, Brazil, 2015.
9. Sempértegui-Tapia, D.F.; Ribatski, g., Flow boiling heat transfer of r134a and low GWP refrigerants in a horizontal micro-scale channels, 9th international conference on boiling and condensation heat transfer, Boulder, CO, USA, 2015.
10. Sempértegui-Tapia, D.F.; Ribatski, g., The effect of the cross-sectional geometry on saturated flow boiling heat transfer in horizontal micro-scale channels, IV Journeys in Multiphase Flows (JEM- 2015), Campinas, SP, Brazil, 2015.
11. Sempértegui-Tapia, D.F.; Ribatski, g., The effect of cross-sectional geometry on the two-phase frictional pressure drop in horizontal micro-scale channels, 15th Brazilian Congress of Thermal Sciences and Engineering, Belem, PA, Brazil, 2014.

12. Sempértegui-Tapia, D.F.; Ribatski, g., The effect of geometry on saturated flow boiling heat transfer and pressure drop in horizontal micro-scale channels, Eurotherm Seminar 101, "Transport phenomena in multiphase systems", Krakow, Poland, 2014.
13. Sempértegui-Tapia, D.F.; Ribatski, g., An analysis of experimental data and prediction methods for heat transfer coefficient during convective boiling in non-circular micro-scale channels, 8th international conference of multiphase flow, may 26 - 31, Jeju, Korea, 2013.
14. Sempértegui-Tapia, D.F.; Ribatski, g., Micro-scale flow pattern classification based on the k-means clustering algorithm, proceedings of the 8th international conference of nanochannels, microchannels and minichannels, August 1 - 5, Montreal, Canada, 2010.
15. Sempértegui-Tapia, D.F.; Ribatski, g., Análise experimental dos padroes de escoamento durante a ebulição convectiva do r245fa em um tubo de 2.3 mm, 2º Encontro Rhone-Alpes/Brasil sobre micro e nano-tecnologias aplicadas a transferência de calor em escoamentos liquido-vapor e mudança de fase, February 23-26, São Carlos, SP, Brasil, 2010.
16. Sempértegui-Tapia, D.F.; Arcanjo, A.A.; Ribatski, g., An experimental analysis of r245fa two-phase flow patterns in a 2.3 mm. i.d. tube, 20th International Congress of Mechanical Engineering, November 15 - 20, Gramado, RS, Brazil, 2010.

#### LINKS TO WEB PAGES

Researchgate: <a href="https://www.researchgate.net/profile/Daniel_F_Sempertegui-Tapia">https://www.researchgate.net/profile/Daniel_F_Sempertegui-Tapia</a>
Google Scholar: <a href="http://scholar.google.com.br/citations?user=DOTZSmQAAAJ&amp;hl=en">http://scholar.google.com.br/citations?user=DOTZSmQAAAJ&amp;hl=en</a>