

## CARLOS OMAR MUÑOZ POBLETE

## Portal del Investigador



## 1.- Personal Info

**First Name** CARLOS  
**Middle Name** OMAR  
**Last Name** MUÑOZ  
**Mother's maiden name** POBLETE  
**Birth Date** 18/10/1966  
**Gender** Male  
**Country** Chile  
**RUT** 10663834-9  
**Passport** P17294437

## 2.- Education

**Academic Degree/Profe...** PhD  
**Speciality** Automatizacion Industrial  
**Institution** PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE  
**Year obtained** 2000  
**Country** Chile

**Academic Degree/Profe...** Bachelor  
**Speciality** Licenciado en Ciencias de la Ingeniería  
**Institution** UNIVERSIDAD DE LA FRONTERA  
**Year obtained** 1991  
**Country** Chile

**Academic Degree/Profe...** Professional Title  
**Professional Title** Ingeniero Civil Electrónico  
**Institution** UNIVERSIDAD DE LA FRONTERA  
**Year obtained** 1991

**Country** Chile

### 3.- Academic Experience

**Institution** UNIVERSIDAD DE LA FRONTERA  
**Faculty** Ingeniería y Ciencias  
**School**  
**Department** Ingeniería Eléctrica  
**Position** Profesor titular  
**Type of contract** Full Time  
**Hours per week** 44.0  
**Start year** 1996  
**Ending year** At present  
**Country** Chile  
**City** Temuco

### 4.- Research Lines

**Research Lines** Control Automático, Sistemas de Adquisición de Datos, Control Predictivo, IoT

### 5.- Current Working Status

**Institution** Universidad de La Frontera  
**Department** Departamento Ingeniería Eléctrica  
**Unidad** Facultad de Ingeniería y Ciencias  
**Other**  
**Position** Profesor Titular  
**Address** Av Francisco Salazar 01145  
**Country** Chile  
**Area/District** La Araucanía  
**City** Temuco  
**Postal Address** 4780000  
**Phone** 452325531

### 6.- Professional Experience

**Institution** Dictuc S.A.  
**Position** Ingeniero de Apoyo a la Investigación  
**Starting Year** 1991  
**Ending Year** 1995  
**Country** Chile  
**City** Santiago  
**Contract** Full Time  
**Hours per week** 44.0

**Institution** Universidad de La Frontera  
**Position** Profesor Titular  
**Starting Year** 1996  
**Ending Year** At present  
**Country** Chile  
**City** Temuco  
**Contract** Full Time  
**Hours per week** 44.0

#### Other Relevant Info

- Human Capital Training**
1. Francisco Vargas, 2010, Lógica difusa en el modelamiento de Redes regulatorias genéticas, UNIVERSIDAD DE LA FRONTERA, Magíster en Ciencias de la Ingeniería mención ingeniería eléctrica.
  2. Héctor Young, 2010 , Diseño e implementación de controladores por modo deslizante (smc) y PI autosintonizable para concentración de oxígeno disuelto en un proceso de remoción integrada de nitrógeno en reactor secuencial discontinuo (SBR), UNIVERSIDAD DE LA FRONTERA, , Magíster en Ciencias de la Ingeniería mención ingeniería eléctrica.
  3. Javier Lorca, 2013, Retroalimentación generalizada de sistemas hamiltonianos, UNIVERSIDAD DE LA FRONTERA, , Magíster en Ciencias de la Ingeniería mención ingeniería eléctrica.
  4. Gabriel Epuyao, 2014, Determinación y validación de métricas cuantitativas para evaluaciones de usabilidad aplicadas a interfaces de usuario tangibles, UNIVERSIDAD DE LA FRONTERA, Magíster en Ingeniería informática.
  5. Matías Chavez, 2015, Relation between quality management processes and wireless sensor networks: A review focused on agriculture, construction, healthcare and manufacture industries, UNIVERSIDAD DE LA FRONTERA, Magíster en Sistemas de Gestión Integral de la Calidad.
  6. Francisco Quesada, 2016, Validación y desarrollo de una herramienta de gestión para mejorar la calidad de los proyectos de alumbrado público postulados al fondo nacional de desarrollo regional (FNDR), bajo el enfoque de eficiencia energética, UNIVERSIDAD DE LA FRONTERA, Magíster en Sistemas de Gestión Integral de la Calidad.
  7. Claudio Alarcón, 2017, "Controlador de Inversión Basado en

Reglas Aplicado al Péndulo Rotatorio Invertido”, UNIVERSIDAD DE LA FRONTERA, Magíster en Ciencias de la Ingeniería Mención Ingeniería Eléctrica.

8. Alejandro Navarro, 2017, Diseño e Implementación de un sistema de monitoreo de incendios forestales en el Parque Nacional Torres del Paine; Patagonia Chilena, con cámaras de espectro visible. UNIVERSIDAD DE LA FRONTERA, Magíster en Ciencias de la Ingeniería Mención Ingeniería Eléctrica.

**Dissemination & Transf...** Angel Gabriel de María Vivallo Pinare, Marcelo José Noble Toneatti Bastidas, Gustavo Andres Donoso Montoya, Juan Ignacio HUIRCAN Quilaqueo, Carlos Omar Muñoz Poblete, Jaime Marcelo Bustos Gómez, Maria Victoria Barriga Gunhghohan, Patentes, Sistema para el monitoreo electrónico en línea de ganado incorporando variables físicas y biológicas de los animales en ambiente de pastoreo en pradera, CHILE, 002354, invención, 1411, 12/06/2009

**Awards and Distinctions** President of ACCA (ASOCIACION CHILENA DE CONTROL AUTOMATICO, Chile, 2007). Elected President of the Chilean Asociacion of Automatic Control. This cientific asotiation has 40 years of trajectory, is recognized by the ANID-Chile and is a National Member Organization of IFAC (International Federation of Automatic Control)

Director of the CMCC (UNIVERSIDAD DE LA FRONTERA, Chile, 2006). CMCC is a research center for modeling and scientific computing at University of La Frontera.

President of ACCA 2007 (ASOCIACION CHILENA DE CONTROL AUTOMATICO, Chile). President of ACCA 2007. Conference held in Temuco, Chile. This event reunites more than 200 hundred researchers related with automatic control in Chile.

President of Chilecon 2017 (IEEE Chilecon, Chile, 2017). IEEE CHILECON 2017 Conference. The conference was held in Pucon, Chile in October 17-19. This event reunited around 300 researchers from 20 countries. The proceeding of the conference was built with 180 papers that were indexed in Scopus and uploaded to IEEE Xplore

Member of academic council (ASOCIACION CHILENA DE CONTROL AUTOMATICO, Chile, 2013). Member of the academic council of UNIVERSIDAD DE LA FRONTERA (2013-2017). This position is chosen by vote with all the academics of the University of La Frontera.

## Productivity

### Article

#### **Calibration of Sensor Network for Outdoor Measurement of PM2.5 on High Wood-Heating Smoke in Temuco City**

Processes (2227-9717)

Carlos Muñoz Poblete; Huircan, Juan Ignacio; Francisco Jaramillo Montoya; Álex Boso

Year: 2023

Volume: 11

Issue: 8  
Start Page: 1  
End Page: 15  
WOS

ConferencePaper

### **Current Loop Control for an Educational Magnetic Levitation System**

(978-1-6654-9408-3)

Ilanos, Felipe; Muñoz, Carlos

Year: 2023

SCOPUS

Article

### **Energy–Water Management System Based on MPC for a Greenhouse in a Mapuche Indigenous Community**

APPLIED SCIENCES-BASEL ()

Endo, Alvaro; Parra, Sebastian; Cartagena, Oscar; Saez, Doris; Muñoz, Carlos; Huircan, Juan Ignacio

Year: 2023

Volume: 13

Issue: 8

ISI, WOS

ConferencePaper

### **Database generation to identify cow's movements for detecting estrus and lameness**

(978-1-6654-9408-3)

Muñoz, Carlos; Huircan, Juan Ignacio; Huenupan, Fernando; Pinilla, Diego

Year: 2023

SCOPUS

ConferencePaper

### **Fuzzy and Neural Prediction Intervals for Robust Control of a Greenhouse**

(978-1-6654-6710-0)

Endo, Alvaro; Cartagena, Oscar; Ocaranaza, Javier; Sáez, Doris; Muñoz, Carlos

Year: 2022

Start Page: 1

End Page: 8

SCOPUS

Article

### **Long-term nitrite-oxidizing bacteria suppression in a continuous activated sludge system exposed to frequent changes in pH and oxygen set-points**

JOURNAL OF ENVIRONMENTAL MANAGEMENT (0301-4797)

Antileo, Christian; Francisco Jaramillo Montoya; Candia, Oscar; Aahilyn Osorio; Carlos Muñoz Poblete; Farias, Jorge; Proal-Najera, Jose B.; Qiqi Zhang; Sven-Uwe Geissen

Year: 2022

Volume: 318

Issue: 115545  
Start Page: 1  
End Page: 11  
ISI, Impact Factor 8.91

Article

**Energy–Water Management System Based on Predictive Control Applied to the Water–Food–Energy Nexus in Rural Communities**

APPLIED SCIENCES (2076-3417)

Tomislav Roje; Doris Sáez; Carlos Muñoz; Linda Daniele

Year: 2020

Volume: 10

Issue: 21

Start Page: 7723

ISI

Article

**Active biomass estimation based on ASM1 and on-line OUR measurements for partial nitrification processes in sequencing batch reactors**

JOURNAL OF ENVIRONMENTAL MANAGEMENT (03014797)

Lindow, Franklin; Muñoz, Carlos; Jaramillo, Francisco; Bishop, Robert H.; Proal-Nájera, José B.; Antileo, Christian

Year: 2020

Volume: 273

Issue: April

Start Page: 111150

ISI

Article

**Out of sight, out of mind: participatory sensing for monitoring indoor air quality**

ISI SCOPUS

ENVIRONMENTAL MONITORING AND ASSESSMENT (0167-6369)

Boso, Alex; Alvarez, Boris; Oltra, Christian; Garrido, Jaime; Munoz, Carlos; Hofflinger, Alvaro

Year: 2020

Volume: 192

Issue: 2

ConferencePaper

**PTZ camera tuning for real time monitoring of cows in grazing fields**

(978-172813427-7)

Munoz C.A.; Huircan J.I.; Huenupan F.; Cachaña, P.

Year: 2020

Start Page: 1

End Page: 6

Indexed in Scopus

Article

**The Grass Is Always Greener on My Side: A Field Experiment Examining the Home Halo Effect**

SUSTAINABILITY (2071-1050)

Boso, Àlex; Álvarez, Boris; Oltra, Christian; Garrido, Jaime; Muñoz, Carlos; Galvez-García, Germán

Year: 2020

Volume: 12

Issue: 16

Start Page: 6335

ISI

Article

**Harvest Stage Recognition and Potential Fruit Damage Indicator for Berries Based on Hidden Markov Models and the Viterbi Algorithm**

ISI SCOPUS

SENSORS (1424-8220)

Orchard, Marcos; Munoz-Poblete, Carlos; Ignacio Huircan, Juan; Galeas, Patricio; Rozas, Heraldo

Year: 2019

Volume: 19

Issue: 20

ConferencePaper

**Development of a collaborative class between three universities**

SCOPUS

4th IEEE Colombian Conference on Automatic Control: Automatic Control as Key Support of Industrial Productivity, CCAC 2019 - Proceedings (9,78154E+12)

Muñoz, C; Fernandez, M; Rubio, E.; Padilla, A

Year: 2019

SCOPUS

ConferencePaper

**An approach to State Space Control Teaching**

SCOPUS

Proceedings of the 2020 IEEE/SICE International Symposium on System Integration, SII 2020 (9,78173E+12)

Pizarro-Céspedes V.; Fernandez-Fernandez M.; Munoz-Poblete C.

Year: 2019

Article

**Lowering Electricity Access Barriers by Means of Participative Processes Applied to Microgrid Solutions: The Chilean Case**

ISI SCOPUS

PROCEEDINGS OF THE IEEE (0018-9219)

Palma-Behnke, Rodrigo; Jimenez-Estevez, Guillermo A.; Saez, Doris; Montedonico, Marcia; Mendoza-Araya, Patricio; Hernandez, Roberto; Munoz Poblete, Carlos

Year: 2019

Volume: 107

Issue: 9

Start Page: 1857

End Page: 1871

Article

**Smartbins: Using Intelligent Harvest Baskets to Estimate the Stages of Berry Harvesting**

ISI SCOPUS

SENSORS (1424-8220)

Galeas P.; Muñoz C.; Huircan J.; Fernandez M.; Segura-Ponce L.A.; Duran-Faundez C.

Year: 2019

Volume: 19

Issue: 6

ConferencePaper

**Pole Placement applied to drive a Truck and Trailer in backward. A didactic view**

SCOPUS

Proceedings of the 2020 IEEE/SICE International Symposium on System Integration, SII 2020 (9,78173E+12)

Munoz C.; Castilla M.J.; Fernandez-Fernandez M.

Year: 2019

ConferencePaper

**Remote laboratory for position control using a Quanser Servo SRV02 operated via Moodle**

SCOPUS

4th IEEE Colombian Conference on Automatic Control: Automatic Control as Key Support of Industrial Productivity, CCAC 2019 - Proceedings (9,78154E+12)

Osses, F.; Ortega, R.; Muñoz-Poblete, C.

Year: 2019

SCOPUS

ConferencePaper

**Pole placement controller applied to a Rotary Inverted Pendulum System. A didactic view**

SCOPUS

4th IEEE Colombian Conference on Automatic Control: Automatic Control as Key Support of Industrial Productivity, CCAC 2019 - Proceedings (9,78154E+12)

Muñoz, C

Year: 2019

ConferencePaper

**Forest fire monitoring system, with visible spectrum cameras, in Torres del Paine National Park; Chilean Patagonia**

(9781538631232)

Navarro-Cifuentes, Alejandro; Burgos-Viveros, Raul; Muñoz-Poblete, Carlos

Year: 2018

Start Page: 1

End Page: 7

SCOPUS

Article



## Caw's Walking State Recognition Based on Accelerometers and Gyroscopes Installed on Ear-Tags and Collar-Tags

ISI

IEEE LATIN AMERICA TRANSACTIONS (1548-0992)

Munoz, C.; Roa, N.; Huircan, J.

Year: 2018

Volume: 16

Issue: 9

Start Page: 2490

End Page: 2495

Article

## On-line estimation of the aerobic phase length for partial nitrification processes in SBR based on features extraction and SVM classification

ISI SCOPUS

CHEMICAL ENGINEERING JOURNAL (1385-8947)

Jaramillo, F; Orchard, M; Munoz, C; Antileo, C; saez, d; Espinoza, P

Year: 2018

Volume: 331

Start Page: 114

End Page: 123

ConferenceProceedingWhole

## Sliding mode controller app lied to a levitated magnetic suspension system. A didactic view

Muñoz, Carlos; Fernandez, Mario

Year: 2018

End Page: 6

SCOPUS

Patent

## SISTEMA E MÉTODO PARA MONITORAMENTO ELETRÔNICO À DISTÂNCIA DE TEMPERATURA, LOCALIZAÇÃO E ACOMPANHAMENTO DE GADOS EM REGIME DE PASTAGEM SEMICONFINADO EM PROPRIEDADES OU PASTOS

()

Munoz-Poblete, C.; Huircan J.I.; Toneatti, M; Bustos, J.; Barriga, V; Vivallo, A

Year: 2018

Article

## Advanced strategies to improve nitrification process in sequencing batch reactors - A review

ISI SCOPUS

JOURNAL OF ENVIRONMENTAL MANAGEMENT (0301-4797)

Jaramillo, Francisco; Orchard, Marcos; Muñoz, Carlos; Zamorano, Mauricio; Antileo, Christian

Year: 2018

Volume: 218

Start Page: 154

End Page: 164

## Proyecto

**Smart-Agro=> Tecnologías IoT aplicadas a la detección temprana de cojera y de celo en vacas de lechería**

## FONDEF

ID18110360

Year(s): 2018-2020

Role: Director(a)

## ConferenceProceedingWhole

**Real fuzzy PID control of the UAV AR.Drone 2.0 for hovering under disturbances in known environments**

Nelson Gatica; Muñoz, Carlos; Patricio Sellado

Year: 2018

End Page: 6

SCOPUS

## ConferencePaper

**Methodology for Microgrid/Smart Farm Systems: Case of Study Applied to Indigenous Mapuche Communities**

(97830300 44466)

Vargas, C.; Morales, R.; Sáez, D.; Hernández, R.; Muñoz, C.; Huircán, J.; Espina, E.; Alarcón, C.; Caquilpan, V.; Painemal, N.; Roje, T.; Cárdenas, R.

Year: 2018

Start Page: 89

End Page: 105

SCOPUS

## ConferenceProceedingWhole

**Minimum time swing-up controller applied to a rotary inverted pendulum**

Alarcón, Claudio; Muñoz, Carlos

Year: 2018

End Page: 6

SCOPUS

## Journal Article

**Minimum Time Swing-Up Controller applied to a Rotary Inverted Pendulum**

2017 CHILEAN Conference on Electrical, Electronics Engineering, Information and Communication Technologies, CHILECON 2017 - Proceedings ()

Alarcón, Claudio; Muñoz, Carlos

Year: 2017

Start Page: 1

End Page: 6

## Proyecto

**FONDEF IDeA N° ID16110206. Sistema de apoyo a la toma de decisiones para la cosecha de frutas basadas en internet de las cosas**

Patricio Galeas; Carlos Muñoz; Juan Huircan; Cristian Duran; Mario Fernandez; Andres Segura

Identifier: FONDEF IDeA N° ID16I10206

Years: 2017-2019

Funding Agency/Sponsor: Conicyt

Journal Article

**Real fuzzy PID control of the UAV AR.Drone 2.0 for hovering under disturbances in known environments**

2017 CHILEAN Conference on Electrical, Electronics Engineering, Information and Communication Technologies (CHILECON) ()

Gatica, Nelson ; Muñoz, Carlos ; Sellado, Patricio

Year: 2017

Start Page: 1

End Page: 6

Journal Article

**Sliding mode controller applied to a levitated magnetic suspension system. A didactic view**

2017 CHILEAN Conference on Electrical, Electronics Engineering, Information and Communication Technologies (CHILECON) ()

Muñoz, Carlos ; Fernandez, Mario

Year: 2017

Start Page: 1

End Page: 6

Journal Article

**Forest fire monitoring system, with visible spectrum cameras, in Torres del Paine National Park; Chilean Patagonia**

2017 CHILEAN Conference on Electrical, Electronics Engineering, Information and Communication Technologies (CHILECON) ()

Navarro, Alejandro ; Burgos, Raúl ; Muñoz, Carlos

Year: 2017

Start Page: 1

End Page: 6

ConferencePaper

**Detector of walking state for cows through support vector machine based on accelerometers and gyroscopes installed on ear-tags and collars**

SCOPUS

2016 IEEE International Conference on Automatica, ICA-ACCA 2016 ()

Muñoz, C.; Roa, N.

Year: 2016

Proyecto

**Sistema de apoyo a la toma de decisiones para la cosecha de frutas basadas en internet de las cosas,**

FONDEF

ID16I10206

Year(s): 2016-2019

Role: Investigador(a)

## Journal Article

**Detector of walking state for cows through support vector machine based on accelerometers and gyroscopes installed on ear-tags and collars**

2016 IEEE International Conference on Automatica, ICA-ACCA 2016 ()

Muñoz Poblete, Carlos ; Roa Muñoz, Nicolas

Year: 2016

Start Page: 1

End Page: 6

## Journal Article

**Assessing the stability of parameters estimation and prediction accuracy in regression methods for estimating seed oil content in Brassica napus L. using NIR spectroscopy**

CHILECON 2015 - 2015 IEEE Chilean Conference on Electrical, Electronics Engineering, Information and Communication Technologies, Proceedings of IEEE Chilecon 2015 ()

Olivos-Trujillo, Marcos Gajardo; Humberto Salvo, Sonia Gonzalez; Anibal Muñoz, Carlos

Year: 2015

Start Page: 1

End Page: 6

## Proyecto

**Fondef IDeA N°ID14i10145 Detección de celos de vacas basado en monitoreo en tiempo real de señales de temperatura y movimiento mediante redes de sensores inalámbricos**

Carlos Omar Muñoz Poblete; Juan Ignacio Huiracan Quilaqueo; Jaime Macelo Bustos Gomez; Horacio Julio Miranda; Fernando Huenupan

Identifier: Fondef IDeA N°ID14i10145

Years: 2015-2017

Funding Agency/Sponsor: Comisión Nacional de Ciencia y Tectnología

## Article

**Profiles of Chilean students according to academic performance in mathematics: An exploratory study using classification trees and random forests**

ISI SCOPUS

()

Sanzana, MB; Garrido, SS; Poblete, CM

Year: 2015

Volume: 44

Start Page: 50

End Page: 59

## Proyecto

**Detección de celos de vacas basado en monitoreo en tiempo real de señales de temperatura y movimiento mediante redes de sensores inalámbricos**

FONDEF

ID14I10145

Year(s): 2015-2017

Role: Director(a)

Proyecto

**Diseño e Implementación de un Prototipo Experimental de Micro-redes para Comunidades Mapuche**

FONDEF

ID14I10063

Year(s): 2015-2017

Role: Investigador(a)

Proyecto

**Fondef IDeA ID14|10063 Diseño e Implementación de un Prototipo Experimental de Micro-redes para Comunidades Mapuche**

Doris Saez; Roberto Cardenas; Roberto Hernandez; Carlos Muñoz; Juan Huircan

Identifier: Fondef IDeA ID14|10063

Years: 2015-2017

Funding Agency/Sponsor: Conicyt

ConferencePaper

**Assessing the stability of parameters estimation and prediction accuracy in regression methods for estimating seed oil content in Brassica napus L. using NIR spectroscopy**

ISI SCOPUS

CHILECON 2015 - 2015 IEEE Chilean Conference on Electrical, Electronics Engineering, Information and Communication Technologies, Pro ()

Olivos-Trujillo M.; Gajardo H.A.; Salvo, S; González A; Munoz, C

Year: 2015

Start Page: 25

End Page: 30

BookSection

**Sistematizando la asignatura de control avanzado para que los alumnos construyan su aprendizaje clase a clase**

(978-956-236-234-4)

Muñoz, C.

Year: 2013

Start Page: 49

End Page: 56

Proyecto

**Dispositivo Aéreo Programable para el desarrollo de habilidades lógico-matemática en estudiantes de niveles escolares iniciales=> e-DiVo**

FONDEF

CA12i10223

Year(s): 2013-2014

Role: Investigador(a)

Article

**Actuators monitoring system for real-time control of nitrification-denitrification via nitrite on long term operation**

ISI SCOPUS

Chemical Engineering Journal (13858947)

Antileo, C.; Medina H.; Bornhardt, C; Munoz, C; Jaramillo, F; Proal, J

Year: 2013

Volume: 223

Start Page: 467

End Page: 478

Article

**Comparison of linear regression models considering heteroscedasticity of fruits and flower buds of highbush blueberry cultivated in Chile**

ISI SCOPUS

SCIENTIA HORTICULTURAE (0304-4238)

Avila J.; Salvo, S; Munoz, C

Year: 2013

Volume: 151

Start Page: 57

End Page: 62

Article

**Symplectic feedback using Hamiltonian Lie algebra and its applications to an inverted pendulum**

SCOPUS

Journal of Control Theory and Applications (16726340)

Espiro, J. Lorca; Poblete, C. Muñoz

Year: 2013

Volume: 11

Issue: 2

Start Page: 275

End Page: 281

BookSection

**Monitoreo Electrónico en Cultivares de arándanos**

Muñoz, C.; Huircán, J.I.

Year: 2012

Start Page: 221

End Page: 245

BookSection

**Modelo predictivo de producción de arándanos**

Salvo, S.; Muñoz, C.; Bustos, J.; Ávila, J.; Silva, C.

Year: 2012

Start Page: 255

End Page: 278

## BookSection

**Importancia de las temperaturas en las zonas centro y sur de Chile**

Silva, C.; Salvo, S.; Muñoz, C.; Ávila, J.

Year: 2012

Start Page: 19

End Page: 33

## Proyecto

**Development of a step-fed operation mode in a sequencing batch reactor (SBR) for nitrogen removal=> minimization of energy requirements using an optimization control system**

Diufro dirección de investigación de la Universidad de La Frontera (DI12-0088)

Year(s): 2012-2015

Role: Inv. Principal

## Article

**Image Correlation Method for DNA Sequence Alignment**

ISI SCOPUS

PLOS ONE (1932-6203)

Curilem Saldias M.; Villarroel Sassarini F.; Munoz Poblete C.; Vargas Vasquez A.; Maureira-Butler, I

Year: 2012

Volume: 7

Issue: 6

## Article

**An estimate of potential blueberry yield using regression models that relate the number of fruits to the number of flower buds and to climatic variables**

ISI SCOPUS

SCIENTIA HORTICULTURAE (0304-4238)

Salvo, S; Munoz, C; Avila J.; Bustos, J.; RAMIREZ VALDIVIA, M.; Silva C.; Vivallo A.G.

Year: 2012

Volume: 133

Issue: 1

Start Page: 56

End Page: 63

## Article

**Prediction of harvest start date in highbush blueberry using time series regression models with correlated errors**

ISI SCOPUS

SCIENTIA HORTICULTURAE (0304-4238)

Munoz, C; Avila J.; Salvo, S; Huircan J.I.

Year: 2012

Volume: 138

Start Page: 165

End Page: 170

Article

### Sensitivity in the estimation of parameters fitted by simple linear regression models in the ratio of blueberry buds to fruits in Chile using percentage counting

ISI SCOPUS

SCIENTIA HORTICULTURAE (0304-4238)

Salvo, S; Munoz, C; Avila J.; Bustos, J.; Cariaga E.; Silva C.; Vivallo A.G.

Year: 2011

Volume: 130

Issue: 2

Start Page: 404

End Page: 409

Proyecto

### Empaquetamiento Tecnológico para un Sistema de Manejo Electrónico de Ganado MEGA

Innova-Corfo L4 (11IDL4-10704)

Year(s): 2011-2013

Role: Inv. Responsable

Article

### ZigBee-based wireless sensor network localization for cattle monitoring in grazing fields

ISI SCOPUS

Computers and Electronics in Agriculture (1681699)

Huircan, JI; Munoz, C; Young, H.; Von Dossow, L; Bustos, J.; Vivallo A.G.; Toneatti, M

Year: 2010

Volume: 74

Issue: 2

Start Page: 258

End Page: 264

Proyecto

### Corfo Innova 11IDL4-10704. Empaquetamiento tecnológico para un sistema de manejo electrónico de ganado

Gabriel Vivallo; Carlos Muñoz; Juan Huircan; Jaime Bustos

Identifier: Corfo Innova 11IDL4-10704

Years: 2010-2011

Funding Agency/Sponsor: Corfo

Article

### Dynamic modeling of partial nitrification in a rotating disk biofilm reactor: Calibration, validation and simulation

ISI SCOPUS

BIOCHEMICAL ENGINEERING JOURNAL (1369703X)

Huiliñir C.; Romero R.; Munoz, C; Bornhardt, C; Roedel, M; Antileo, C.

Year: 2010

Volume: 52

Issue: 1

Start Page: 7



## Article

**Supervisory control system to enhance partial nitrification in an activated sludge reactor**

ISI SCOPUS

CHEMICAL ENGINEERING JOURNAL (1385-8947)

Munoz, C; Rojas D.; Candia O.; Azócar L.; Bornhardt, C; Antileo, C.

Year: 2009

Volume: 145

Issue: 3

Start Page: 453

End Page: 460

## Article

**Sliding mode control of dissolved oxygen in an integrated nitrogen removal process in a sequencing batch reactor (SBR)**

ISI SCOPUS

Water Science and Technology (2731223)

Munoz, C; Young, H.; Antileo, C.; Bornhardt, C

Year: 2009

Volume: 60

Issue: 10

Start Page: 2545

End Page: 2553

## ConferencePaper

**TICs y Ganadería: Manejo Electrónico de Ganado.**

Huircan, J.; Bustos, J.; Muñoz, C.; Toneatti, M.

Year: 2009

## Article

**Fuzzy Logic in Genetic Regulatory Network Models**

ISI SCOPUS

INTERNATIONAL JOURNAL OF COMPUTERS COMMUNICATIONS CONTROL (1841-9836)

Munoz, C; Vargas F.; Bustos, J.; Curilem, M.; Salvo, S; Miranda, H.

Year: 2009

Volume: 4

Issue: 4

Start Page: 363

End Page: 373

## Proyecto

**Desarrollo de un modelo predictivo para la producción de arándanos en la región de la Araucanía**

Innova- Corfo L2 (07cn13pat-213)

Year(s): 2008-2012

Role: Investigador(a)

Proyecto

**Innova-Corfo L2 07cn13pat-213 - Formulación de un Modelo Predictivo de Producción de Arándanos para la Región de la Araucanía**

Vivallo, A.; Muñoz, C.

Identifier: 07cn13pat-213

Years: 2008-2012

Funding Agency/Sponsor: Innova-Corfo L2

Proyecto

**Manejo Electrónico de Ganado**

FONDEF

D05I10298

Year(s): 2007-2009

Role: Investigador(a)

Proyecto

**Optimization of a simultaneous nitrification-denitrification process (snd) via nitrite, using monitoring tools control a sequencing batch biofilm reactor (SBBR)**

FONDECYT

1070574

Year(s): 2007-2010

Role: Coinvestigador(a)

Article

**Detección de incendios forestales utilizando imágenes NOAA/16-LAC en la Región de La Araucanía, Chile**

SCIELO

BOSQUE (0717-9200)

Muñoz, Carlos; Acevedo, Patricio; Salvo, Sonia; Fagalde, Gonzalo; Vargas, Francisco

Year: 2007

Volume: 28

Issue: 2

Start Page: 119

End Page: 128

Proyecto

**FONDEF D05I10298 - Manejo Electrónico de Ganado**

Vivallo, A.; Muñoz, C.

Identifier: Fondef D05I10298

Years: 2007-2009

Funding Agency/Sponsor: Conicyt

Article

**Novel operational strategy for partial nitrification to nitrite in a sequencing batch rotating disk reactor**

ISI SCOPUS

BIOCHEMICAL ENGINEERING JOURNAL (1369-703X)

Antileo, C.; Werner, A; Ciudad G.; Munoz, C; Bornhardt, C; jeison, d; Urrutia, H

Year: 2006

Volume: 32

Issue: 2

Start Page: 69

End Page: 78

Article

**Differential kinetics of ammonia- and nitrite-oxidizing bacteria: A simple kinetic study based on oxygen affinity and proton release during nitrification**

ISI SCOPUS

PROCESS BIOCHEMISTRY (1359-5113)

Ciudad G.; Werner, A; Bornhardt, C; Munoz, C; Antileo, C.

Year: 2006

Volume: 41

Issue: 8

Start Page: 1764

End Page: 1772

Proyecto

**Red inalámbrica transversal de alta velocidad**

Corfo ChileInnova (05CT5TIP-04)

Year(s): 2005-2007

Role: Investigador(a)

Article

**Control and instrumentation for wastewater treatment plants, by Reza Katebi, Michael A. Jonson and Jacqueline Wilkie, Series on Advances in Industrial Control, Springer, London, UK, 1999, ISBN: 1-852-33054-6**

International Journal of Adaptive Control and Signal Processing (08906327)

Muñoz, Carlos

Year: 2005

Volume: 19

Issue: 1

Start Page: 60

End Page: 61

ConferencePaper

**Design and development of a soft-sensor for ammonia degradation and nitrite accumulation in an activated sludge reactor**

SCOPUS

ICIECA 2005: International Conference on Industrial Electronics and Control Applications 2005 (0780394194; 9780780394193)

Carlos M.P.; Daniel R.A.; Christian A.H.

Year: 2005

Volume: 2005

Article

**Control Difuso Adaptivo y su Aplicación a una Planta Piloto de Secado por Lecho Fluidizado**

SCIELO

INFORMACION TECNOLOGICA (0718-0764)

Velásquez I.; Torres, F; Munoz, C; Shene C.

Year: 2005

Volume: 16

Issue: 5

Start Page: 65

End Page: 73

Proyecto

**Desarrollo de sistemas de control para una planta por lecho fluidizado**

DIDUFRO

Year(s): 2003-2005

Role: Coinvestigador(a)

Proyecto

**Fondecyt N° 1030317 Desarrollo de una estrategia para la operación estable de un sistema de nitrificación/desnitrificación vía nitrito**

Christian Antileo; Carlos Muñoz

Identifier: Fondecyt 1030317

Years: 2003-2007

Funding Agency/Sponsor: Conicyt

Proyecto

**Desarrollo De Una Estrategia Para La Operacion Estable De Un Sistema De Nitrificacion/Desnitrificacion Via Nitrito**

FONDECYT

1030317

Year(s): 2003-2005

Role: Coinvestigador(a)

Proyecto

**Diseño de controladores predictivos y su aplicación a Ball and Beam**

DIDUFRO (20225)

Year(s): 2002-2003

Role: Inv. Responsable

Proyecto

**Coordinación de Robots Móviles Aereos y Terrestres (CROMAT)**

CICYT (DPI2002-04401-C03-03)

Year(s): 2002-2002

Role: Coinvestigador(a)

ConferencePaper

**Model-based predictive control with fuzzy characterization of goals and constraints, applied to the dynamic optimization of grinding plants**

ISI SCOPUS

10TH IEEE INTERNATIONAL CONFERENCE ON FUZZY SYSTEMS, VOLS 1-3: MEETING THE GRAND CHALLENGE: MACHINES THAT SERVE PEOPLE ()

Orchard M.; Flores A.; Munoz, C; Cipriano A.

Year: 2001

Start Page: 916

End Page: 919

ConferencePaper

**Predictive control with fuzzy characterization of percentage of solids, particle size and power demand for minerals grinding**

ISI SCOPUS

PROCEEDINGS OF THE 2001 IEEE INTERNATIONAL CONFERENCE ON CONTROL APPLICATIONS (CCA'01) ()

Orchard M.; Flores A.; Munoz, C; Cipriano A.

Year: 2001

Start Page: 600

End Page: 605

Article

**An integrated system for supervision and economic optimal control of mineral processing plants**

Minerals Engineering (08926875)

Muñoz, C.; Cipriano, A.

Year: 1999

Volume: 12

Issue: 6

Start Page: 627

End Page: 643

ISI

Article

**An Integrated System for Real-Time Supervision and Economic Optimal Control with Application to Mineral Processing Plants**

IFAC Proceedings Volumes (14746670)

Cipriano, A.; Concha, J.; Pajares, E.; Muñoz, C.

Year: 1998

Volume: 31

Issue: 4

Start Page: 65

End Page: 69

Article

**A Dynamic Low-Cost Simulator for Grinding-Flotation Plants**

IFAC Proceedings Volumes (14746670)  
Cipriano, Aldo; Muñoz, Carlos  
Year: 1995  
Volume: 28  
Issue: 19  
Start Page: 267  
End Page: 272

Proyecto

**IDENTIFICACION DE MODELOS DIFUSOS Y SU APLICACION AL DISEÑO DE ESTRATEGIAS DE SUPERVISION Y CONTROL.**

FONDECYT

1940611  
Year(s): 1994-1996  
Role: Tesista

Proyecto

**05CT5TIP-04 - RED INALÁMBRICA TRANSVERSAL DE ALTA VELOCIDAD PARA EL DESARROLLO PRODUCTIVO Y SOCIAL DE LA IX REGIÓN**

Muñoz, C.  
Identifier: 05CT5TIP-04  
Years: 2005 - 2007  
Funding Agency/Sponsor: Corfo ChileInnova

Proyecto

**Smart Parking**

José Navarrete; Carlos Muñoz; Patricio Galeas; Juan Huircan  
Identifier: Corfo 16ITE1-57871, Línea Innovación en productos y procesos (Prototipo)  
Years: 2016  
Funding Agency/Sponsor: Corfo