



PATRICIO VALDÉS GACITÚA

MSc. Fire Safety Engineering

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PERSONAL INFORMATION

Date of Birth	16 th of September, 1989
Nationality	Chilean
Residence	Prague, Czech Republic

EDUCATION

2016 - 2018	MSc. in Fire Safety Engineering , <i>University of Ghent, Ghent, Belgium</i> THESIS <i>CFD Study on the Interaction between Water Sprays and Longitudinal Ventilation in Tunnel Fires</i>
2013 - 2015	Mechanical Engineering , <i>University of Santiago de Chile, Santiago, Chile</i>
July - December 2014	Diploma Fire Safety Engineering , <i>University of Chile, Santiago, Chile</i>
2008 - 2012	Electrical and Electronic Engineering , <i>DUOC UC, Santiago, Chile</i>
2004 - 2007	Electrical Technician , <i>Chilean-German Technical High School, Chile</i>

FIELD OF EXPERTISE

Complex Facilities	Aerospace, Road Tunnels, Railway Tunnels, Airports, Hospitals, Mining, Power Generation - <i>Performance based design, CFD analysis, evacuation modelling, peer review and prescriptive revision, design of fire protection systems, risk analysis, fire safety strategies, research and investigation, explosion analysis</i>
Fire Investigation	<i>Forensic analysis applying CFD for the fire ignition and the fire spread</i>

PROFESSIONAL ACTIVITIES EMPLOYMENTS

- October 2018 - present **Principal Fire Safety Specialist**, *IDIEM University of Chile*, Santiago, Chile
In charge of the fire engineering division, developing CFD and evacuation modelling. Design and revision of active fire protection systems in industrial hazard. Prescriptive and peer review of fire safety according to fire local and international regulations. Research and investigation in fire safety and Risk analysis. Forensic Fire investigation.
- March 2016 - August 2016 **Fire Safety Engineer**, *IDIEM University of Chile*, Santiago, Chile
In charge of design and revision of active fire protection systems in industrial hazard. Prescriptive and peer review of fire safety according to fire local and international regulations
- May 2012 - March 2016 **Fire Safety Engineer**, *FDA Ingenieros*, Santiago, Chile
In charge of multidisciplinary projects and fire engineering team, mechanic and electrical & electronics. Field supervision and inspection in industrial facilities. Code and peer review. Design and develop of engineering projects and field assistance and supervision. Risk analysis.

CONSULTANCY WORK

- 2021 **for FDA Ingenieros**, Santiago, Chile
Fire risk analysis for several mining projects Codelco
- 2021 **for FDA Ingenieros**, Santiago, Chile
Active fire protection review for power generation plant Transelec
- 2021 **for SOICH Ingenieria**, Vina del Mar, Chile
Active fire protection design for regional airport Aerodromo Vina del Mar
- 2020 **for FAIC ingenieros**, Puerto Montt, Chile
Fire CFD and evacuation analysis for national airport El Tepual
- 2020 **for CVV Ingenieros**, Iquique, Chile
Fire CFD and evacuation analysis for national airport Diego de Aracena
- 2020 **for FAIC ingenieros**, Arica, Chile
Fire CFD and evacuation analysis for national airport Chacalluta
- 2019 **for AYM ingenieros**, Coquimbo, Chile
Active fire protection review for regional Finger Pier
- 2019 **for FAIC ingenieros**, Concepción, Chile
Fire CFD and evacuation analysis for national airport Carriel Sur
- 2019 **for The Human Side Ingenieria**, Valparaíso, Chile
Fire CFD and evacuation analysis for road tunnel La Grupa
- 2019 **for ASTALDI S.p.a**, Santiago, Chile
Fire CFD and evacuation analysis for national Hospital Barros Luco

- 2018 **for Swett Arquitectos**, Santiago, Chile
Evacuation analysis for The conference center Huechuraba
- 2018 **for Master Ingenieria**, Santiago, Chile
Fire CFD and evacuation analysis for national Hospital Nuble
- 2018 **for Master Ingenieria**, Santiago, Chile
Training of Computational simulation of Fire and Evacuation

PUBLICATIONS and CONFERENCES

- May 2021 **"Sprinklers Activation Time"** – *published at Tecninotas ANAPCI–N°16*
<https://www.anapci.cl/tecninota/tiempo-de-activacion-de-rociadores/>
- April 2021 **"Sprinklers Response Time Index"**
– *published at Tecninotas ANAPCI–N°14*
<https://www.anapci.cl/tecninota/indice-de-tiempo-de-respuesta-en-rociadores-automaticos/>
- September 2020 **"CFD Study on the Interaction Between the Water Sprays and Longitudinal Ventilation in Tunnel Fires"**
– *presented at Fire and Evacuation Modeling Technical Conference 2020*
<https://www.femtc.com/events/2020/d1-05-gacitua/>
- August 2020 **"Fire Safety Hazards in the Retail - Fundaments and Study Cases"**
– *presented at Webinar IDIEM University of Chile*
- May 2020 **"ASET and RSET"**
– *published at Tecninotas ANAPCI–N°06*
<https://www.anapci.cl/wp-content/uploads/2020/07/TecniNotas-n6.pdf>
- May 2020 **"Introduction to the Fire Safety in Mining"**
– *presented at Webinar IDIEM - University of Chile*
- February 2020 **"Selection of Stationary Fire Pumps"**
– *published at Tecninotas ANAPCI–N°03*
<http://www.anapci.cl/wp-content/uploads/2020/03/TecniNotas-n3.pdf>
- June 2019 **"Fundaments and Applications of Smoke and Heat Control in Complex and Simple Buildings"** – *presented at Expo Fuego Peru 2019*
– speaking about control and management of the smoke and heat in the fire safety in complex buildings
<http://www.expofuego.org>
- November 2018 **"Fire Protection in Electrical Industrial Equipment"**
– *published at Electroindustria Magazine, Chile*
<http://www.emb.cl/electroindustria/articulo.mvc?xid=3346&edi=167&xit=patricio-valdes-gacitua-idiem-las-tecnicas-y-agentes-dependeran-de-la-estrategia-seleccionada-para-la-proteccion-del-equipamiento>
- October 2018 **"Smoke and Heat Control"** – *presented at Expo Fuego Chile 2018*
– speaking about control and management of the smoke and heat in the fire safety
<http://www.expofuego.cl>

- August 2017 **“Water Fire Protection Networks, the Importance of the Maintenance”**
– published at *HSEC Magazine, Chile*
<http://www.emb.cl/hsec/articulo.mvc?xid=1203&edi=52&xit=redes-de-agua-contra-incendios-importancia-del-mantenimiento-del-sistema>
- July 2016 **“Foam Fire Extinguishing Systems”** – published at *HSEC Magazine, Chile*
<http://www.emb.cl/hsec/articulo.mvc?xid=931&edi=41&xit=espumas-mecanicas-para-proteccion-contra-incendio>

AWARDS and SCHOLARSHIPS

- 2011 1st Place National Olympics of Mechatronics
– Festo, Chile
- 2010 2nd Place Technological Fair & Competition
– Duoc UC, Chile
- 2010 2nd Place Robotic Fair & Competition
– Association of Electric-Electronic Industry, Chile
- 2009 1st Place Technological Fair & Competition
– Duoc UC, Chile
- 2007 Electric and Electronic Best Internship Award
– Chilean-German Technical High School, Chile

ADDITIONAL TRAINING

- September 2015 Design of **Water Mist Systems** by Komtes Group, *Burgos, Spain*
- July 2015 **Standard for the Installation of Stationary Pumps for Fire Protection** by NFPA, *Santiago, Chile*
- May 2015 **Industrial Fire Brigade Training** by Firefighters Foundation, *Santiago, Chile*
- February 2015 Design of **Pre-engineered Wet Chemical** by Kidde Fire Systems, *Miami, USA*
- February 2015 Design of **Detection, Alarm & Controls** by Kidde Fire Systems, *Miami, USA*
- February 2015 Design of **Carbon Dioxide & Clean Agents Systems** by Kidde Fire Systems, *Miami, USA*
- August 2014 **Standard for the Installation of Sprinkler Systems** by NFPA, *Santiago, Chile*
- June 2014 **Life Safety Code** by NFPA, *Santiago, Chile*
- March 2014 **National Fire Alarm and Signaling Code** by NFPA, *Santiago, Chile*
- November 2013 **Standard for Portable Fire Extinguishers** by NFPA, *Santiago, Chile*
- October 2013 **Standard for Water Spray Fixed Systems for Fire Protection** by NFPA, *Chile*
- October 2013 **Standard for the Installation of Private Fire Service Mains** by NFPA, *Chile*

COMPUTATIONAL SKILLS

Engineering	Comsol Multiphysics	ANSYS	CFAST
	Exodus	SprinkCalc7	HASS
	FDS	Aloha	AutoSprink
	SmartFire	Pathfinder	Matlab
	Branzfire	Pyrosim	AutoCAD

Languages	C/C++	Platforms	OS X
	Fortran		Windows
	PSelnt		

LANGUAGES

Spanish	Fluent	<i>Native language</i>
English	Fluent	<i>Speaking, reading, and writing</i>

RECOMMENDATIONS

prof. dr. ir. Bart Merci	Faculty of Engineering and Architecture of University of Ghent <i>Department of Flow, Heat, and Combustion Mechanics</i> bart.merci@ugent.be – +32 (0) 9264 3314
dr. Tarek Beji	Faculty of Engineering and Architecture of University of Ghent <i>Department of Flow, Heat, and Combustion Mechanics</i> tarek.beji@ugent.be – +32 (0) 9264 9846
MSc. Miguel Pérez	Manager of Fire Safety Engineering at IDIEM – University of Chile miguel.perez@idiem.cl – +56 (2) 29 78 07 61
MSc. Marcial Salaverry	Owner of E3 Ingenieria marcial.salaverry@e3ingenieria.cl – +56 (9) 99 62 35 96