



UNIVERSIDAD TECNICA
FEDERICO SANTA MARIA



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BIGDSSAGRO 2019

PROGRAM

**III International Conference on Agro BigData
and Decision Support Systems in Agriculture**

**DECISIONS, TECHNOLOGIES AND INNOVATION
FOR THE 2030 AGRICULTURE**

September 25-27, 2019. Valparaíso, Chile.



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PROGRAM OVERVIEW

Wednesday, September 25

09.00 – 10.00	Registration
10.00 – 10.30	Opening Ceremony
10.30 – 11.30	Plenary Session W1
11.30 – 12.00	Coffee Break
12.00 – 13.20	Plenary Session W2
13.30 – 14.20	Lunch
14.30 – 16.00	Technical Session W2-A
16.00 – 17.00	Plenary Session W3
17.00 – 17.30	Coffee Break
17.30 – 18.30	Technical Session W3-A
18.30 – 19.30	BigDSSAgro Meeting

Thursday, September 26

09.00 – 10.30	Technical Session T1-A
10.30 – 11.30	Plenary Session T1
11.30 – 12.00	Coffee Break
12.00 – 13.20	Plenary Session T2
13.30 – 14.20	Lunch
14.30 – 16.00	Parallel Technical Sessions T2
16.00 – 17.00	Plenary Session T3
17.00 – 17.30	Coffee Break
17.30 – 18.30	Plenary Session T3
18.30 – 20.00	Social Event

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Friday, September 27

09.00 – 10.30	Technical Session F1-A
10.30 – 11.30	Plenary Session F1
11.30 – 12.00	Coffee Break
12.00 – 13.20	Plenary Session F2
13.30 – 16.30	Lunch (Viña Casas del Bosque, Casablanca)



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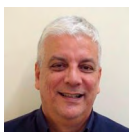
SPEAKERS – Plenary Conferences



Renzo Akkerman (Plenary Session F2, 12.00 - 13.20)
Wageningen University.
“Food supply chain management in the transition to a circular economy”.



Fernando Auat (Plenary Session T2, 12.00 - 13.20)
Universidad Técnica Federico Santa María.
“Efficient manoeuvring of electric machinery in agricultural scenarios”.



José Caixeta (Plenary Session W3, 16.00 - 17.00)
Universidade de Sao Paulo.
“Brazilian agro-logistics: challenges and opportunities for the reduction of physical losses”.



José Cuevas V. (Plenary Session F2, 12.00 - 13.20)
Viña Concha y Toro.
“Impulsando la Transformación Digital en Viña Concha y Toro: I+D e Innovación para alcanzar una Industria Vitivinícola Inteligente”.



Simon Dunstall (Plenary Session T1, 10.30 - 11.30)
CSIRO.
“Hybridizing big data, sensing and modelling at the landscape scale”.

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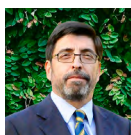
Martín H.P. Grunow (Plenary Session W1, 10.30 - 11.30)
Technical University of Munich.

“Impact of shelf life on the trade-off between economic and environmental objectives: a dairy case”.



Yordi Norero (Plenary Session T2, 12.00 - 13.20)
Dynamic Wings UAS.

“Drones en la Agricultura: Aplicaciones Prácticas”.



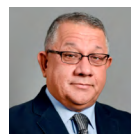
Rodrigo Ortega B. (Plenary Session W2, 12.00 - 13.20)
Universidad Técnica Federico Santa María.

“Timely and quality information: a key element for an efficient and sustainable agronomic management”.



Hugo Poblete (Plenary Session W2, 12.00 - 13.20)
La Rosa Sofruco S.A.

“Application of AG tech in Chile: Experiences in La Rosa Sofruco”.



René Villalobos (Plenary Session W2, 12.00 - 13.20)
Arizona State University.

“Insertion of Small Farmers into Technology-enabled, Rapid-response Fresh Food Supply Chains”.



Andrés Weintraub (Plenary Session T3, 16.00 - 17.00)
Universidad de Chile.

“Stochastics and multi-criteria models in forest planning”.



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WEDNESDAY 25

Opening Ceremony 10.00 - 10.30

Room: Salón de Honor

Samir Kouro R.

Director de Innovación y Transferencia Tecnológica, Universidad Técnica Federico Santa María.

Lluís M. Plà-Aragonés

Coordinador Red BigDSSAgro, Universidad de Lleida.

Werner Kristjanpoller R.

Director Instituto Internacional para la Innovación Empresarial, Universidad Técnica Federico Santa María.

Alejandro Mac Cawley V.

Copresidente Comité Organizador BigDSSAgro 2019, Pontificia Universidad Católica de Chile.

Víctor M. Albornoz S.

Copresidente Comité Organizador BigDSSAgro 2019, Universidad Técnica Federico Santa María.

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WEDNESDAY 25

Plenary Session W1 10.30 -11.30

Room: Salón de Honor

Chair: Lluís M. Plà-Aragonés

“Impact of shelf life on the trade-off between economic and environmental objectives: a dairy case”.

Martín H.P. Grunow, Technical University of Munich

Plenary Session W2 12.00 -13.20

Room: Salón de Honor

Chair: Víctor M. Albornoz

“Timely and quality information: a key element for an efficient and sustainable agronomic management”

Rodrigo Ortega B., Universidad Técnica Federico Santa María.

“Application of AG tech in Chile: Experiences in La Rosa Sofruco”

Hugo Poblete, La Rosa Sofruco S.A.



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WEDNESDAY 25

Technical Session W2-A 14.30 -16.00

Room: Salón de Honor

Chair: Gastón Notte

“A milk transportation problem with milk collection centers and vehicle routing”

Germán Paredes-Belmar, Omar Leonardini, Elizabeth Montero.

“Heuristic optimization of crop rotation for milk production at small farms”

Antonio Mauttone, Andrés Castagna, Federico Matonte, Lorena Rodríguez-Gallego, Oscar Blumetto.

“Performance evaluation of multi-objective evolutionary algorithms for a dairy system optimization model”

Gastón Notte, Pablo Chilibroste, Martín Pedemonte, Héctor Cancela.

“Aggregated planning in the broiler chicken industry: a case study in Santa Marta (Colombia)”

Alfaima L. Solano, Jaime E. Gonzalez, Luis Othon Gomez-Rueda, Jhon J. Vargas Sánchez, Andrés L. Medaglia

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WEDNESDAY 25

Plenary Session W3 16.00 -17.00

Room: Salón de Honor

Chair: Antonio Mauttone

“Brazilian agro-logistics: challenges and opportunities for the reduction of physical losses”

José Caixeta, Universidad de Sao Paulo.

Technical Session W3-A 17.30 - 18.30

Room: Salón de Honor

Chair: Esteve Nadal-Roig

“Increasing the efficiency of the pig production system based on uncertainty in sales price”

Esteve Nadal-Roig, Lluís M. Plà-Aragonés, Víctor M. Albornoz, Adela Pagès-Bernaus

“The diet problem in the pig industry when gas emissions are taken into account”

Lluís M. Plà Aragonès, Adela Pagès-Bernaus, Virna Ortiz-Araya

“Coordination in the pork supply chain through a bi-level formulation”

Sara V. Rodríguez Sánchez, Víctor M. Albornoz



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THURSDAY 26

Technical Session T1-A 9.00 -10.30

Room: Salón de Honor

Chair: Víctor M. Albornoz

“Precision Agriculture Implementations: A Systematic Literature Review”.

Isabel Cisternas, Angélica Caro, Alfonso Rodríguez.

“Spatial and Spectral features for Horticulture mapping”.

María Victoria Marinelli, Nicolás A. Mari, Diego H. Pons, Beatriz L. Giobellina, C. Marcelo Scavuzzo.

“Robotic data collection platform with artificial vision applied to precision agriculture”.

Sandra Serafino, Lucas Benjamín Cicerchia, Claudia Russo, Hugo Ramón.

“A management zone delineation and sustainable crop planning problem for organic farming”.

Gabriel Zamora, Víctor M. Albornoz, Gonzalo Augusto.

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THURSDAY 26

Plenary Session T1 10.30 - 11.30

Room: Salón de Honor

Chair: Alejandro Mac Cawley

“Hybridizing big data, sensing and modelling at the landscape scale”.

Simon Dunstall, CSIRO .

Plenary Session T2 12.00 -13.20

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“Efficient manoeuvring of electric machinery in agricultural scenarios”.

Fernando Auat, Universidad Técnica Federico Santa María.

“Drones en la Agricultura: Aplicaciones Prácticas”.

Yordi Norero, Dynamic Wings UAS.



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THURSDAY 26

Technical Session T2-A 14.30 -16.00

Room: Salón de Honor

Chair: Lidia Angulo Meza

“Blueberry Life Cycle Assessment using MCDEA model”.

Deivison Pereira, Lidia Angulo Meza, Joao Carlos Soares de Mello, Ricardo Rebolledo-Leiva, Marcela González Araya, Alfredo Iriarte.

“Statistical assessment of production loss risk in the Brazilian agriculture”.

Fernando L. Garagorry, Moacir Pedroso Junior.

“Estimating confidence of Agricultural Producers by mining social media. Preliminary Results”.

Xavier González, Emilio Picasso.

“Assessing field experts yield maize estimations with satellite information derived from Sentinel-2”.

Diego Carcedo, Diego Pons, Cesar Alonso, Silvina Fiant, Marcelo Scavuzzo, Maria Victoria Marinelli.

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THURSDAY 26

Technical Session T2-B 14.30 -16.00

Room: A1-A2

Chair: Elbio Avanzini

“A Mixed Integer Linear Programming approach for the 2D Strip Packing Problem with different size options for plots of land in Smart Floating Farms”.

Alejandro Fernández Gil, Mariam Gómez Sánchez, Carlos Castro Valdebenito, Yunesky Masip Macia.

“GHLAP: Greedy Heuristic for Land Partitioning”.

Germán Treimun, María Cristina Riff, Víctor M. Albornoz.

“Wineries capacity planning model under climate uncertainty”.

Carlos Monardes, Claudio Contardo, Guy Desaulniers, Fausto Errico, Alejandro Mac Cawley, Jorge Vera.

“Real Options in Agriculture: a planning case”.

Pablo Acevedo, Elbio Avanzini, Sergio Maturana, Alejandro Mac Cawley, Jorge Vera.



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THURSDAY 26

Plenary Session T3 16.00 -17.00

Room: Salón de Honor

Chair: Héctor Cancela

“Stochastic and multi-criteria models in forest planning”.

Andrés Weintraub, Universidad de Chile.

Technical Session T3-A 17.30 -18.30

Room: Salón de Honor

Chair: Víctor Viana

“Optimización de la operación de equipos de recogida y picado de residuos forestales”.

Camilo Hernández Villa, Maichel Aguayo Bustos.

“Salvage Logging: harvest scheduling and personnel assignment after wildfires”.

Gianluca Baselli, Felipe Contreras, Matias Lillo, Magdalena Marin, Rodrigo Carrasco.

“Optimal re-planning of forest harvesting tours due to temporary unavailability of harvest sites”.

Víctor Viana, Héctor Cancela, Lorena Pradenas.

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THURSDAY 26

Technical Session T3-B 17.30 -18.30

Room: A1-A2

Chair: Lluís M. Plà-Aragonés

“A cost-efficient smart solution for small-scale farmers: a multidisciplinary approach”.

José A. Brenes Carranza, Freddy Soto Bravo, Gabriela Marín Raventós.

“A proposal for the promotion of agriculture in vulnerable rural areas”.

Jorge L. Recalde-Ramírez, María M. López, Diego P. Pinto-Roa.

“Efficiency data analysis in EU aquaculture production sector”.

Ester Gutiérrez, Sebastián Lozano and Jordi Guillén.



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FRIDAY 27

Technical Session F1-A 9.00 -10.30

Room: Salón de Honor

Chair: Wladimir Soto Silva

“Transport planning for grapes and must grapes in CAPEL through a linear programming model”.

Carlos Serrano, Carlos Monardes.

“Planning and scheduling of selective harvest with management zones delineation”.

Lia Araneda, Víctor M. Albornoz.

“A multi-objective model for supporting fresh fruit harvest planning decisions”.

Marcela González-Araya, Javier Gómez-Lagos, Wladimir Soto Silva.

“The Rolling Tree Modeling Approach: an application in agriculture”.

Elbio Avanzini, Alejandro Mac Cawley, Jorge Vera, Lluís Plà-Aragonès, Sergio Maturana.

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René Villalobos, Arizona State University.

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“Food supply chain management in the transition to a circular economy”.

Renzo Akkerman, Wageningen University.

“Impulsando la Transformación Digital en Viña Concha y Toro: I+D e Innovación para alcanzar una Industria Vitivinícola Inteligente”.

José Cuevas V., Viña Concha y Toro.



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Other contributions included in the Proceedings of BigDSSAgro 2019

“Assessing the determinants of rural income dispersion in the Brazilian Savanna”.

Geraldo Souza, Eliane Gomes, Eliseu Alves.

“Innovation in the agroindustrial sector: business intelligence analysis of the Spanish Agri-food industry”.

Rocio Rocha and Angel Cobo.

“A fuzzy approach to bio-economic modelling and decision making in sea-cage aquaculture”.

Manuel Luna, Ignacio Llorente and Angel Cobo.

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