

Dr. ANA INÉS TORRES RIPPA

Department of Chemical Engineering
Carnegie Mellon University
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EDUCATION

Postdoctoral Training, Chemical Engineering <i>Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts, U.S.A.</i>	2014
Ph.D., Chemical Engineering <i>University of Minnesota- Twin Cities, Minneapolis, Minnesota, U.S.A.</i>	2013
Chemical Engineer <i>Universidad de la República Oriental del Uruguay, Montevideo, Uruguay</i>	2005
BSc. Chemistry <i>Universidad de la República Oriental del Uruguay, Montevideo, Uruguay</i>	2003

PROFESSIONAL APPOINTMENTS

Assistant Professor <i>Department of Chemical Engineering Carnegie Mellon University, Pittsburgh, PA, USA</i>	2022- Present
Profesor Agregado G^o4-DT (Effective) <i>Department of Chemical Engineering Universidad de la República, Montevideo, Uruguay</i>	2021- 2022
Profesor Adjunto G^o3-DT (Effective) <i>Department of Chemical Engineering Universidad de la República, Montevideo, Uruguay</i>	2017- 2021
Profesor Adjunto G^o3 <i>Department of Chemical Engineering Universidad de la República, Montevideo, Uruguay</i>	2015- 2016
Research and Development Engineer <i>Fanacif S.A. (Affinia Group Inc.), Montevideo, Uruguay</i>	2005 - 2006

HONORS/AWARDS/RECOGNITIONS/ INVITED TALKS

- Invited Talk: Academia Nacional de Ingeniería del Uruguay: Hidrógeno en Uruguay 2022
“Aportes desde la academia”. ”
- Invited Talk: Webinar Innovación Química para conseguir los ODS: Construyendo puentes con Iberoamérica (Foro Química y Sociedad, España) 2021
“Aportes desde la Ingeniería de Sistemas de Procesos a los ODS 7, 9 y 13 (energía desarrollo y clima). ”

- Invited Talk: Chemical Engineering Department Seminar, Carnegie Mellon University 2021
“Process systems engineering for transitioning to low carbon economies”.
- Invited Talk: Virtual Workshop Helmántica 2020, Universidad de Salamanca 2020
“Research activities Torres’ group”.
- Award-Invited Talk: Keynote Speaker Celebration of the 10th Anniversary of the ANII- FSE grant 2019
Selection of Project FSE_1_2015_1_109976 as 1 of 6 best projects of the past ten years
Comité de Agenda Fondo Sectorial de Energía, Administración Nacional de Investigación e Innovación, Uruguay,
“Biorefinerías en Uruguay: Evaluación tecno-económica de la producción de combustibles y químicos a partir de materia prima y residuos nacionales”
- Invited Talk: Keynote Speaker 2018
XXIX Interamerican Congress of Chemical Engineering Incorporating the 68th Canadian Chemical Engineering Conference, Toronto, Canada.
“Towards a biomass based chemical industry: recent approaches for product selection and process design”
- Honor: Promoted to Researcher Level I-Sistema Nacional de Investigadores 2018
Administración Nacional de Investigación e Innovación, Uruguay
- Invited Talk: Keynote Speaker 2017
Computer Aided Process Engineering Forum, Athens, Greece
“Design and analysis of bio-refineries as multi-actor networks”
- Honor: Admission as a Researcher: Sistema Nacional de Investigadores-Nivel Candidato 2015
Administración Nacional de Investigación e Innovación, Uruguay
- Award: Doctoral Dissertation Fellowship 2011 - 2012
Award given by the Graduate School to outstanding Ph.D candidates
University of Minnesota, Minneapolis, Minnesota.
- Award: Student Poster Award 2013
Gordon Research Conference (Nanoporous Materials & Their Applications).

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

• Editorial Experience

- *Processes- MDPI* Invited Editor “Process Systems Engineering à la Canada”
- *Clean Technologies and Environmental Policy- Springer* Member Editorial Board
- *Computational Methods in Chemical Engineering- Frontiers* Member Editorial Board

• Conference Organization Experience

- Organization of the “Simposio de Bio-energía y Bio-refinerías”, *Congreso Iberoamericano de Ingeniería Química* (Santander, España, 2019)
- Scientific Committee Member of: *Process Systems Engineering Conference* (Kyoto, Japan, 2021), *Process Systems Engineering Conference* (San Diego, USA, 2018), *Congreso de la Asociación Argentina de Ingeniería Química* (2017)
- Session Chair/Co-chair: *American Institute of Chemical Engineers Annual Meeting* (Design of Integrated Biorefinery 2015, Process Design 2017, Biofuels production: Design, Simulation and Techno-economic Analysis 2017-2020, Value added co-products from biorefineries 2017)

• Publications Reviewer Experience

- Reviewer for: *Clean Technologies and Environmental Policy*, *American Institute of Chemical Engineers Journal*, *Chemical Engineering Research & Design*, *Bioethanol*, *Journal of Cleaner Production*, *Separation and Purification Technology*, *Biochemical Engineering Journal*, *Chemical Engineering Science*, *Waste and Biomass Valorization*, *Bioenergy Research*, *Applied Sciences*, *BMC Chemical Engineering*, *Latin America Applied Research*, *Chemical Engineering and Processing - Process Intensification*, *Industrial & Engineering Chemistry Research Computers & Chemical Engineering*.

• Proposal (grants/project) Reviewer Experience

- Member of the evaluation board: *PhD, MSc grants for graduate students* (Science & Technology branch, CAP, Udelar since 2016)
- Reviewer for:
 - ◇ *FONCyT Fondo para la Investigación Científica y Tecnológica - Argentina* Proyectos de Investigación Científica y Tecnológica (PICT) (2019)
 - ◇ *ANII Agencia Nacional de Investigación e Innovación - Uruguay* Fondo Clemente Estable (2018), *Visita de Profesores del Exterior* (2018)
 - ◇ *CSIC Comisión Sectorial de Investigación Científica - Uruguay* Programa de Iniciación a la Investigación (2017)

- **Membership to Professional groups:** American Institute of Chemical Engineers, Asociación de Ingenieros Químicos del Uruguay

PARTICIPATION IN R&D PROJECTS

- “Diseño y evaluación de alternativas tecnológicas para el desarrollo de bio-refinerías” 2019-2021
Design and evaluation of technologies for the development of bio-refineries (in Uruguay)
Funding: *Fondo Sectorial de Energía, ANII*. Grant FSE_1_2018_1_152900.
Role: Principal Investigator.
- “Desarrollo de proceso para captura de CO₂ en industria del cemento” 2018-2019
Development of a CO₂ capture process for the cement industry
Funding: *Herramientas para la Innovación, ANII- Cementos Artigas S.A.* Grant HPI_X_2018_1_147304
Role: Principal Investigator for UdelaR.
- “Programación genética para la generación de modelos subrogados en ingeniería de procesos”. 2018-2022
Genetic Programming for generation of surrogate models in process engineering
Funding: ANII PhD grant. Role: PhD co-advisor (with M. Pedemonte). Advisee: J. Ferreira.
- “Diseño y optimización de sistemas de almacenamiento de energía de origen renovable”. 2017-2021
Design and optimization of systems for the storage of energy from renewable sources
Funding: UdelaR. Role: PhD advisor. Advisee: M. Corengia
- “Biorefinerías en Uruguay: Evaluación tecno-económica de la producción de combustibles y químicos a partir de materia prima y residuos nacionales” 2015-2018
Biorefineries in Uruguay: technoeconomic evaluation of the production of fuels and chemicals from uruguayan raw materials and residues
Funding: *Fondo Sectorial de Energía, ANII*. Grant FSE_1_2015_1_109976.
Role: Principal Investigator.
- “Computational tools for the design, evaluation and optimizations of sustainable processes”. 2016-2017
Funding: UdelaR-Uruguay, US-EPA, TU-Delft, UC-Chile, Role: co-PI.
- “Biorefinery: Integrated Sustainable Processes for Biomass Conversion to Biomaterials, Bio-fuels, and Fertilizer” 2014-2016
Funding: Masdar Institute (United Arab Emirates): MIT&MI Flagship research project (PI’s: G. Stephanopoulos, MIT; J.E. Schmidt, MI).
Role: Post-doctoral Research associate (MIT 2014), External Consultant until Dec. 2016.

PUBLICATIONS All peer-reviewed.• **Journal papers**

1. Corengia, M., **Torres, A. I.**, “Coupling time varying power sources to production of green-hydrogen: a superstructure based approach for technology selection and optimal design”. *Chemical Engineering Research and Design*, 2022.
2. Ferreira, J., Pedemonte, M., **Torres, A. I.**, “Development of a Machine Learning-based Soft Sensor for an Oil Refinery’s Distillation Column”. *Computers & Chemical Engineering*, 161, 107756, 2022.
3. Li, B., Tian, H., Marvin, W.A., **Torres, A. I.**, Rangarajan, S., “Building compact and accurate mechanistic models of complex catalytic reaction networks via automated generation and reduction”. Submitted.
4. Chaturvedi, T., **Torres, A. I.**, Stephanopoulos, G., Thomsen, M. H., Schmidt, J. E., “Developing Process Designs for Biorefineries-Definitions, Categories, and Unit Operations”. *Energies*, 13(6), 1493, 2020.
5. Corengia, M., **Torres, A. I.**, “Operación óptima de baterías bajo el actual régimen tarifario en Uruguay”. *ENERLAC*, 5(1), 56, 2020.
6. Ruiz, H. A., Conrad, M., Sun, S.N., Sanchez, A., Rocha, G.J.M., Romaní, A., Castro, E., **Torres, A.**, Rodríguez-Jasso, R.M., Andrade, L.P., Smirnova, I., Sun, R-C, Meyer, A.S., “Engineering aspects of hydrothermal pretreatment: From batch to continuous operation, scale-up and pilot reactor under biorefinery concept”, *Bioresour. Technol.*, 299, 122685, 2020.
7. Mangone, F., Ferreira, J., **Torres, A. I.**, “BISSO: Biomass Interface for Superstructure Simulation and Optimization”, *Processes*, 7(10), 645, 2019.
8. Helal, A., Kreimerman, R., Gutiérrez, S., **Torres, A. I.**, “A market-driven algorithm for the assessment of promising bio-based chemicals”, *AIChE J.- Special Edition: “Futures Issue”*, 65(12), e16775, 2019. <https://doi.org/10.1002/aic.16775>
9. Corengia, M., **Torres, A. I.**, “Effect of Tariff Policy and Battery Degradation on Optimal Energy Storage”. *Processes*, 6(10), 204, 2018. *Feature paper*.
10. Vyhmeister, E., Ruiz-Mercado, G, **Torres, A. I.**, Posada, J., “Optimization of multi-pathway production chains and multi-criteria decision-making through sustainability evaluation: a biojet fuel production case study”. *Clean Technol. Envir.*, 20(7), 1697-1719, 2018.
11. **Torres, A. I.**, Stephanopoulos, G., “Design of multi-actor distributed processing systems: a game-theoretical approach”. *AIChE J.- Special Edition “Founders Tribute to Roger Sargent”*, 63, 3369-3391, 2016.
12. Dieste, A., Clavijo, L., **Torres, A. I.**, Barbe, S., Oyarbide, I., Bruno, L., Cassella, F., “Lignin from Eucalyptus spp. Kraft Black Liquor as Biofuel”, *Energy & Fuels*, 30(12), 10494-10498, 2016.
13. Al Wahedi, Y., **Torres, A. I.**, Al Hashimi, S., Dowling, N., Daoutidis, P., Tsapatsis, M. “Economic assessment of temperature swing adsorption systems as Claus tail gas clean up units”, *Chem. Eng. Sci.*, 126, 186-195, 2015.
14. Rajabbeigi, N.*, **Torres, A. I.***, Lew, C. M., Elyassi, B., Ren, L., Wang, Z., Cho, H. J., Fan, W., Daoutidis, P., Tsapatsis, M. “On the kinetics of the isomerization of glucose to fructose using Sn-Beta”, *Chem. Eng. Sci.*, 116, 235-242, 2014.

15. Daoutidis, P., Kelloway, A., Marvin, W. A., Rangarajan, S., **Torres, A. I.**, “ Process systems engineering for biorefineries: new research vistas ”, *Curr. Op. Chem. Eng.*, 2(5), 442-447, 2013.
16. Daoutidis, P., Marvin, W. A., Rangarajan, S., **Torres, A. I.**, “Engineering Biomass Conversion Processes: A Systems Perspective ”, *AIChE J.*, 59(1), 3-18, 2013. (Cover article)
17. **Torres, A. I.**, Tsapatsis, M., Daoutidis, P., “Biomass to chemicals: Design of an extractive-reaction process for the production of 5-hydroxymethylfurfural”, *Computers & chemical engineering*, 42, 130-137, 2012.
18. Jogwar, S. S., **Torres, A. I.**, Daoutidis, P., “Networks with Large Solvent Recycle: Dynamics, Hierarchical Control and a Biorefinery Application”, *AIChE J.*, 58(6), 1764-1777, 2012.
19. **Torres, A. I.**, Daoutidis, P., Tsapatsis, M., “Continuous Production of 5-Hydroxymethylfurfural from Fructose: a Design Case Study”, *Energy Environ. Sci.*, 3(10), 1560-1572, 2010.
20. Margenat, L., **Torres, A.**, Moyna, P., Heinzen, H., Gonzalez, G., Jachmanian, I., “Lanoline Purification by Selective Extraction of Pesticides Using Supercritical CO₂”, *J. Supercrit. Fluid*, 45(2), 177-180, 2008.
21. Jachmanian, I., Margenat, L., **Torres, A.**, Grompone, M., “Selectivity of Supercritical CO₂ in the Fractionation of Hake Liver Oil Ethyl Esters”, *J. Am. Oil Chem. Soc.*, 84(6), 597-601, 2007.
22. Jachmanian, I., Margenat, L., **Torres, A.**, Grompone, M., “Estabilidad Oxidativa y Contenido de Tocoferoles en el Aceite de Canola Extraído con CO₂ Supercrítico”, *Grasas y Aceites (Spain)*, 57(2), 155-159, 2006.

• Conference papers

1. Arsuaga, J. **Torres, A. I.**, “A data driven model for prediction of adsorption energies on metallic surfaces”. *Comput. Aided Chem. Eng. 51*, Eds. Montastruc, L., Negny, S., xxxx-yyyy, 2022.
2. Ferreira, J., Pedemonte, M., **Torres, A. I.**, “A multi-output machine learning approach for surrogate modeling generation in process engineering”, *14th International Symposium on Process Systems Engineering*, xxxx-yyyy, 2022.
3. Ferreira, J., **Torres, A. I.**, Pedemonte, M., “Towards a Multi-Output Kaizen Programming Algorithm”, *7th IEEE Latin American Conference on Computational Intelligence LA-CCI 2021*. 2021.
4. Corengia, M., Estefan, N., **Torres, A. I.**, “Analyzing Hydrogen Production Capacities to Seize Renewable Energy Surplus”. *Comput. Aided Chem. Eng. 48*, Eds. Pierucci, S., Manenti, F., Bozzano, G. L. & Manca, D., 1549-1554, 2020.
5. Ferreira, J., **Torres, A. I.**, Pedemonte, M., “A comparative study on the numerical performance of Kaizen programming and genetic programming for symbolic regression problems”, *6th IEEE Latin American Conference on Computational Intelligence LA-CCI 2019*, Guayaquil, Ecuador, 2019
6. Ferreira, J., Pedemonte, M., **Torres, A. I.**, “A genetic programming approach for construction of surrogate models”, *Comput. Aided Chem. Eng. 47*, Eds. Muñoz, S. G., Laird, C. D. & Realff, M. J., 451-456, Elsevier, 2019.

7. Corengia, M., **Torres, A. I.**, “Operación óptima de baterías bajo el actual régimen tarifario”, *II Congreso de Agua Ambiente y Energía*, Montevideo, Uruguay, 2019.
8. Estefan, N., **Torres, A. I.**, Bussi, J., “Síntesis, caracterización de catalizadores y evaluación tecno-económica del procesos de síntesis de Fischer- Tropsch a partir de Biosingás”, *X Congreso Argentino de Ingeniería Química-CAIQ2019*, Santa Fé, Argentina, 2019.
9. Corengia, M., **Torres, A. I.**, “Two-phase Dynamic Model for PEM Electrolyzer”, *Comput. Aided Chem. Eng.* 44, Eds. Eden, M. R., Ierapetritou, M. G. & Towler, G. P., 1435-1440, Elsevier, 2018.
10. **Torres, A. I.**, Helal, A., Ures, P., Estefan, N., Kreimerman, R., Gutiérrez, S., “Selección de productos y tecnologías para valorización de residuos de biomasa: PLA como caso de estudio” *Ier Congreso Nacional de Gestión Sostenible de Residuos Química*, Montevideo, Uruguay, 2017.
11. Gutiérrez, S., Philippi, C., Kreimerman, R., Ures, P., **Torres, A. I.**, “Relevamiento de la biomasa disponible en Uruguay utilizable como materia prima en la producción de químicos”, *Actas del VI Encuentro Regional de Ingeniería Química*, Montevideo, Uruguay, 2017.
12. **Torres, A. I.**, Philippi, C., Ures, P., Kreimerman, R., Gutiérrez, S., “Creación de herramienta computacional para la simulación de procesos de conversión de biomasa”, *Actas del VI Encuentro Regional de Ingeniería Química*, Montevideo, Uruguay, 2017.
13. **Torres, A. I.**, Bochénski, T., Schmidt, J. E., Stephanopoulos, G., “Economically optimal multi-actor processing networks: material flows and price assignment of the intermediates using Lagrangian decomposition”, *Comput. Aided Chem. Eng.* 38, Eds. Kravanja, Z. & Bogataj, M., Elsevier, 2016.
14. Ashraf, M. T., **Torres, A. I.**, Cybulska, I., Fang, C. J., Thomsen, M. H., Schmidt, J. E., Stephanopoulos, G., “Optimization of Lignocellulosic Waste Biorefinery using Multi-Actor Multi-Objective Mathematical Framework”, *Comput. Aided Chem. Eng.* 38, Eds. Kravanja, Z. & Bogataj, M., Elsevier, 2016.
15. Bochénski, T. (*), **Torres, A. I.** (*), Ashraf, M. T., Schmidt, J. E., Stephanopoulos, G., “Evaluation of the production of lipids for fuels and proteins from microalgae by decomposition of the processing network”, *Comput. Aided Chem. Eng.* 38, Eds. Kravanja, Z. & Bogataj, M., 1635-1640, Elsevier, 2016. (*) Igual contribución.
16. **Torres, A. I.**, Cybulska, I., Fang, C. J., Thomsen, M. H., Schmidt, J. E., Stephanopoulos, G. “A novel approach for the identification of economic opportunities within the framework of a biorefinery”, *Comput. Aided Chem. Eng.* 37, Eds. Gernaey, K. V., Huusom, J. K. & Gani, R., 1175-1180, Elsevier, 2015
17. Bonk, F., Chaturvedi, T., **Torres, A. I.**, Schmidt, J. E., Thomsen, M. H., Stephanopoulos, G., “Exploring opportunities for the production of chemicals from municipal solid wastes within the framework of a biorefinery”, *Comput. Aided Chem. Eng.* 37, Eds. Gernaey, K. V., Huusom, J. K. & Gani, R., 2123-2128, Elsevier, 2015.
18. Daoutidis, P., Marvin, W. A., Rangarajan, S., **Torres, A. I.**, “Process Engineering of Biorefineries: Recent Results and New Research Vistas”, *Proceedings FOCAPO 2012 / CPC VIII*, Foundations of Computer-Aided Process Operations - Chemical Process Control Engineering Conferences, Savannah, GA, 2012.

19. **Torres, A. I.**, Tsapatsis, M., Daoutidis, P., “Biomass to chemicals: Design of an extractive-reaction process for the production of 5-hydroxymethylfurfural”, *Comput. Chem. Eng.* 42, Eds. Pistikopoulos, E., Georgiadis, M. & Kokossis, A., 236-240, Elsevier, 2011.

• Book Chapters

1. Corengia, M., **Torres, A. I.**, “Energy Storage”. *Sustainable design for renewable processes: Principles and case studies*. Ed. Mariano Martín Martín. Elsevier. 2022.
2. Ashraf, M. T., **Torres, A. I.**, Schmidt, J. E., Stephanopoulos, G., “Analysis and optimization of multi-actor biorefineries”, *Biorefinery-Integrated Sustainable Processes*. Eds. Jens Ejbye Schmidt, Juan Rodrigo Bastidas Oyanedel. Written by invitation. Pags. 49-75, Springer-Cham, 2019.
3. **Torres, A. I.**, Ashraf, M. T., Chaturvedi, T., Schmidt, J. E., Stephanopoulos, G., “Hydrothermal Pretreatment: Process Modeling and Economic Assessment within the Framework of Biorefinery Processes”, *Hydrothermal Processing in Biorefineries*. Eds. H. A. Ruiz, H. L. Trajano, M. H. Thomsen. Written by invitation. Pags. 207-235, Springer-Cham, 2017.

• Technical Reports

1. **Torres, A. I.**, Gutiérrez, S., Kreimerman, Pittaluga, L., Auriello, J., Arsuaga, J., Estefan, N., González, V., Porley, A., “Diseño y evaluación de alternativas tecnológicas para el desarrollo de bio-refinerías”, Final Report, Project ANII-FSE_1_2018_1_152900, 2022.
2. **Torres, A. I.**, Gutiérrez, S., Kreimerman, R., Estefan, N., Helal, A., Mangone, F., Philippi, C., Tejera, M., Ures, P., “Biorefinerías en Uruguay: Evaluación tecno-económica de la producción de combustibles y químicos a partir de materia prima y residuos nacionales”, Final Report, Project ANII-FSE_1_2015_1_109976, 2019.

PRESENTATIONS (last 5 years)

1. “Analyzing Hydrogen Production Capacities to Seize Renewable Energy Surplus”, M. Corengia*, N. Estefan, A. I. Torres, 30th European Symposium on Computer-Aided Process Engineering, Milano, Italy, 2020. Poster.
2. “Towards Automated Discovery of Plausible Reaction Paths in Complex Catalytic Systems Using Network Generation and Optimization”, B. Li*, A. I. Torres, S. Rangarajan 2019 Annual AIChE meeting, Orlando, FL, EEUU, 2019. Oral.
3. “Optimal Energy Storage in Batteries: A Convex Formulation for Definition of Charge/Discharge Schedules”, M. Corengia*, A. I. Torres, 2019 Annual AIChE meeting, Orlando, FL, EEUU, 2019. Poster.
4. “Operación óptima de baterías bajo el actual régimen tarifario”, M. Corengia*, A. I. Torres, II Congreso de Agua Ambiente y Energía, Montevideo, Uruguay, 2019. Oral.
5. “A comparative study on the numerical performance of Kaizen programming and genetic programming for symbolic regression problems”, J. Ferreira*, A.I. Torres, M. Pedemonte, 6th IEEE Latin American Conference on Computational Intelligence LA-CCI 2019, Guayaquil, Ecuador, 2019. Oral.

6. “Síntesis, caracterización de catalizadores y evaluación tecno-económica del procesos de síntesis de Fischer- Tropsch a partir de Bio-singás”, N. Estefan, A. I.Torres, J. Bussi, X Congreso Argentino de Ingeniería Química-CAIQ2019, Santa Fé, Argentina, 2019. Oral.
7. “Operación óptima de baterías bajo el actual régimen tarifario”, M. Corengia*, A. I. Torres, II Congreso de Agua Ambiente y Energía, Montevideo, Uruguay, 2019. Oral.
8. “A comparative study on the numerical performance of Kaizen programming and genetic programming for symbolic regression problems”, J. Ferreira*, A.I. Torres, M. Pedemonte, 6th IEEE Latin American Conference on Computational Intelligence LA-CCI 2019, Guayaquil, Ecuador, 2019. Oral.
9. “Síntesis, caracterización de catalizadores y evaluación tecno-económica del procesos de síntesis de Fischer- Tropsch a partir de Bio-singás”, N. Estefan, A. I.Torres, J. Bussi, X Congreso Argentino de Ingeniería Química-CAIQ2019, Santa Fé, Argentina, 2019. Oral.
10. “Quantification of battery degradation effects in optimal energy storage schedules”, M. Corengia, A.I. Torres*, Foundations of Computer-Aided Process Operations 2019, Copper Mountain, CO, EE.UU. Poster.
11. “A genetic programming approach for construction of surrogate models”, J. Ferreira*, M. Pedemonte, A.I. Torres, Foundations of Computer-Aided Process Operations 2019, Copper Mountain, CO, EE.UU. Poster.
12. “Sinergia diseño de procesos-experimentación en tecnologías BtL: Conversión de residuos en hidrocarburos vía gasificación y síntesis de Fischer-Tropsch”. N. Estefan*, J. Bussi, A.I. Torres. 1er Congreso Iberoamericano de Ingeniería Química, CIBIQ-2019, Santander España. Oral.
13. “Selección de productos y tecnologías para valorización de residuos de biomasa: PLA como caso de estudio” A.I. Torres*, A. Helal , P. Ures, N. Estefan, R. Kreimerman, S. Gutiérrez. 1er Congreso Nacional de Gestión Sostenible de Residuos, Montevideo, Uruguay, 2018. Oral.
14. “Selección de productos y tecnologías para valorización de residuos de biomasa: PLA como caso de estudio” A.I. Torres*, A. Helal , P. Ures, N. Estefan, R. Kreimerman, S. Gutiérrez. 1er Congreso Nacional de Gestión Sostenible de Residuos, Montevideo, Uruguay, 2018. Oral.
15. “Creación de Herramienta Computacional para la Simulación de Procesos de Conversión de Biomasa”, A I. Torres*, P. Ures, C. Philippi, R. Kreimerman, S. Gutiérrez. VI Encuentro Regional de la Asociación de Ingenieros Químicos del Uruguay, 2017. Oral.
16. “Relevamiento de la biomasa disponible en Uruguay utilizable como materia prima en la producción de químicos ”, S. Gutiérrez, C. Philippi, R. Kreimerman, P. Ures*, A I. Torres. VI Encuentro Regional de la Asociación de Ingenieros Químicos del Uruguay, 2017. Poster.
17. “Biorefinerías: metodologías de análisis y herramientas de simulación para la selección de productos”, A. I. Torres*, R. Kreimerman, A. Helal, P. Ures, F. Mangone, N. Estefan, M. tejera, C. Phillippi, S. Gutiérrez . XXIX Interamerican Congress of Chemical Engineering Incorporating the 68th Canadian Chemical Engineering Conference, Toronto, Canadá, Octubre 28-31, 2018. Oral.

18. “Two-phase Dynamic Model for PEM Electrolyzer”, M. Corengia*, A. I. Torres. 13th International Symposium on Process Systems Engineering (PSE 2018), San Diego, CA, Julio 1-5, 2018. Oral.
19. “ A novel business-inspired decision making methodology for selection of chemicals to be produced from biomass” S. Gutiérrez*, C. Philippi, A. Helal, F. Mangone, P. Ures, M. Tejera, R. Kreimerman, A.I. Torres. 27th European Biomass Conference and Exhibition EUBCE 2018, Copenague, Dinamarca, Mayo 14-17, 2018. Oral.
20. “Strategy for the selection of products to be produced from biomass”, S. Gutiérrez*, C. Philippi, R. Kreimerman, P. Ures, A. I. Torres. ABTCP - CIADICYP 2018. 51st ABTCP International Pulp and Paper Congress and X IberoAmerican Congress on Pulp and Paper Research, San Pablo, Brasil, 2019. Oral.
21. “Creación de Herramienta Computacional para la Simulación de Procesos de Conversión de Biomasa”, A I. Torres*, P. Ures, C. Philippi, R. Kreimerman, S. Gutiérrez. VI Encuentro Regional de la Asociación de Ingenieros Químicos del Uruguay, 2017. Oral.
22. “Relevamiento de la biomasa disponible en Uruguay utilizable como materia prima en la producción de químicos ”, S. Gutiérrez, C. Philippi, R. Kreimerman, P. Ures*, A I. Torres. VI Encuentro Regional de la Asociación de Ingenieros Químicos del Uruguay, 2017. Poster.
23. “Ligno-cellulosic biomass stock survey in Uruguay”, A I. Torres, C. Philippi, P. Ures, R. Kreimerman, S. Gutiérrez*. 10th World Congress in Chemical Engineering, Barcelona, España, Octubre 1-5, 2017. Oral
24. “Optimization of Biorefinery Production Chains and Decision-Making through Sustainability Evaluation: A Biojet Fuel Case Study”, A.I. Torres, E. Vyhmeister, G.J. Ruiz-Mercado, J. Posada-Duque, 2017 Annual AIChE meeting, Minneapolis, MN, EEUU, 2017. Oral.
25. “Design of Multi-Actor Distributed Processing Systems: A Game-Theoretical Approach”, Torres, A. I., Stephanopoulos, G., AIChE Annual meeting, San Francisco, CA, 2016. Oral.
26. “Economically optimal multi-actor processing networks: material flows and price assignment of the intermediates using Lagrangian decomposition”, Torres, A. I., Bochenski, T., Schmidt, J. E., Stephanopoulos, G., 26th European Symposium on Computer-Aided Process Engineering, Portoroz, Slovenia, 2016. Oral.
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