

Nombre del académico	David Alejandro Jeison Nuñez
Carácter del vínculo (claustró, colaborador o visitante)	Colaborador
Título, institución, año, país	Ingeniero Bioquímico, Universidad Católica de Valparaíso, 1996, Valparaíso, Chile
Grado máximo (especificar área disciplinar), institución, año de graduación y país	Doctor en Ciencias Ambientales, Wageningen University, 2007, Wageningen (Países Bajos)
Línea(s) de investigación	Tratamiento biológico de emisiones contaminantes industriales, Área de Biotecnología Ambiental.
Número de tesis de <u>magíster</u> dirigidas en los últimos 10 años (finalizadas)	<p>2006-2010</p> <ol style="list-style-type: none"> 1. Karen Neira. 2009. Evaluación de la co-digestión de RIL y levadura provenientes de una industria cervecera en un reactor UASB. Magíster en Ciencias de la Ingeniería mención Biotecnología, Universidad de La Frontera. 2. Juan José Astudillo. 2009. Evaluación de un sistema anaerobio para el tratamiento de residuos sólidos cerveceros y su implicancia en la producción de biogás. Magíster en Ciencias de la Ingeniería mención Biotecnología, Universidad de La Frontera. 3. Álvaro Torres. 2010. Factibilidad de bioreactores de membrana anaeróbicos para el tratamiento de aguas residuales con alta salinidad y concentración de sólidos. Magíster en Ciencias de la Ingeniería mención Biotecnología, Universidad de La Frontera <p>2011-2016</p> <ol style="list-style-type: none"> 1. Leslie Meier. 2012. Remoción fotosintética de dióxido de carbono mediante microalgas: una atractiva alternativa para aumentar el poder calorífico del biogás. Magíster en Ciencias de la Ingeniería mención Biotecnología, Universidad de La Frontera. 2. Patricio Neumann. 2012. Determinación del aporte de la digestión anaerobia de la biomasa residual generada durante un proceso de producción de biodiesel a partir de microalgas. Magíster en Ciencias de la Ingeniería mención Biotecnología, Universidad de La Frontera 3. Javier Pavez. 2013. Producción de biogás como único combustible a partir de digestión anaerobia de biomasa microalgal. Magíster en Ciencias de la Ingeniería mención Biotecnología, Universidad de La Frontera.

	<p>4. Alfredo Nuñez. 2013. Determinación del efecto de la variación de la concentración de CO₂ y de la irradiancia media sobre la productividad volumétrica de microalgas. Magíster en Ciencias de la Ingeniería mención Biotecnología, Universidad de La Frontera.</p> <p>5. Fernanda Pinto. 2015. Effect of trace metals (Fe, Co, Ni y Ba) over biogas production rate from solid waste from olive mills. Magíster en Ciencias de la Ingeniería mención Biotecnología, Universidad de La Frontera.</p>
Número de tesis de doctorado dirigidas en los últimos 10 años (finalizadas)	<p>2006-2010 <i>No aplica</i></p> <p>2011-2016</p> <ol style="list-style-type: none"> 1. Alvaro Torres. 2014. Anaerobic digestion as a tool for improving energetic yield of microalgae based biodiesel. Doctorado en Ciencias de Recursos Naturales, Universidad de La Frontera. 2. Juan Carlos Ortega. 2015. Forward osmosis: an alternative for municipal sewage concentration. Doctorado en Ingeniería. Universidad de La Frontera.
Número de tesis de doctorado dirigidas en los últimos 10 años en el mismo programa (finalizadas)	<p>2006-2010 <i>No aplica</i></p> <p>2011-2016 <i>No aplica</i></p>
Listado de publicaciones en los últimos 10 años. En caso de publicaciones con más de un autor, el primer autor corresponde al autor principal.	<p>Publicaciones indexada ISI:</p> <p>2006-2010</p> <ol style="list-style-type: none"> 1. Antileo, C., A. Werner, G. Ciudad, C. Muñoz, C. Bornhardt, D. Jeison & H. Urrutia. 2006. Novel operational strategy for partial nitrification to nitrite in a sequencing batch rotating disk reactor. Biochemical Engineering Journal 32(2): 39-68. ISSN: 1369-703X; IF (2015) 2.463 2. Jeison, D., & J. van Lier. 2006. Cake layer formation in anaerobic submerged membrane bioreactors (AnSMBR) for wastewater treatment. Journal of Membrane Science 284(1-2): 227-236. ISSN: 0376-7388; IF (2015) 5.557 3. Valdes, F., E. Muñoz, R. Chamy, G. Ruiz, C. Vergara & D. Jeison. 2006. Effect of sulphate concentration and sulfide desorption on the combined removal of organic matter and sulfate from wastewaters using expanded granular sludge bed (EGSB). Electronic Journal of Biotechnology 9(4): 370-378. ISSN: 0717-3458; IF (2015) 1.403

4. **Ruiz, G.,** D. Jeison & R. Chamy. **2006.** Development of denitrifying and methanogenic activities in USB reactors for the treatment of wastewater: Effect of COD/N ratio. **Process Biochemistry** 41(6): 1338-1342. ISSN: 1359-5113; IF (2015) 2.529
5. Jeison, D. & **J.B. van Lier.** **2006.** On-line cake-layer management by trans-membrane pressure steady state assessment in Anaerobic Membrane Bioreactors for wastewater treatment. **Biochemical Engineering Journal** 29: 204-209. ISSN: 1369-703X; IF (2015) 2.463
6. **Ruiz, G.,** D. Jeison, O. Rubilar, G. Ciudad & R. Chamy. **2006.** Nitrification–denitrification via nitrite accumulation for nitrogen removal from wastewaters. **Bioresource Technology** 97: 330-335. ISSN: 0960-8524; IF (2015) 4.917
7. **Jeison, D.** & J. van Lier. **2006.** Bio-layer management in Anaerobic Membrane Bioreactors for wastewater treatment. **Water Science and Technology** 54(2): 81-86. ISSN: 0273-1223; IF (2015) 1.064
8. **Jeison, D.** & J.B. van Lier. **2007.** Thermophilic treatment of acidified and partially acidified wastewater using an anaerobic submerged MBR: Factors affecting long-term operational flux. **Water Research** 41(17): 3868-3879. ISSN: 0043-1354; IF (2015) 5.991
9. **Jeison, D.** & J.B. van Lier. **2007.** Cake formation and consolidation: main factors governing the applicable flux in anaerobic submerged membrane bioreactors (AnSMBR) treating acidified wastewaters. **Separation and Purification Technology** 56(1): 71-78. ISSN: 1383-5866; IF (2015) 3.299
10. **Chamy, R.,** C. Pizarro, E. Vivanco, M.C. Schiappacasse, D. Jeison, P. Poirrier & G. Ruiz-Filippi. **2007.** Selected experiences in Chile for the application of UASB technology for vinasse treatment. **Water Science and Technology** 56(2): 39-48. ISSN: 0273-1223; IF (2015) 1.064
11. **Jeison, D.,** B. Kremer & J.B. van Lier. **2008.** Application of membrane enhanced biomass retention to the anaerobic treatment of acidified wastewaters under extreme saline conditions. **Separation and Purification Technology** 64(2): 198-205. ISSN: 1383-5866; IF (2015) 3.299
12. **Jeison, D.** & J.B. van Lier. **2008.** Feasibility of thermophilic anaerobic submerged membrane bioreactors (AnSMBR) for wastewater treatment. **Desalination** 231(1-3): 227-235. ISSN: 0011-9164; IF (2015) 4.412

13. **Jeison, D.**, I. Diaz & J.B. van Lier. **2008**. Anaerobic membrane bioreactors: Are membranes really necessary? **Electronic Journal of Biotechnology** 11(4): 9. ISSN: 0717-3458; IF (2015) 1.403
14. **Jeison, D.**, W. van Betuw & J.B. van Lier. **2008**. Feasibility of anaerobic membrane bioreactors for the treatment of wastewaters with particulate organic matter. **Separation Science and Technology** 43(13): 3417-3431. ISSN: 0149-6395; IF (2015) 0.779
15. **Jeison, D.** & Van Lier, J.B. **2008**. Anaerobic wastewater treatment and membrane filtration: A one night stand or a sustainable relationship? **Water Science and Technology** 57(4): 527-532. ISSN: 0273-1223 IF (2015) 1.064
16. **Jeison, D.**, A. del Rio & J.B. van Lier. **2008**. Impact of high saline wastewaters on anaerobic granular sludge functionalities. **Water Science and Technology** 54(6): 815-819. ISSN: 0273-1223; IF (2015) 1.064
17. **Ismail, S.B.**, P. Gonzalez, D. Jeison & J.B. van Lier. **2008**. Effects of high salinity wastewater on methanogenic sludge bed systems. **Water Science and Technology** 58(10): 1963-1970. ISSN: 0273-1223; IF (2015) 1.064
18. **Jeison, D.**, P. Telkamp & J.B. van Lier. **2009**. Thermophilic side-stream anaerobic membrane bioreactors: The shear rate dilemma. **Water Environment Research** 81(11): 2372-2380. ISSN: 1061-4303; IF (2015) 0.659
19. **Jeison, D.**, C.M. Plugge, A. Pereira & J.B. van Lier. **2009**. Effects of the acidogenic biomass on the performance of an anaerobic membrane bioreactor for wastewater treatment. **Bioresource Technology** 100(6): 1951-1956. ISSN: 0960-8524; IF (2015) 4.917
20. Cubillos, G., R. Arrué, D. Jeison, R. Chamy, E. Tapia, J. Rodríguez & **G. Ruiz-Filippi**. **2010**. Simultaneous effects of pH and substrate concentration on hydrogenproduction by acidogenic fermentation. **Electronic Journal of Biotechnology** 13(1): 6. ISSN: 0717-3458; IF (2015) 1.403
21. Neira, K. & **D. Jeison**. **2010**. Anaerobic co-digestion of surplus yeast and wastewater to increase energy recovery in breweries. **Water Science and Technology** 61(5): 1129-1135. ISSN: 0273-1223; IF (2015) 1.064

2011-2016

1. **Pizarro, C.**, A. Donoso-Bravo, D. Jeison, G. Ruiz-Filippi & R. Chamy. **2011**. Biofilm formation for organic matter and sulphate removal in gas-lift reactors. **Electronic Journal of Biotechnology** 14(4). ISSN: 0717-3458; IF (2015) 1.403
2. Torres, A., A. Hemmelmann, C. Vergara & **D. Jeison**. **2011**. Application of two-phase slug-flow regime to control flux reduction on anaerobic membrane bioreactors treating wastewaters with high suspended solids concentration. **Separation and Purification Technology** 79(1): 20-25. ISSN: 1383-5866; IF (2015) 3.299
3. Lindeboom, R., G. Smith, D. Jeison, H. Temmink & **J. van Lier**. **2011**. Application of high speed imaging as a novel tool to study particle dynamics in tubular membrane systems. **Journal of Membrane Science** 368(1-2): 95-99. ISSN: 0376-7388; IF (2015) 5.557
4. **Dereli, R.K.**, M.E. Ersahin, H. Ozgun, I. Ozturk, D. Jeison, F. van der Zee, & J.B. van Lier. **2012**. Potentials of anaerobic membrane bioreactors to overcome treatment limitations induced by industrial wastewaters. **Bioresource Technology** 122(1): 160-170. ISSN: 0960-8524; IF (2015) 4.917
5. Reyes, I., G. Ciudad, M. Misra, A. Mohanty, D. Jeison & **R. Navia**. **2012**. Novel sequential batch membrane reactor to increase fatty acid methyl esters quality at low methanol to oil molar ratio. **Chemical Engineering Journal** 197(1): 459-467. ISSN: 1385-8947; IF (2015) 5.310
6. **Guerrero, L.**, R. Chamy, D. Jeison, S. Montalvo & C. Huiliñir. **2013**. Behavior of the anaerobic treatment of tannery wastewater at different initial pH values and sulfate concentrations. **Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering** 48(9): 1073-1078. ISSN: 1093-4529; IF (2015) 1.276
7. Hemmelmann, A., A. Torres, C. Vergara, A. Azocar & **D. Jeison**. **2013**. Application of anaerobic membrane bioreactors for the treatment of protein containing wastewaters under saline conditions. **Journal of Chemical Technology and Biotechnology** 88(4): 658-663. ISSN: 0268-2575; IF (2015) 2.738
8. **Yang, J.**, H. Spanjers, D. Jeison & J.B. van Lier. **2013**. Impact of Na⁺ on biological wastewater treatment and the potential of anaerobic membrane bioreactors: a review. **Critical Reviews in Environmental Science and Technology** 43(24): 2722-2746. ISSN: 1064-3389; IF (2015) 4.000

9. Muñoz, R., I. Reyes, G. Ciudad, D. Jeison & **R. Navia**. **2014**. Biodiesel microfiltration dynamics during transesterification of rapeseed oil. **Journal of Biobased Materials and Bioenergy** 8(5): 506-511. ISSN: 1556-6560; IF (2015) 0.635
10. **Azócar, L.**, R. Navia, L. Beroiz, D. Jeison & G. Ciudad. **2014**. Enzymatic biodiesel production kinetics using co-solvent and an anhydrous medium: A Strategy to Improve Lipase Performance in a Semi-continuous Reactor. **New Biotechnology** 31(5): 422-429. ISSN: 1871-6784; IF (2015) 3.199
11. Muñoz, C., C. Hidalgo, M. Zapata, D. Jeison, C. Riquelme & **M. Rivas**. **2014**. Use of cellulolytic marine bacteria for enzymatic pretreatment in microalgal biogas production. **Applied and Environmental Microbiology** 80 (14): 4199-4206. ISSN: 0099-2240; IF (2015) 3.823
12. Díaz, H., L. Azócar, A. Torres, S.I.C. Lopes & **D. Jeison**. **2014**. Use of flocculants for increasing permeate flux in anaerobic membrane bioreactors. **Water Science and Technology** 69(11): 2237-2242. ISSN: 0099-2240; IF (2015) 1.064
13. **Jeison, D.** **2015**. Anaerobic digestion: closing cycles for sustainability. **Reviews in Environmental Science and Biotechnology** 14(4): 535-536. ISSN: 1569-1705; IF (2015) 4.352
14. **Krayzelova, L.**, J. Bartacek, I. Díaz, D. Jeison, E. Volcke & P. Jenicek. **2015**. Microaeration for hydrogen sulfide removal during anaerobic treatment: a review. **Reviews in Environmental Science and Biotechnology** 14: 703-725. ISSN: 1569-1705; IF (2015) 4.352
15. **Muñoz, R.**, L. Meier, I. Díaz & D. Jeison. **2015**. A review on the state-of-the-art of physical/chemical and biological technologies for biogas upgrading. **Reviews in Environmental Science and Biotechnology** 14(4): 727-759. ISSN: 1569-1705; IF (2015) 4.352
16. Pavez, J., F. Cabrera, L. Azocar, A. Torres & **D. Jeison**. **2015**. Ultrafiltration of non-axenic microalgae cultures: Energetic requirements and filtration performance. **Algal Research-Biomass Biofuels and Bioproducts** 10: 121-127. ISSN: 2211-9264; IF (2015) 4.694
17. Muñoz, R., Navia, R., Ciudad, G., Tessini, C., Jeison, D., Mella, R., Rabert, C., **Azócar, L.** **2015**. Preliminary biorefinery process proposal for protein and biofuels recovery from microalgae. **Fuel**, 150 425-433. ISSN: 0016-2361; IF (2015) 3.611

	<p>18. Neumann, P., A. Torres, F.G. Feroso, R. Borja & D. Jeison. 2015. Anaerobic co-digestion of lipid-spent microalgae with waste activated sludge and glycerol in batch mode. International Biodeterioration & Biodegradation 100: 85-88. ISSN: 0964-8305; IF (2015) 2.429</p> <p>19. Meier, L., R. Perez, L. Azocar, M. Rivas & D. Jeison. 2015. Photosynthetic CO₂ uptake by microalgae: An attractive tool for biogas upgrading. Biomass and Bioenergy 73: 102-109. ISSN: 0961-9534; IF (2015) 3.249</p> <p>20. Torres, A., F. Feroso, P. Neumann, L. Azocar, D. Jeison & Nuñez DJ. 2015. Anaerobic digestion as a tool for resource recovery from a biodiesel production process from microalgae. Journal of Biobased Materials and Bioenergy 9(3): 342-349. ISSN: 1556-6560; IF (2015) 0.635</p>
	<p>Indexada (identificar tipo de indexación: SCIELO, LATINDEX, u otra):</p> <p>2006-2010 No aplica</p> <p>2010-2016 No aplica</p>
	<p>No indexada (por ejemplo, libros, capítulos de libro, revistas con referato):</p> <p>2006 – 2010</p> <ol style="list-style-type: none"> 1. Plugge, C., J. van Lier, A. Stams & D. Jeison. 2009. Microbial energy production from biomass. In: Rabaey, K., L. Angenent, U. Schroder & J. Keller (Eds). Bioelectrochemical Systems, From Extracellular Electron Transfer to Biotechnological Application. Editorial: IWA Publishing 2. Azócar, L., G. Ciudad, R. Muñoz, D. Jeison, C. Toro & R. Navia. 2012. Feasible Novozym 435-Catalyzed Process to Fatty Acid Methyl Ester Production from Waste Frying Oil: Role of Lipase Inhibition. In Sharma R., (editor) Enzyme Inhibition and Bioapplications. Editorial: InTech, ISBN: 979-953-307-301-8 3. Torres, A., F. Feroso, B. Rincón, J. Bartacek, R. Borja & D. Jeison. 2012. Challenges for Cost-Effective Microalgae Anaerobic Digestion. In Chamy, R. and Rosenkranz, F. (editors) Biodegradation - Engineering and Technology, InTech, Editorial: InTech, ISBN: 979-953-307-301-8 <p>2011 – 2016 No Aplica.</p>

	<p>Patentes: 2006 – 2010 No Aplica</p> <p>2011 – 2016</p> <ol style="list-style-type: none"> 1. Azócar L, Ciudad G, Díaz H, Navia R, Meier L, Jeison D, Rubilar M, Cancino B, Shene C, Torres A, Valerio O. Microalgae biorefinery to biofuel and valuable products production. PCT Int. Appl. PCT /IB2013/059014.
<p>Listado de proyectos de investigación en los últimos 10 años</p>	<ul style="list-style-type: none"> • Proyectos FONDECYT (Iniciación, Regular, Postdoctoral) 2006-2010 <ol style="list-style-type: none"> 1. Development of an Anaerobic Sequential Batch Reactor (ASBR) system for the treatment of low biodegradation rate wastes. FONDECYT Regular N° 1080329. 2008-2011. Coinvestigador. 2. Feasibility of Anaerobic Membrane Bioreactors for wastewater treatment under high salinity and suspended solids concentration. FONDECYT Regular N° 1080279. 2008-2011. Investigador Responsable. 3. Development of an enzymatic membrane reactor (emr) for high refined biodiesel production. FONDECYT Regular N° 1090382. 2009-2012. Co-investigador. 2011-2016 <ol style="list-style-type: none"> 1. Biogas production from microalgae as an efficient way to harvest solar energy. FONDECYT Regular N° 1120488. 2012-2014. Investigador Responsable. 2. Increasing hydrogen production yield by biokinetic control of an acidogenic sludge as a sustainable alternative to use worldwide glycerol surplus production. FONDECYT Regular N° 1120659. 2012-2014. Coinvestigador. 3. Sewer mining: Getting back resources from sewage. FONDECYT Regular N° 1150982. 2015-2018. Investigador Responsable. • Proyectos FONDEF 2006-2010 <ol style="list-style-type: none"> 1. Biogas for vehicle use. FONDEF D08I1192. 2009-2012. Codirector. 2011-2016 <ol style="list-style-type: none"> 1. Decentralised biogas production as an alternative for bioenergy production in rural areas. FONDEF D10ER1009. 2011-2012. Director.

• **Otros Proyectos**

2006-2010

1. Effect of high saline conditions on the stability of anaerobic granular sludge. Biothane Systems International and Paques Natural Solutions. **Wageningen University, The Netherlands**. 2006-2007. Coinvestigador.
2. Programme of SenterNovem, Ministry of Economic Affairs, Netherlands Government. Anaerobic membrane bioreactor for industrial waste water (AMBREIN). **INNOWATOR**. 2008-2011. Consultor Externo.
3. Desert Bioenergy S.A., Consortium for research and development of the industry for bioenergy production base don microalgal biomass. **INNOVA Chile-CORFO 09CTEI-6860**. 2010-2014. Director subproyecto sobre biogas.

2011-2016

1. (Coordinador Institucional). Gaseous biofuels. **CONICYT MEC N° 801100010**. 2011-2012. Investigador Responsable.
2. Center for the Research and Development for Organic Waste Management. **Innova-CORFO 09FC02-6021**. 2011-2014. Investigador.
3. Programa Tesis Doctorales en la Industria de CONICYT. **Doctorado en Ciencias de Recursos Naturales, Universidad de La Frontera**. 2012-2014. Coordinador Institucional.
4. IRSES. Renewable energy production through microalgae cultivation: Closing material cycles ALAGENET. 2012-2015. Experienced researcher.
5. CIRIC, Communications and Information Research and Innovation Centre (**INRIA Chile**). 2012-2021. Parte del grupo de investigación BIONATURE.
6. Sewer mining, getting back resources from wastewater. **Proyecto CONICYT REDES 130042**. 2014. Investigador principal.
7. Centro de Recursos Hídricos para la Agricultura y la Minería (CRHIAM). **Proyecto FONDAP 15130015**, 2014-2018. Investigador asociado.