

Publications du service "Service Systèmes, Estimation, Commande et Optimisation"

2022

Périodiques scientifiques/Article

- Rueda-Escobedo, J. G., Sbarciog, M., Moreno, J. A., Van Impe, J., & Vande Wouwer, A. (September 2022). Robust state and input estimation with enhanced convergence rate for monitoring anaerobic digestion. "Journal of Process Control, 117", 169-180. doi:10.1016/j.jprocont.2022.07.014
Texte intégral : [Robust state and input estimation with enhanced convergence rate for monitoring anaerobic digestion.pdf](#) (Accès libre)
- Tellez-Castro, D., Garcia-Tenorio, C., Mojica-Nava, E., Sofrony, J., & VANDE WOUWER, A. (06 June 2022). Data-Driven Predictive Control of Interconnected Systems Using the Koopman Operator. "Actuators, 11" (6), 151. doi:10.3390/act11060151
Texte intégral : [Data-Driven Predictive Control of Interconnected Systems.pdf](#) (Accès libre)
- Lopez Jimenez, J., Vande Wouwer, A., & Quijano, N. (12 March 2022). Dynamic Modeling of Crop-Soil Systems to Design Monitoring and Automatic Irrigation Processes: A Review with Worked Examples. "Water, 14" (6), 889.
Texte intégral : [water-14-00889-v2.pdf](#) (Accès libre)
- Abadli, M., Dewasme, L., Tebbani, S., Dumur, D., & Vande Wouwer, A. (20 January 2022). Experimental validation of a nonlinear model predictive controller regulating the acetate concentration in fed-batch Escherichia coli BL21(DE3) cultures. "Advanced Control for Applications, 4" (1), 95.
Texte intégral : [Abadli2022.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Chernev, V. P., Vande Wouwer, A., Kienle, A., & Santos, L. O. (05 July 2022). "Control of Simulated Moving Bed Chromatographic Processes". Paper presented at 41st Benelux Meeting on Systems and Control 2022, Brussels, Belgium.
Texte intégral : [Benelux_meeting_2022-Chernev-Vande_Wouwer-Kienle-Santos.pdf](#) (Accès libre)
- Zamudio Iara, J., Dewasme, L., Hernández Escoto, H., & Vande Wouwer, A. (05 July 2022). "Experimental modeling of a beer fermentation process". Paper presented at Benelux Meeting on Systems and Control 2022, Bruxelles, Belgium.
Texte intégral : [Zamudio.pdf](#) (Accès libre)

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Chernev, V. P.* , Santos, L. O., Vande Wouwer, A.* , & Kienle, A. (2022). Model Predictive Control of Simulated Moving Bed Chromatographic Processes Using Conservation Element/Solution Element Method. "Proceedings of the 2022 26th International Conference on System Theory, Control and Computing (ICSTCC)", 355-361. doi:10.1109/ICSTCC55426.2022.9931774
Texte intégral : [Model_Predictive_Control_of_Simulated_Moving_Bed_Chromatographic_Processes_Using_Conservation_Element_Solution_Element_Method.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Hernández-Escoto, H., Dewasme, L., & Vande Wouwer, A. (2022). Optimal Operation of a Distillation Process Through Extremum Seeking Control. "Memorias del Congreso Nacional de Control Automático".
Texte intégral : [Escoto2022.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Araujo Pimentel, G., Dewasme, L., & Vande Wouwer, A. (07 August 2022). Data-driven Linear Predictor based on Maximum Likelihood Nonnegative Matrix Decomposition for Batch Cultures of Hybridoma Cells. "IFAC-PapersOnLine, 55" (7), 903-908.
Texte intégral : [Pimentel2022.pdf](#) (Accès libre)
- Dewasme, L., Jeanne, G., Saint Cristau, L., Barraud, C., & Vande Wouwer, A. (27 July 2022). Advanced monitoring of viral amplification process by soft sensing. "IFAC-PapersOnLine, 55" (20), 487-492.

Texte intégral : [Dewasme2022c.pdf](#) (Accès libre)

Colloques et congrès scientifiques/Communication publiée sur un site web

- Dewasme, L., & Vande Wouwer, A. (06 December 2022). "Two Simple Model-free Extremum Seeking Strategies with Convergence Acceleration through Hessian Estimation". Paper presented at 61st IEEE Conference on Decision and Control, Cancun, Mexico.
Texte intégral : [Dewasme2022d.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

2021

Périodiques scientifiques/Article

- Yupanqui Tello, I. F., Vande Wouwer, A., & Coutinho, D. (09 December 2021). A Concise Review of State Estimation Techniques for Partial Differential Equation Systems. "Mathematics, Mathematics 2021" (9(24)), 3180.
Texte intégral : [A_Concise_Review_of_State_Estimation_Techniques_for_Partial_Differential_Equation_Systems.pdf](#) (Accès libre)
- Bastin, G., Chotteau, V., & Vande Wouwer, A. (23 November 2021). Metabolic Flux Analysis of VERO Cells under Various Culture Conditions. "Processes, Processes 2021" (9(12)), 2097.
Texte intégral : [Metabolic_Flux_Analysis_of_VERO_Cells_under_Various_Culture_Conditions.pdf](#) (Accès libre)
- Bogaerts, P., & Vande Wouwer, A. (02 September 2021). How to Tackle Underdeterminacy in Metabolic Flux Analysis? A Tutorial and Critical Review. "Processes, Processes 2021" (9(9)), 1577.
Texte intégral : [How_to_Tackle_Underdeterminacy_in_Metabolic_Flux_Analysis_A_Tutorial_and_Critical_Review.pdf](#) (Accès libre)
- Feudjio Letchindjio, C. G., Zamudio Lara, J. M., Dewasme, L., Hernandez Escoto, H., & Vande Wouwer, A. (02 August 2021). Dual-input Slope Seeking Control of Continuous Micro-algae Cultures with Experimental Validation. "Applied Sciences, 11" (16), 7451.
Texte intégral : [Feudjio2021.pdf](#) (Accès libre)
- Abadli, M., Dewasme, L., Tebbani, S., Dumur, D., & Vande Wouwer, A. (12 June 2021). An Experimental Assessment of Robust control and Estimation of Acetate Concentration in Escherichia coli BL21(DE3) Fed-batch Cultures. "Biochemical Engineering Journal, 174", 108103.
Texte intégral : [Abadli2021.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Garcia Tenorio, C., Mojica-Nava, E., Sbarciog, M., & Vande Wouwer, A. (05 June 2021). Analysis of the ROA of an anaerobic digestion process via data-driven Koopman operator. "Nonlinear Engineering, 10" (1), 109-131. doi:10.1515/nleng-2021-0009
Texte intégral : [10.1515_nleng-2021-0009.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Yupanqui Tello, I. F., Vande Wouwer, A., & Coutinho, D. (01 June 2021). Extended Kalman Filter Design for Semilinear Distributed Parameter Systems with Application to Anaerobic Digestion. "System Theory, Control and Computing Journal, 1" (1), 95-103.
Texte intégral : [Extended_Kalman_Filter_Design_for_Semilinear_Distributed_Parameter_Systems_with_Application_to_Anaerobic_Digestion.pdf](#) (Accès libre)
- Garcia Tenorio, C., Delansnay, G., Mojica-Nava, E., & Vande Wouwer, A. (24 May 2021). Trigonometric Embeddings in Polynomial Extended Mode Decomposition - Experimental Application to an Inverted Pendulum. "Mathematics, 9", 1119.
Texte intégral : [mathematics-09-01119-v2.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Garcia Gen, S., & Vande Wouwer, A. (07 February 2021). A model-based optimisation strategy for the start-up of anaerobic co-digestion processes. "Renewable Energy, 170", 693-702. doi:10.1016/j.renene.2021.02.007
Texte intégral : [A_model-based_optimisation_strategy_for_the_start-up_of_anaerobic_codigestion_processes.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Lopez Jimenez, J. A., Quijano, N., & Vande Wouwer, A. (04 January 2021). An Agent-Based Crop Model Framework for Heterogeneous Soils. "Agronomy, 11" (85). doi:10.3390/agronomy11010085
Texte intégral : [An_Agent-Based_Crop_Model_Framework_for_Heterogeneous_Soils.pdf](#) (Accès libre)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Delansnay, G., Vande Wouwer, A., Harno G., H., & Yoonsoo, K. (29 June 2021). "Zonotopic Reachability Analysis of Multirotor Aircraft". Paper presented at 40th Benelux Meeting on Systems and Control 2021, Rotterdam, Netherlands.
Texte intégral : [SafeFlightEnvelopeOfClosedLoopQuadcopters_BeneluxMeetings.pdf](#) (Accès libre)
- Dewasme, L. (28 January 2021). "Dynamic optimization of continuous microalgae cultures". Paper presented at 3ème WORKSHOP VIRTUEL DU PROJET ALPO - Nouveaux matériaux polymères issus de la biomasse micro-algale, Virtual, Unknown/unspecified.
Texte intégral : [Session1_presentation3.pdf](#) (Accès libre)

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Delansnay, G., Vande Wouwer, A., Harno G., H., & Yoonsoo, K. (2021). Zonotopic Reachability Analysis of Multirotor Aircraft. "2021 25th International Conference on System Theory, Control and Computing (ICSTCC)".
Texte intégral : [Zonotopic_Reachability_Analysis_of_Multirotor_Aircraft.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Dewasme, L., & Vande Wouwer, A. (23 September 2021). Fast transient optimization of social distancing during Covid-19 pandemics using extremum seeking. "IFAC-PapersOnLine, 54" (15), 145-150.
Texte intégral : [Dewasme_BMS.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Sion, A., Birglen, L., & Vande Wouwer, A. (2021). "Gait Simulation of an Hexapodal Robot Walking Across Various Terrains". Paper presented at 2021 CCToMM Symposium on Mechanisms, Machines, and Mechatronics, Oshawa, Ontario, Canada.
- Dewasme, L., Vande Wouwer, A., Feudjio Letchindjio, C. G., Ahmad, A., & Engell, S. (12 February 2021). Maximum-likelihood extremum seeking control of microalgae cultures. "IFAC-PapersOnLine, 54" (3), 336-341.
Texte intégral : [Dewasme2021.pdf](#) (Accès libre)

Colloques et congrès scientifiques/Communication publiée sur un site web

- Garcia Tenorio, C., Vande Wouwer, A., Abbate, T., & Rijmenans, L. (20 October 2021). "PFR Kiln Feature Selection for Modelling and Control". Paper presented at 25th International Conference on System Theory, Control and Computing, Iasi, Romania. doi:10.1109/ICSTCC52150.2021.9607084
Texte intégral : [PFR_Kiln_Feature_Selection_for_Modelling_and_Control.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Rapports/Rapport de recherche interne

- Hantson, A.-L., Wattiez, R., Thomas, D., Gerbaux, P., Vande Wouwer, A., Raquez, J. M., Delort, C., Berriche, H., Van Camp, C., Bouanati, T., & Dewasme, L. (2021). "Rapport d'activités - Projet Algotech - 1510612-Rapport semestriel S7".
Texte intégral : [FEDER2015Algotech1510612-validé_20210330_S7.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Hantson, A.-L., Wattiez, R., Thomas, D., Gerbaux, P., Vande Wouwer, A., Raquez, J. M., Delort, C., Berriche, H., & Van Camp, C. (2021). "Complément FEDER Algotech - Convention n° 1510612 - Rapport annuel de recherche - janvier 2019- décembre 2019 2020-11-02".
Texte intégral : [Complément_Feder_-Algotech_-_1510612_-_Rapport_Scientifique_-_n3.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Hantson, A.-L., Wattiez, R., Thomas, D., Gerbaux, P., Vande Wouwer, A., Raquez, J. M., Delort, C., Berriche, H., Van Camp, C., Bouanati, T., & Dewasme, L. (2021). "Rapport d'activités - Projet Algotech - 1510612- Rapport semestriel 6".
Texte intégral : [dgo6_rapports20171_S6_RA_RS.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Hantson, A.-L., Wattiez, R., Thomas, D., Gerbaux, P., Vande Wouwer, A., Raquez, J. M., Delort, C., Berriche, H., Van Camp, C., Bouanati, T., & Dewasme, L. (2021). "Rapport d'activités - Projet Algotech - 1510612 - Rapport semestriel S5".
Texte intégral : [FEDER2015Algotech1510612-validé_210202_S5.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

2020

Périodiques scientifiques/Article

- Grimard, J., Dewasme, L., & Vande Wouwer, A. (07 December 2020). Dynamic model reduction and predictive control of hot-melt extrusion applied to drug manufacturing. "IEEE Transactions on Control Systems Technology, 29" (6), 2366-2378. doi:10.1109/TCST.2020.3038028
Texte intégral : [IEEE_Trans_CST_Grimard_v2.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Gorrini, F., Zamudio Lara, J. M., Biagiola, S., Jose, F., Hernandez Escoto, H., Hantson, A.-L., & Vande Wouwer, A. (27 November 2020). Experimental Study of Substrate Limitation and Light Acclimation in Cultures of the Microalgae *Scenedesmus obliquus* - Parameter Identification and Model Predictive Control. "Processes, 8" (1551). doi:10.3390/pr8121551
Texte intégral : [Experimental_Study_of_Substrate_Limitation_and_Light_Acclimation_in_Cultures_of_The_Microalgae_Scenedesmus_obliquus.pdf](#) (Accès libre)
- Dewasme, L., & Vande Wouwer, A. (01 November 2020). Experimental validation of a full-horizon interval observer applied to hybridoma cell cultures. "International Journal of Control, 93" (11), 2719-2728. doi:10.1080/00207179.2019.1608372
Texte intégral : [Dewasme2019b.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Feudjio Letchindjio, C. G., Dewasme, L., & Vande Wouwer, A. (2020). An experimental application of extremum seeking control to cultures of the microalgae *Scenedesmus obliquus* in a continuous photobioreactor. "International Journal of Adaptive Control and Signal Processing", 1-13. doi:10.1002/acs.3196
Texte intégral : [Feudjio2020.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Chernev, V., Vande Wouwer, A., & KIENLE, A. (20 October 2020). Efficient Simulation of Chromatographic Processes Using the Conservation Element/Solution Element Method. "Processes, 8(10)". doi:10.3390/pr8101316
Texte intégral : [Efficient_Simulation_of_Chromatographic_Processes_Using_the_Conservation_Element_Solution_Element_Method.pdf](#) (Accès libre)
- Miranda Almeida, P., Dewasme, L., & Vande Wouwer, A. (17 October 2020). Denitrification Control in a Recirculating Aquaculture System - A Simulation Study. "Processes, 8" (10), 1306. doi:10.3390/pr8101306
Texte intégral : [Almeida2020.pdf](#) (Accès libre)
- Dewasme, L., & Vande Wouwer, A. (25 September 2020). Model-Free Extremum Seeking Control of Bioprocesses: A Review with a Worked Example. "Processes, 8" (10), 1209. doi:10.3390/pr8101209
Texte intégral : [Dewasme2020b.pdf](#) (Accès libre)
- Sbarciog, M., & Vande Wouwer, A. (04 July 2020). A constructive approach to assess the stability of anaerobic digestion systems. "Chemical Engineering Science, 227", 115931. doi:10.1016/j.ces.2020.115931
Texte intégral : [A_constructive_approach_to_assess_the_stability_of_anaerobic_digestion_systems.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Abadli, M., Dewasme, L., Tebbani, S., Dumur, D., & Vande Wouwer, A. (01 July 2020). Generic model control applied to *E. coli* BL21(DE3) fed-batch cultures. "Processes, 8" (7), 772. doi:10.3390/pr8070772
Texte intégral : [Abadli2020.pdf](#) (Accès libre)

- ABBATE, T., Sbarciog, M., Dewasme, L., & Vande Wouwer, A. (01 April 2020). Experimental Validation of a Cascade Control Strategy for Continuously Perfused Animal Cell Cultures. "Processes, 8" (4), 413. doi:10.3390/pr8040413
Texte intégral : [Abbate2020.pdf](#) (Accès libre)
- Abbate, T., Dewasme, L., Vande Wouwer, A., & Bogaerts, P. (01 February 2020). Adaptive Flux Variability Analysis of HEK Cell Cultures. "Computers and Chemical Engineering, 133", 106633.
Texte intégral : [Abbate2019c.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Dewasme, L. (24 January 2020). Neural network-based software sensors for the estimation of key components in brewery wastewater anaerobic digester: an experimental validation. "Water Science and Technology, 80" (10), 1975-1985. doi:10.2166/wst.2020.019
Texte intégral : [Dewasme2020.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Lopez Jimenez, J. A., Quijano, N., & Vande Wouwer, A. (03 October 2020). "Particle filter design for an agent-based crop model". Paper presented at 39th Benelux Meeting on Systems and Control, Elspeet, Netherlands.
- Dewasme, L. (25 June 2020). "In silico modelling of animal cell cultures". Paper presented at S3martMed Virtual Brokerage Event, Lyon, France.
Texte intégral : [Presentation_25062020.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Garcia Tenorio, C., Mojica-Nava, E., & Vande Wouwer, A. (10 March 2020). "Linear Predictors for Interconnected Systems: a Koopman Operator Approach". Paper presented at 39th Benelux Meeting on Systems and Control, Elspeet, Netherlands.
- Njinwoua, B., & Vande Wouwer, A. (10 March 2020). "Extended Kalman Filter for Accurate Distance Estimation Using RSSI and GPS Measurements in Quadcopter Formation Flights". Paper presented at 39th Benelux Meeting on Systems and Control, Elspeet, Netherlands.

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Yupanqui Tello, I. F., Vande Wouwer, A., & Ferreira Coutinho, D. (2020). "LMI Observer Design for a Class of Tubular Reactors". Paper presented at 24th International Conference on System Theory, Control and Computing, Sinaia, Romania.
- Yupanqui Tello, I. F., Vande Wouwer, A., & Ferreira Coutinho, D. (2020). "Extension of Kalman Filtering to Semilinear PDE Systems-Application to Pulp and Paper". Paper presented at 24th International Conference on System Theory, Control and Computing, Sinaia, Romania.
Texte intégral : [ICSTCC_1__final.pdf](#) (Accès libre)
- Lopez Jimenez, J. A., Dewasme, L., Quijano, N., & Vande Wouwer, A. (2020). "Towards agent-based modeling of crop irrigation". Paper presented at 11th International Conference on Simulation and Modelling in the Food and Bio-Industry, Ghent, Belgium.
- Sbarciog, M., Vande Wouwer, A., Van Impe, J. F. M., & Dewasme, L. (2020). "Extremum Seeking Control of a Three-Stage Anaerobic Digestion Model". Paper presented at 21st IFAC World Congress, Berlin, Germany.
Texte intégral : [Sbarciog2020.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Dewasme, L. (2020). "Brewery wastewater treatment plant key-component estimation using moving-window recurrent neural networks". Paper presented at 21st IFAC World Congress, Berlin, Germany.
Texte intégral : [Dewasme2020b.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Yupanqui Tello, I. F., Vande Wouwer, A., & Ferreira Coutinho, D. (2020). "Observer Design for Chemical Tubular Reactors Based on System Linearization". Paper presented at European Control Conference 2020, Saint Petersburg, Russia.
Texte intégral : [root.pdf](#) (Accès libre)

Rapports/Rapport de recherche interne

- Hantson, A.-L., Wattiez, R., Thomas, D., Gerbaux, P., Vande Wouwer, A., Raquez, J. M., Delort, C., Berriche, H., Van Camp, C., Bouanati, T., & Dewasme, L. (2020). "Complément FEDER Algotech - Convention n° 1510612 - Rapport annuel de recherche - janvier 2018- décembre 2018".
Texte intégral : [Rapport_scientifiqueComplement_Feder_-_ALGOTECH_-_1510612_-_Rapport_scientifique_2.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Hantson, A.-L., Wattiez, R., Thomas, D., Gerbaux, P., Vande Wouwer, A., Raquez, J. M., Delort, C., Berriche, H., Van Camp, C., Bouanati, T., & Dewasme, L. (2020). "Complément FEDER Algotech - Convention n° 1510612 - Rapport annuel de recherche - janvier 2017- décembre 2017".
Texte intégral : [rapport_de_recherche_S1-S2_All_1012_LD_\(002\).pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Allocutions et communications diverses/Autre

- Feudjio Letchindjio, C. G., Dewasme, L., Deschênes, J.-S., & Vande Wouwer, A. (2020). "An Original Extremum Seeking Strategy applied to Photobioreactors".

2019

Périodiques scientifiques/Article

- ABBATE, T., Fernandes de Sousa, S., Dewasme, L., Bastin, G., & Vande Wouwer, A. (15 November 2019). Inference of dynamic macroscopic models of cell metabolism based on elementary flux modes analysis. "Biochemical Engineering Journal, 151", 107325.
Texte intégral : [Abbate2019b.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Huynh, H., Assadi, H., Rivière, E., Verlinden, O., & Ahmadi, K. (17 September 2019). Modelling the dynamics of industrial robots for milling operations. "Robotics and Computer-Integrated Manufacturing, 61". doi:10.1016/j.rcim.2019.101852
Texte intégral : [RCIM_ModellingDynamicsRobot_HNH_2019.pdf](#) (Accès libre)
- Fekih-Salem, R., Dewasme, L., Castro, C., Nobre, C., Hantson, A.-L., & Vande Wouwer, A. (02 August 2019). Sensitivity analysis and reduction of a dynamic model of a bioproduction of fructo oligosaccharides. "Bioprocess and Biosystems Engineering, 42" (11), 1793-1808. doi:10.1007/s00449-019-02176-9
Texte intégral : [FekihSalem2019b.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Fekih-Salem, R., Schorsch, J., Dewasme, L., Castro, C., Hantson, A.-L., Kinnaert, M., & Vande Wouwer, A. (03 July 2019). Data-driven modeling and optimal control of the production of Fructo-Oligosaccharides by Aureobasidium pullulans. "Journal of Process Control, 81", 136-149.
Texte intégral : [FekihSalem2019a.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Feudjio Letchindjio, C., Dewasme, L., Deschênes, J.-S., & Vande Wouwer, A. (06 June 2019). An extremum seeking strategy based on block-oriented models: application to biomass productivity maximization in micro-algae cultures. "Industrial and Engineering Chemistry Research, 58" (30), 13481-13494. doi:10.1021/acs.iecr.9b00667
Texte intégral : [Feudjio2019_inpress.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Suvarov, P., Lee, J. W., Vande Wouwer, A., Seidel-Morgenstern, A., & KIENLE, A. (24 May 2019). Online estimation of optimal operating conditions for simulated moving bed chromatographic processes. "Journal of Chromatography. A, 1602", 266-272. doi:10.1016/j.chroma.2019.05.042
Texte intégral : [Online_estimation_of_optimal_operating_conditions_for_simulated_moving_bed_chromatographic_processes.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Chauvon, G., Saucez, P., & Vande Wouwer, A. (2019). An implementation of geometric integration within Matlab. "Simulation", 1-13. doi:10.1177/0037549719835026
Texte intégral : [geometric_integrators_-_simulation.pdf](#) (Accès libre)

- Dewasme, L., Sbarciog, M., Rocha-Cozatl, E., Haugen, F., & Vande Wouwer, A. (01 April 2019). State and unknown input estimation of an anaerobic digestion reactor with experimental validation. "Control Engineering Practice, 85", 280-289. doi:10.1016/j.conengprac.2019.02.003
Texte intégral : [Dewasme2019.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Dimassi, H., Winkin, J., & Vande Wouwer, A. (01 February 2019). A sliding mode observer for a linear reaction-convection-diffusion equation with disturbances. "Systems and Control Letters, 124", 40-48.
Texte intégral : [A sliding mode observer for a linear reactionconvectiondiffusion equation with disturbances.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Abbate, T., Dewasme, L., & Vande Wouwer, A. (01 January 2019). Variable selection and parameter estimation of viral amplification in vero cell cultures dedicated to the production of a dengue vaccine. "Biotechnology Progress, 35" (1). doi:10.1002/btpr.2687
Texte intégral : [Abbate2018.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Garcia Tenorio, C., Vande Wouwer, A., & Mojica-Nava, E. (26 November 2019). "Order reduction for EDMD based on observable error: Application to the anaerobic digestion model". Paper presented at Cape Forum, Liège, Belgium.
Texte intégral : [CapeCGT.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Yupanqui Tello, I. F., Vande Wouwer, A., & Coutinho Ferreira, D. (26 November 2019). "Backstepping observer design for a tubular catalytic cracking reactor". Paper presented at Cape Forum, Liège, Belgium.
Texte intégral : [Cape_Liege.pdf](#) (Accès libre)
- Dewasme, L., & Sobry, N. (02 July 2019). "Data-driven estimator of brewery wastewater treatment plant key components". Paper presented at 9th IWA Specialized Conference on Sustainable Viticulture, Winery Wastes & Agri-industrial Wastewater Management, Mons, Belgium.
Texte intégral : [Abstract_Dewasme_final.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Dewasme, L., & Raquez, J. M. (09 May 2019). "ALPO - Bioplastics from microalgae cultures". Paper presented at International Conference on Green Chemistry and White Biotechnology : (Bio-)Polymers and Ecocircularity: From Challenges to Opportunities, Gosselies, Belgium.
Texte intégral : [Greenwin_10042019.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Garcia Tenorio, C., Vande Wouwer, A., & Mojica-Nava, E. (19 March 2019). "Biochemical Reaction Networks, Dynamics and Regions of Attraction: A Koopman Operator Based Approach". Paper presented at 38th Benelux meeting on Systems and Control, Lommel, Belgium.
Texte intégral : [Bene2019.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Lopez Jimenez, J. A., Vande Wouwer, A., & Quijano, N. (19 March 2019). "Particle filter estimation of crop dynamics". Paper presented at 38th Benelux meeting on Systems and Control, Lommel, Belgium.
Texte intégral : [ParticleFilterEstimationOfCropDynamics.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Gorrini, F., Biagiola, S., Jose, F., & Vande Wouwer, A. (19 March 2019). "Reaction Rate Estimation and MPC of Hybridoma Cell Cultures". Paper presented at 38th Benelux meeting on Systems and Control, Lommel, Belgium.
Texte intégral : [Benelux_2019_Gorrini.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Njinwoua, B., & Vande Wouwer, A. (17 March 2019). "Collision-free formation control of quadcopters on leader-follower topology". Paper presented at 38th Benelux meeting on Systems and Control, Lommel, Belgium.
Texte intégral : [Benelux19Brice.pdf](#) (Accès libre)

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Hernandez Velasquez, N., Mojica-Nava, E., & Vande Wouwer, A. (2019). "VRFT Control for an Alternate Activated Sludge Process with a Coupled Settling Model". Paper presented at 2019 IEEE 4th Colombian Conference on Automatic Control, Medellín, Colombia.
Texte intégral : [CCAC_2019_paper_73.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Feudjio Letchindjio, C., Dewasme, L., & Vande Wouwer, A. (2019). "Extremum-Seeking for micro-algae biomass productivity maximization: an experimental validation". Paper presented at 8th IFAC Conference on Foundations of Systems Biology (FOSBE), Valencia, Spain.
- Abadli, M., Dewasme, L., Dumur, D., Tebbani, S., & Vande Wouwer, A. (2019). "Generic model control of an Escherichia coli fed-batch culture". Paper presented at 23rd International Conference on System Theory, Control and Computing (ICSTCC), Sinaia, Romania.
- Garcia Tenorio, C., Tellez-Castro, D., Mojica-Nava, E., & Vande Wouwer, A. (2019). "Analysis of a Class of Hyperbolic Systems via Data-Driven Koopman Operator". Paper presented at 23rd International Conference on System Theory, Control and Computing (ICSTCC), Sinaia, Romania.
Texte intégral : [0171.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Gorrini, F., Biagiola, S., Jose, F., & Vande Wouwer, A. (2019). "MPC for Maximization of Microalgae Productivity". Paper presented at XVIII Reunión de trabajo en Procesamiento de la Información y Control, Bahia Blanca, Argentina.
Texte intégral : [RPIC2019_101.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Biagiola, S., Jose, F., & Vande Wouwer, A. (2019). "A high-gain observer approach for monitoring microalgae cultures". Paper presented at XVIII Reunión de trabajo en Procesamiento de la Información y Control, Bahia Blanca, Argentina.
Texte intégral : [RPIC2019_142.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Sbarciog, M., & Vande Wouwer, A. (2019). "Maximization of Methane Production in Anaerobic Digestion Systems: an Extremum-Seeking Approach". Paper presented at 9th IWA Specialized Conference on Sustainable Viticulture, Winery Wastes & Agri-industrial Wastewater Management, Mons, Belgium.
Texte intégral : [Sbarciog_Winery2019_final.pdf](#) (Accès libre)
- Garcia Tenorio, C., Sbarciog, M., Mojica-Nava, E., & Vande Wouwer, A. (2019). "Anaerobic Digestion, Dynamics and Regions of Attraction: A Koopman Operator Based Approach". Paper presented at 9th IWA Specialized Conference on Sustainable Viticulture, Winery Wastes & Agri-industrial Wastewater Management, Mons, Belgium.
Texte intégral : [Winery.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- ABBATE, T., Dewasme, L., Bogaerts, P., & Vande Wouwer, A. (2019). "Adaptive Flux Variability Analysis: A Tool to Deal with Uncertainties". Paper presented at 12th IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems (DYCOPS 2019), Florianopolis, Brazil.
Texte intégral : [Abbate2019b.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Feudjio Letchindjio, C., Dewasme, L., Deschênes, J.-S., & Vande Wouwer, A. (2019). "A Slope Seeking-Based Approach for Optimal and Sub-Optimal SISO Process Control: Application to Microalgae Culture". Paper presented at 12th IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems (DYCOPS 2019), Florianopolis, Brazil.
Texte intégral : [Feudjio2019.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Mémoires et thèses/Thèse de doctorat

- Huynh, H. (2019). "Robotic machining: Development and validation of a numerical model of robotic milling to optimise the cutting parameters". Unpublished doctoral thesis, Université de Mons. Jury: Verlinden, O. (Promotor), Rivière, E. (Promotor), Vande Wouwer, A., Ducobu, F., Datoussaïd, S., Brûls, O., Ahmadi, K., & Gagnol, V.
Texte intégral : [Thesis_RoboticMilling_HNH_Public_Cover.pdf](#) (Accès libre)

2018

Périodiques scientifiques/Article

- Sbarciog, M., Giovannini, G., Chamy, R., & Vande Wouwer, A. (12 November 2018). Control and estimation of anaerobic digestion processes using hydrogen and volatile fatty acids measurements. "Water Science and Technology, 78" (10), 2027-2035. doi:10.2166/wst.2018.465
Texte intégral : [Sbarciog_WST_2018_PostPrint.pdf](#) (Accès libre)

- Coutinho, D., Vargas, A., Feudjio Letchindjio, C., Benavides Castro, M., & Vande Wouwer, A. (24 July 2018). A robust approach to the design of super-twisting observers - application to monitoring microalgae cultures in photo-bioreactors. "Computers and Chemical Engineering, 121", 46-56. doi:10.1016/j.compchemeng.2018.07.006
Texte intégral : [LMIs Super-Twisting Journal Paper.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Retamal, C., Dewasme, L., Hantson, A.-L., & Vande Wouwer, A. (29 March 2018). Parameter estimation of a dynamic model of Escherichia coli fed-batch cultures. "Biochemical Engineering Journal, 135", 22-35.
Texte intégral : [Retamal2018.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Giovannini, G., Sbarciog, M., Steyer, J.-P., Chamy, R., & Vande Wouwer, A. (15 January 2018). On the derivation of a simple dynamic model of anaerobic digestion including the evolution of hydrogen. "Water Research, 134", 209-225.

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Njinwoua, B., & Vande Wouwer, A. (27 March 2018). "Attitude Control of a UAV in presence of motor asymmetry". Paper presented at 37th Benelux Meeting on Systems and Control, Soesterberg, Netherlands.
Texte intégral : [Benelux.pdf](#) (Accès libre)[Benelux.pdf](#) (Accès libre)
- Abadli, M., Tebbani, S., Dumur, D., Dewasme, L., & Vande Wouwer, A. (27 March 2018). "Nonlinear model predictive control of Escherichia coli culture". Paper presented at 37th Benelux Meeting on Systems and Control, Soesterberg, Netherlands.
Texte intégral : [Abadli2018.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Dimassi, H., Winkin, J., & Vande Wouwer, A. (2018). "Robust state estimation for a linear reaction-convection-diffusion equation under unknown disturbances". Paper presented at IEEE Conference on Decision and Control, Miami, United States - Florida.
Texte intégral : [Dimassi-Winkin-VanDeWouwer_CDC_2018_final.pdf](#) (Accès libre)
- Lopez Jimenez, J. A., Quijano, N., & Vande Wouwer, A. (2018). "On the Use of Agent-Based Modeling for Smart Farming". Paper presented at 22nd International Conference on System Theory, Control and Computing (ICSTCC 2018), Sinaia, Romania.
- Feudjio Letchindjio, C., Coutinho, D., Vargas, A., & Vande Wouwer, A. (2018). "An LMI-based approach to the design of super-twisting observers with application to a lipase production process from olive oil by Candida rugosa". Paper presented at 22nd International Conference on System Theory, Control and Computing (ICSTCC 2018), Sinaia, Romania.
Texte intégral : [STO_ICSTCC_v2.pdf](#) (Accès libre)
- Lopez Jimenez, J. A., Vande Wouwer, A., & Quijano, N. (2018). "On the use of Agent-based modeling for smart farming". Paper presented at 22nd International Conference on System Theory, Control and Computing (ICSTCC 2018), Sinaia, Romania. doi:10.1109/ICSTCC.2018.8540760
Texte intégral : [OnTheUseofABMfor_SmartFarming.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Mojica-Nava, E., Feudjio Letchindjio, C., & Vande Wouwer, A. (2018). "Switching Control of An Activated Sludge Process". Paper presented at 2nd IEEE Conference on Control Technology and Applications (CCTA 2018), Copenhagen, Denmark.
Texte intégral : [MVG_conf2017V4.pdf](#) (Accès libre)
- Feudjio Letchindjio, C., Deschênes, J.-S., Dewasme, L., & Vande Wouwer, A. (2018). "Extremum seeking based on a Hammerstein-Wiener representation". Paper presented at 10th IFAC Symposium on Advanced Control of Chemical Processes, Shenyang, China.
Texte intégral : [Feudjio2018.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Schorsch, J., Fekih-Salem, R., Dewasme, L., Castro, C., Kinnaert, M., & Vande Wouwer, A. (2018). "Identification and optimal control of fructo-oligosaccharide production". Paper presented at 10th IFAC Symposium on Advanced Control of Chemical Processes, Shenyang, China.
Texte intégral : [Schorsch2018\(1\).pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Huynh, H., Rivière, E., & Verlinden, O. (2018). "Multibody modelling of a flexible 6-axis robot dedicated to robotic machining". Paper presented at The 5th Joint International Conference on Multibody System Dynamics, Lisbonne, Portugal.
Texte intégral : [HuynhRiviereLorphevreVerlinden_fullpaper.pdf](#) (Accès libre)
- Njinwoua, B., & Vande Wouwer, A. (2018). "Cascade attitude control of a quadcopter in presence of motor asymmetry". Paper presented at 3rd IFAC Conference on Advances in Proportional-Integral-Derivative Control, Ghent, Belgium.
Texte intégral : [Cascade attitude control of a quadcopter.PDF](#) (Accès libre)
- Schorsch, J., Kinnaert, M., Fekih-Salem, R., Dewasme, L., Castro, C., & Vande Wouwer, A. (2018). "Optimal control of fructo-oligosaccharide production". Paper presented at 10th International Conference on Simulation and Modelling in the Food and Bio-Industry, Ghent, Belgium.
Texte intégral : [FOODSIM_UMONS.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

2017

Périodiques scientifiques/Article

- Gorrini, F., Biagiola, S., Jose, F., & Vande Wouwer, A. (02 December 2017). Simple Observer-Based Feedback Strategy for Controlling Fed-Batch Hybridoma Cultures. "Industrial and Engineering Chemistry Research, 56" (51), 15072-15082.
- Araujo Pimentel, G., Miranda Almeida, P., Hantson, A.-L., Rapaport, A., & Vande Wouwer, A. (15 June 2017). Experimental validation of a simple dynamic model of a laboratory scale recirculating aquaculture system fitted with a submerged membrane bioreactor. "Biochemical Engineering Journal, 122", 1-12.
- Dewasme, L., Côte, F., Filee, P., Hantson, A.-L., & Vande Wouwer, A. (23 February 2017). Macroscopic Dynamic Modeling of Sequential Batch Cultures of Hybridoma Cells: An Experimental Validation. "Bioengineering, 4" (1), 17. doi:10.3390/bioengineering4010017
Texte intégral : [Dewasme2017.pdf](#) (Accès libre)
- Huynh, H., Verlinden, O., & Vande Wouwer, A. (23 February 2017). Comparative Application of Model Predictive Control Strategies to a Wheeled Mobile Robot. "Journal of Intelligent and Robotic Systems, 87" (1), 81-95. doi:10.1007/s10846-017-0500-2
Texte intégral : [PredictiveControlWMR2016_Huynh_VandeWouwer_Verlinden.pdf](#) (Accès libre)
- Giovannini, G., Donoso Bravo, A. E., Jeison, D., Chamy, R., Gonzalo, R.-F., & Vande Wouwer, A. (19 January 2017). A review of the role of hydrogen in past and current modelling approaches to anaerobic digestion processes. "International Journal of Hydrogen Energy, 41" (39), 17713-17722.
Texte intégral : [A review of the role of hydrogen in past and current modelling approaches to anaerobic digestion processes.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Feudjio Letchindjio, C., Dewasme, L., & Vande Wouwer, A. (28 March 2017). "Optimization of continuous cultures of Dunaliella tertiolecta using extremum-seeking". Paper presented at 36th Benelux Meeting on Systems and Control, Spa, Belgium.
Texte intégral : [Benelux2017_Microalgae.pdf](#) (Accès libre)
- Feudjio Letchindjio, C., Queinnec, I., & Vande Wouwer, A. (28 March 2017). "Test of a Hybrid Linear Observer Applied to an Alternate Phase Activated Sludge Process". Paper presented at 36th Benelux Meeting on Systems and Control, Spa, Belgium.
Texte intégral : [Hybrid_Observer_Benelux2017.pdf](#) (Accès libre)
- Grimard, J., Dewasme, L., & Vande Wouwer, A. (28 March 2017). "Model-based control of a twin screw extruder". Paper presented at 36th Benelux Meeting on Systems and Control, Spa, Belgium.
Texte intégral : [Grimard_2017.pdf](#) (Accès libre)
- Feudjio Letchindjio, C., Crémer, C., Deschênes, J.-S., & Vande Wouwer, A. (28 March 2017). "Observability Analysis of a Microalgae Culture Model". Paper presented at 36th Benelux Meeting on Systems and Control, Spa, Belgium.

Texte intégral : [Observability_Analysis_for_Microalgae_Estimation.pdf](#) (Accès libre)

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Huynh, H., Verlinden, O., & Rivière, E. (2017). "Robotic Machining Simulation using a Simplified Multibody Model". Paper presented at DAAAM International Symposium on Intelligent Manufacturing and Automation, Zadar, Croatia.
Texte intégral : [Robotic_Machining_Simulation_using_a_Simplified_Mu.pdf](#) (Accès libre)
- Sbarciog, M., Giovannini, G., & Vande Wouwer, A. (2017). "Estimation and control of winery wastewater treatment by anaerobic digestion". Paper presented at 8th IWA Specialized Conference on Sustainable Viticulture, Winery Wastes & Agri-industrial Wastewater Management, Viña del Mar, Chile.
Texte intégral : [Sbarciog_IWA_Winery2017_3791663.pdf](#) (Accès libre)
- Giovannini, G., Sbarciog, M., Chamy, R., & Vande Wouwer, A. (2017). "Derivation of a reduced-order model for anaerobic digestion control". Paper presented at 8th IWA Specialized Conference on Sustainable Viticulture, Winery Wastes & Agri-industrial Wastewater Management, Viña del Mar, Chile.
Texte intégral : [Giovannini_IWA_Winery2017_3791493.pdf](#) (Accès libre)
- Dewasme, L., Côte, F., Filee, P., Hantson, A.-L., & Vande Wouwer, A. (2017). "Dynamic modeling of hybridoma cell cultures using maximum likelihood principal component analysis". Paper presented at 20th IFAC World Congress, Toulouse, France.
Texte intégral : [Dewasme2017c.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Dewasme, L., Feudjio Letchindjio, C., Torres Zuniga, J. I., & Vande Wouwer, A. (2017). "Micro-algae productivity optimization using extremum-seeking control". Paper presented at 25th Mediterranean Conference on Control and Automation, Valetta, Malta.
Texte intégral : [Dewasme2017b.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Grimard, J., Dewasme, L., & Vande Wouwer, A. (2017). "Dynamic modeling and model-based control of a twin screw extruder". Paper presented at 25th Mediterranean Conference on Control and Automation, Valetta, Malta.
Texte intégral : [MED17_0165_FI\(1\).pdf](#) (Accès libre)
- Feudjio Letchindjio, C., Cremer, C., Deschênes, J.-S., & Vande Wouwer, A. (2017). "Observability issues and unknown inputs in microalgae cultures". Paper presented at 12th IWA Specialized Conference on Instrumentation, Control & Automation (ICA 2017), Québec City, Canada.
Texte intégral : [poster_Observability_Issues.pdf](#) (Accès libre) [ICA2017_Observability_Issues.pdf](#) (Accès libre)
- Feudjio Letchindjio, C., Queinnec, I., & Vande Wouwer, A. (2017). "Hybrid linear observer for an activated sludge process with alternate phases". Paper presented at 12th IWA Specialized Conference on Instrumentation, Control & Automation (ICA 2017), Québec City, Canada.
Texte intégral : [poster_Hybrid_Observer.pdf](#) (Accès libre) [ICA2017_hybrid_observer_final_v2.pdf](#) (Accès libre)
- Sbarciog, M., Ifrim, G. A., Caraman, S., & Vande Wouwer, A. (2017). "Multivariable predictive control of a photobioreactor system". Paper presented at 18th International Carpathian Control Conference, Sinaia, Romania.
Texte intégral : [Sbarciog_ICCC_2017_FinalVersion_A4_new.pdf](#) (Accès libre)

Allocutions et communications diverses/Article grand public

- Hantson, A.-L., Mirisola, A., Vande Wouwer, A., & Feudjio Letchindjio, C. (2017). Les micro-algues : convertisseurs de lumière photosynthétiques. "Polytech-News N°55, pp. 26-27".
Texte intégral : [PN55.pdf](#) (Accès libre)

2016

Périodiques scientifiques/Article

- Grimard, J., Dewasme, L., & Vande Wouwer, A. (06 June 2016). A review of dynamic models of hot-melt extrusion. "Processes, 4" (2), 19. doi:10.3390/pr4020019

Texte intégral : [Grimard2016.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Afonso Fernandes, S., Bastin, G., Jolicoeur, M., & Vande Wouwer, A. (01 May 2016). Dynamic metabolic flux analysis using a convex analysis approach: Application to hybridoma cell cultures in perfusion. "Biotechnology and Bioengineering, 113" (5), 1102-1112.

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Afonso Fernandes, S., Bastin, G., Jolicoeur, M., & Vande Wouwer, A. (23 March 2016). "Dynamic metabolic flux convex analysis of hybridoma cell cultures". Paper presented at 35th Benelux Meeting on Systems and Control, Soesterberg, Netherlands.
- Abbate, T., Dewasme, L., & Vande Wouwer, A. (22 March 2016). "Reduced mathematical model of dengue virus replication whitin vero cell cultures". Paper presented at 35th Benelux Meeting on Systems and Control, Soesterberg, Netherlands.

Texte intégral : [Abbate2016a.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Feudjio Letchindjio, C., Deschênes, J.-S., Bogaerts, P., & Vande Wouwer, A. (22 March 2016). "Design of a Robust Lipschitz Observer - Experimental application". Paper presented at 35th Benelux Meeting on Systems and Control, Soesterberg, Netherlands.

Texte intégral : [ChristianBenelux2016.pdf](#) (Accès libre)

- Grimard, J., Dewasme, L., & Vande Wouwer, A. (22 March 2016). "Extrusion dynamic modeling: sensitivity analysis and parameter identification". Paper presented at 35th Benelux Meeting on Systems and Control, Soesterberg, Netherlands.

Texte intégral : [Grimard2016b.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Sbarciog, M., & Vande Wouwer, A. (2016). "Bifurcation Analysis of an Anaerobic Digestion System". Paper presented at 20th International Conference on System Theory, Control and Computing (ICSTCC), Sinaia, Romania.

Texte intégral : [Sbarciog_ICSSSTCC2016.pdf](#) (Accès libre)

- Grimard, J., Dewasme, L., & Vande Wouwer, A. (2016). "Nonlinear model predictive control of a twin-screw extruder". Paper presented at 20th International Conference on System Theory, Control and Computing (ICSTCC), Sinaia, Romania.

Texte intégral : [Grimard_NMPC_Extruder.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Chauvon, G., Vassel, J.-L., & Vande Wouwer, A. (2016). "Dynamic Simulation and Optimisation of a SBR Wastewater Treatment System". Paper presented at 20th International Conference on System Theory, Control and Computing (ICSTCC), Sinaia, Romania.

Texte intégral : [Article_Chauvon.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Afonso Fernandes, S., Robitaille, J., Bastin, G., Jolicoeur, M., & Vande Wouwer, A. (2016). "Dynamic metabolic flux analysis of underdetermined and overdetermined metabolic networks". Paper presented at 6th IFAC Conference on Foundations of Systems Biology in Engineering, Madgeburg, Germany.

- Abbate, T., Dewasme, L., & Vande Wouwer, A. (2016). "Reduced mathematical model of dengue vaccine production in vero cell cultures". Paper presented at 6th IFAC Conference on Foundations of Systems Biology in Engineering, Madgeburg, Germany.

Texte intégral : [Abbate2016.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Grimard, J., Dewasme, L., & Vande Wouwer, A. (2016). "Distributed parameter modeling of hot-melt extrusion". Paper presented at IEEE International Conference on System Science and Engineering, National Chi Nan University, Nantou County, Taiwan.

Texte intégral : [Modeling_extended_v5.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Dewasme, L., & Vande Wouwer, A. (2016). "Dynamic Modeling of Sequential Batch Cultures of Hybridoma Cells". Paper presented at IEEE International Conference on System Science and Engineering, National Chi Nan University, Nantou County, Taiwan.
Texte intégral : [ICSSE_Dewasme.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Jerraya, A. A., Romdhani, M., Le Marrec, P., Hessel, F., Coste, P., Valderrama, C., Daveau, M., & Zergainoh, N.-E. (2016). "Application of Dynamic Metabolic Flux Convex Analysis to CHO-DXB11 Cell Fed-batch Cultures". Paper presented at 11th IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems (DYCOPS-CAB 2016), Trondheim, Norway.
- Grimard, J., Dewasme, L., Thiry, J., Krier, F., Evrard, B., & Vande Wouwer, A. (2016). "Modeling, sensitivity analysis and parameter identification of a twin screw extruder". Paper presented at 11th IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems (DYCOPS-CAB 2016), Trondheim, Norway.
Texte intégral : [Grimard2016a.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Deschênes, J.-S., & Vande Wouwer, A. (2016). "Parameter Identification of a Dynamic Model of Cultures of Microalgae Scenedesmus obliquus - An experimental study". Paper presented at 11th IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems (DYCOPS-CAB 2016), Trondheim, Norway.
Texte intégral : [CAB_DYCOPS_JSD_AVdW_final.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Sbarciog, M., & Vande Wouwer, A. (2016). "Model development for phosphate recovery from acidic wastewater". Paper presented at 11th IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems (DYCOPS-CAB 2016), Trondheim, Norway.
Texte intégral : [Sbarciog_DYCOPS2016.pdf](#) (Accès libre)
- Feudjio Letchindjio, C., Bogaerts, P., Deschênes, J.-S., & Vande Wouwer, A. (2016). "Design of a Robust Lipschitz Observer - Application to monitoring of culture of micro-algae Scenedesmus obliquus". Paper presented at 11th IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems (DYCOPS-CAB 2016), Trondheim, Norway.
Texte intégral : [CAB_DYCOPS_Feudjio_et_al._final.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Suvarov, P., Vande Wouwer, A., Lee, J. W., Seidel-Morgenstern, A., & KIENLE, A. (2016). "Control of incomplete separation in simulated moving bed chromatographic processes". Paper presented at 11th IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems (DYCOPS-CAB 2016), Trondheim, Norway.
Texte intégral : [Control of incomplete separation in simulated moving bed chromatographic processes_final_checked.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication poster

- Grimard, J., Dewasme, L., & Vande Wouwer, A. (18 May 2016). "Modélisation à paramètres distribués d'une extrudeuse bi-vis". Poster session presented at 9ème édition de la Matinée des Chercheurs 2016 (MdC2016), Valenciennes, France.

2015

Périodiques scientifiques/Article

- Afonso Fernandes, S., Bastin, G., Jolicoeur, M., & Vande Wouwer, A. (17 December 2015). Dynamic metabolic flux analysis using a convex analysis approach: Application to hybridoma cell cultures in perfusion. "Biotechnology and Bioengineering, 113" (5), 1102-1112. doi:10.1002/bit.25879
Texte intégral : [Sousa_et_al-Biotechnology_and_Bioengineering.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Benavides, M., Coutinho, D., Hantson, A.-L., Van Impe, J., & Vande Wouwer, A. (01 December 2015). Robust Luenberger Observers for Microalgal Cultures. "Journal of Process Control, 36", 55-63.
Texte intégral : [Robust Luenberger observers for microalgal cultures.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vargas Casillas, A., Moreno, J., & Vande Wouwer, A. (01 November 2015). Super-twisting estimation of a virtual output for extremum-seeking output feedback control of bioreactors. "Journal of Process Control, 35", 41-49.
Texte intégral : [Super-twisting estimation of a virtual output for extremum-seeking output feedback control of bioreactors.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- De Jesus Saraiva, I., Vande Wouwer, A., & Hantson, A.-L. (09 August 2015). Parameter identification of a dynamic model of CHO cell cultures. "Bioprocess and Biosystems Engineering, 38" (11), 2231-2248. doi:10.1007/s00449-015-1461-0
- Benavides Castro, M., Hantson, A.-L., Van Impe, J., & Vande Wouwer, A. (01 June 2015). Parameter identification of Droop model: an experimental case study. "Bioprocess and Biosystems Engineering, 38" (9), 1783-1793. doi:10.1007/s00449-015-1419-2
Texte intégral : [Parameter identification of Droop model an experimental case study.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Benavides Castro, M., Mailier, J., Hantson, A.-L., Muñoz, G., Vargas, A., Van Impe, J., & Vande Wouwer, A. (25 February 2015). Design and test of a low-cost RGB sensor for online measurement of microalgae concentration within a photo-bioreactor. "Sensors, 15(3)" (25/02/2015), 4766-4780. doi:10.3390/s150304766
Texte intégral : [sensors-15-04766.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Donoso Bravo, A. E., Bindels, F., Gérin, P., & Vande Wouwer, A. (25 January 2015). Anaerobic biodegradability of fish remains and rearing tank sludge: experimental investigation and parameter estimation. "Water Science and Technology, 71" (6), 922-928.
Texte intégral : [WST-EM14856R1.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Dewasme, L., Afonso Fernandes, S., Amribt, Z., Santos, L., Bogaerts, P., & Vande Wouwer, A. (22 January 2015). State estimation and predictive control of fed-batch cultures of hybridoma cells. "Journal of Process Control, 30", 50-57.
Texte intégral : [State estimation and predictive control of fed-batch cultures of hybridoma cells.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Afonso Fernandes, S., Bastin, G., & Vande Wouwer, A. (25 March 2015). "Metabolic flux analysis using a convex analysis approach". Paper presented at 34th Benelux meeting on Systems and Control, Lommel, Belgium.
- Afonso Fernandes, S., Richelle, A., Amribt, Z., Dewasme, L., Bogaerts, P., & Vande Wouwer, A. (25 March 2015). "Extended and unscented Kalman filter designs for hybridoma cell fed-batch cultures". Paper presented at 34th Benelux meeting on Systems and Control, Lommel, Belgium.
- Giovannini, G., Sbarciog, M., Gonzalo, R.-F., & Vande Wouwer, A. (24 March 2015). "ADM1 model reduction and parameter estimation". Paper presented at 34th Benelux meeting on Systems and Control, Lommel, Belgium.
- Kocal, E. B., Yuksel, K., & Wuilpart, M. (24 March 2015). "Two different approaches to dynamic modeling of hot-melt extrusion processes". Paper presented at 34th Benelux meeting on Systems and Control, Lommel, Belgium. doi:10.1364/ofs.2020.t3.40
Texte intégral : [Grimard_BMSC2015.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Giovannini, G., Sbarciog, M., Donoso Bravo, A. E., Gonzalo, R.-F., & Vande Wouwer, A. (2015). "Derivation of a reduced-order dynamic model of anaerobic digestion using maximum likelihood principal component analysis". Paper presented at AD 14th IWA World Congress on Anaerobic Digestion, Vina del Mar, Chile.
- Donoso Bravo, A. E., & Vande Wouwer, A. (2015). "Model-based evaluation of the environmental and energetic impact of solid-waste anaerobic digestion in aquaculture systems". Paper presented at AD 14th IWA World Congress on Anaerobic Digestion, Vina del Mar, Chile.
- Dewasme, L., Samyudia, Y., & Vande Wouwer, A. (2015). "Modeling and optimization of bioethanol production process". Paper presented at 19th International Conference on System Theory, Control and Computing, Chelei Gradistei - Fundata, Romania.
Texte intégral : [Dewasme2015b.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Oviedo, J., Vande Wouwer, A., & Vargas Casillas, A. (2015). "Insight Towards an Experiment Design for Microalgae Models". Paper presented at Congreso Nacional de Control Automático AMCA, Cuernavaca, Mexico.
Texte intégral : [AMCA15_0098_MS.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Fekih-Salem, R., Vande Wouwer, A., Castro, C., Nobre, C., & Hantson, A.-L. (2015). "Parameter Identification of the Fermentative Production of Fructo-oligosaccharides by *Aureobasidium Pullulans*". Paper presented at 19th International Conference on System Theory, Control and Computing, Chelei Gradistei - Fundata, Romania.
- Afonso Fernandes, S., Richelle, A., Amriht, Z., Dewasme, L., Bogaerts, P., & Vande Wouwer, A. (2015). "Extended and unscented Kalman filter design for hybridoma cell fed-batch and perfusion cultures". Paper presented at International Symposium on Advanced Control of Chemical Processes (ADCHEM2015), Whistler, Canada.
- Araujo Pimentel, G., Rapaport, A., & Vande Wouwer, A. (2015). "Nonlinear Model Predictive Control of a Wastewater Treatment Process Fitted with a Submerged Membrane Bioreactor". Paper presented at International Symposium on Advanced Control of Chemical Processes (ADCHEM2015), Whistler, Canada.
- Deschênes, J.-S., & Vande Wouwer, A. (2015). "Dynamic Optimization of Biomass Productivity in Continuous Cultures of Microalgae *Isochrysis galbana* through Modulation of the Light Intensity". Paper presented at International Symposium on Advanced Control of Chemical Processes (ADCHEM2015), Whistler, Canada.
- Araujo Pimentel, G., Benavides Castro, M., Dewasme, L., Coutinho, D., & Vande Wouwer, A. (2015). "An Observer Based Robust Control Strategy for Overflow Metabolism Cultures in Fed-Batch Bioreactors". Paper presented at International Symposium on Advanced Control of Chemical Processes (ADCHEM2015), Whistler, Canada.
- Rocha-Cozatl, E., Sbarciog, M., Dewasme, L., & Vande Wouwer, A. (2015). "State and Input Estimation of an Anaerobic Digestion Reactor using a Continuous-discrete Unknown Input Observer". Paper presented at International Symposium on Advanced Control of Chemical Processes (ADCHEM2015), Whistler, Canada.
- Oviedo, J., Vande Wouwer, A., & Vargas Casillas, A. (2015). "Sensitivity analysis for a microalgae production model with light inhibition". Paper presented at 4th IWA Mexico Young Water Professionals Conference, Guanajuato, Mexico.
Texte intégral : [YWP '15_Sensitivity analysis for a microalgae production model with light inhibition.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Araujo Pimentel, G., Montse, D., Vargas, A., Comas, J., Rodriguez-Roda, I., & Vande Wouwer, A. (2015). "Validation of a simple fouling model for a submerged membrane bioreactor". Paper presented at 8th Vienna International Conference on Mathematical Modelling (MATHMOD2015), Vienna, Austria.

Colloques et congrès scientifiques/Communication poster

- Sbarciog, M., & Vande Wouwer, A. (23 November 2015). "Phosphorous recovery from wastewater by means of calcium phosphate crystallization". Poster session presented at IAP DYSCO Study Day, Leuven, Belgium.
- Grimard, J., Dewasme, L., & Vande Wouwer, A. (23 October 2015). "Modeling, sensitivity analysis and parameter identification of a twin screw extruder". Poster session presented at IAP DYSCO Study Day, Leuven, Belgium.
- Afonso Fernandes, S., Bastin, G., Jolicoeur, M., & Vande Wouwer, A. (06 June 2015). "Dynamic metabolic flux analysis of hybridoma cells cultivated in perfusion mode". Poster session presented at Metabolic Pathways Analysis, Braga, Portugal.
- Grimard, J., Dewasme, L., & Vande Wouwer, A. (18 May 2015). "Dynamic modeling and sensitivity analysis of a hot-melt extruder". Poster session presented at IAP DYSCO study day, Liège, Belgium.

Mémoires et thèses/Thèse de doctorat

- De Jesus Saraiva, I. (2015). "Animal cell culture: macroscopic modeling, estimation and control". Unpublished doctoral thesis, Université de Mons. Jury: Vande Wouwer, A. (Promotor), Remy, M., Dewasme, L., Bogaerts, P., Santos, L. O., Hantson, A.-L., & Henry, O.
Texte intégral : [InesSaraiva_Thesis2015_Animal_cell_culture_v2.pdf](#) (Accès libre)

2014

Périodiques scientifiques/Article

- Araujo Pimentel, G., Vande Wouwer, A., Harmand, J., & Rapaport, A. (03 December 2014). Design, Analysis and Validation of a Simple Dynamic Model of a Submerged Membrane Bioreactor. "Water Research, 70", 97-108. doi:10.1016/j.watres.2014.11.043

- Sbarciog, M., Coutinho, D., & Vande Wouwer, A. (21 August 2014). A simple output-feedback strategy for the control of perfused mammalian cell cultures. "Control Engineering Practice, 32", 123-135.
Texte intégral : [Sbarciog_ControlEngineeringPractice_revision2.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Sbarciog, M., Moreno, J., & Vande Wouwer, A. (14 February 2014). Application of Super Twisting Observers to the Estimation of State and Unknown Inputs in an Anaerobic Digestion System. "Water Science and Technology, 69" (2), 414-421.
- Suvarov, P., KIENLE, A., Nobre Goncalves, C., De Weireld, G., & Vande Wouwer, A. (01 February 2014). Cycle to cycle adaptive control of simulated moving bed chromatographic separation processes. "Journal of Process Control, 24", 357 - 367. doi:10.1016/j.jprocont.2013.11.001
Texte intégral : [1-s2.0-S0959152413002266-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Amribt, Z., Dewasme, L., Vande Wouwer, A., & Bogaerts, P. (22 January 2014). Optimization and robustness analysis of hybridoma cell fed-batch cultures using the overflow metabolism model. "Bioprocess and Biosystems Engineering, 37", 1637-1652.
- Sbarciog, M., & Vande Wouwer, A. (11 January 2014). Start-up of multispecies anaerobic digestion systems: Extrapolation of the single species approach. "Mathematical and Computer Modelling of Dynamical Systems, 20" (1), 87-104.
Texte intégral : [Sbarciog_MCMDS_online.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Moreno, J., Rocha, E., & Vande Wouwer, A. (01 January 2014). A dynamical interpretation of strong observability and detectability concepts for nonlinear systems with unknown inputs. "Bioprocess and Biosystems Engineering, 37" (1), 37-49.
- David, R., Dochain, D., Mouret, J.-R., Vande Wouwer, A., & Sablayrolles, J.-M. (01 January 2014). Nitrogen-backed modeling of wine-making in standard and nitrogen-added fermentations. "Bioprocess and Biosystems Engineering, 37" (1), 5-16.
- Moreno, J., & Vande Wouwer, A. (01 January 2014). Special issue on nonlinear modeling, estimation and control of biological systems. "Bioprocess and Biosystems Engineering, 37" (1), 1-3.
Texte intégral : [Editorial_BBE.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Ouvrages/Ouvrage publié en tant qu'auteur, traducteur, etc.

- Vande Wouwer, A., Saucez, P., & Vilas, C. (2014). "Simulation of ODE/PDE Models with MATLAB, OCTAVE and SCILAB: Scientific and Engineering Applications". Springer.

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Afonso Fernandes, S., & Vande Wouwer, A. (25 March 2014). "Metabolic flux analysis of a non-stationary overdetermined system". Paper presented at 33rd Benelux Meeting on Systems and Control, Heijden, Netherlands.
- Amribt, Z., Dewasme, L., Vande Wouwer, A., & Bogaerts, P. (25 March 2014). "Robustness analysis of optimal feeding profiles for hybridoma cell fed-batch cultures using an overflow metabolism model". Paper presented at 33rd Benelux Meeting on Systems and Control, Heijden, Netherlands.
- Afonso Fernandes, S., Giovannini, G., & Vande Wouwer, A. (25 March 2014). "Extended and Unscented Kalman Filter for Mammalian cell cultures". Paper presented at 33rd Benelux Meeting on Systems and Control, Heijden, Netherlands.
- Araujo Pimentel, G., Vande Wouwer, A., & Rapaport, A. (25 March 2014). "Stabilizing the cake evolution for a class of submerged membrane bioreactors using a Lyapunov controller". Paper presented at 33rd Benelux Meeting on Systems and Control, Heijden, Netherlands.
Texte intégral : [GPimentelBM2014v4.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Wattiaux, D., Verlinden, O., & Renotte, C. (2014). "Project of Mechanical Virtual Laboratory for the Education of Theoretical Mechanics to undergraduate engineering students". Paper presented at CETSIS 2014 : Enseignement des Technologies et des Sciences de de l'Information et des Systèmes, Besançon, France.
Texte intégral : [PaperWattiaux.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Amribt, Z., Dewasme, L., Vande Wouwer, A., & Bogaerts, P. (2014). "Parameter Identification for State Estimation: Design of an Extended Kalman Filter for Hybridoma Cell Fed-Batch Cultures". Paper presented at 19th IFAC World Congress, Cape Town, South Africa.
- Benavides Castro, M., Coutinho, D., Hantson, A.-L., Van Impe, J., & Vande Wouwer, A. (2014). "Gain Scheduled Luenberger Observers for Microalgal Cultures". Paper presented at 13th European Control Conference, Strasbourg, France.
Texte intégral : [ECCmicaela.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Bastin, G., Coron, J.-M., Brigitte, D. A.-N., Suvarov, P., Vande Wouwer, A., & KIENLE, A. (2014). "Stability analysis of switching hyperbolic systems: the example of SMB chromatography". Paper presented at 13th European Control Conference, Strasbourg, France.
Texte intégral : [bastin-et-al-ECC2014.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Afonso Fernandes, S., Bastin, G., & Vande Wouwer, A. (2014). "Metabolic Flux Analysis of hybridoma cells: underdetermined network and influence of batch and perfusion operating modes". Paper presented at 8th Vienna International Conference on Mathematical Modelling (MATHMOD2015), Vienna, Austria.

Colloques et congrès scientifiques/Communication poster

- Giovannini, G., Sbarciog, M., Gonzalo, R.-F., & Vande Wouwer, A. (12 November 2014). "Model Reduction and Stoichiometric estimation using MLPCA for Anaerobic Digestion Processes". Poster session presented at IAP DYSCO - Study days, Ghent, Belgium.
- Grimard, J., Dewasme, L., & Vande Wouwer, A. (23 October 2014). "Two different approaches of mathematical modeling of an extruder". Poster session presented at Journée des jeunes chercheurs, Ecole doctorale GEPROC, Université de Mons, Belgium.
- Giovannini, G., Sbarciog, M., Gonzalo, R.-F., & Vande Wouwer, A. (23 October 2014). "Model Reduction and Stoichiometric estimation using MLPCA for Anaerobic Digestion Processes". Poster session presented at Journée des jeunes chercheurs, Ecole doctorale GEPROC, Université de Mons, Belgium.
- Grimard, J., Dewasme, L., & Vande Wouwer, A. (16 May 2014). "Mathematical modeling of a twin-screw extruder using the residence time distribution". Poster session presented at IAP DYSCO Study Day, Namur, Belgium.
- Araujo Pimentel, G., Hantson, A.-L., Rapaport, A., & Vande Wouwer, A. (16 May 2014). "Lab-scale aquaculture plant fitted with sMBR: design, data collection and sMBR modeling". Poster session presented at IAP DYSCO Study Day, Namur, Belgium.

2013

Périodiques scientifiques/Article

- Sbarciog, M., De Jesus Saraiva, I., & Vande Wouwer, A. (25 August 2013). Accelerating animal cell growth in perfusion mode by multivariable control:simulation studies. "Bioprocess and Biosystems Engineering, 36" (5), 517-530.
Texte intégral : [Sbarciog_BBE_2012_for_print.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Mailier, J., Donoso Bravo, A. E., & Vande Wouwer, A. (01 August 2013). On the derivation of Simple Dynamic Models of Anaerobic Digestion using Macroscopic Bioreaction Schemes. "Mathematical and Computer Modelling of Dynamical Systems, 19" (4).

- Nobre Goncalves, C., Suvarov, P., & De Weireld, G. (24 June 2013). Evaluation of commercial resins for fructo-oligosaccharide separation. "New Biotechnology, 31" (1), 55-63. doi:10.1016/j.nbt.2013.06.001
Texte intégral : [Nobre et al, New Biotechnology \(2014\).pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Coutinho, D., & Vande Wouwer, A. (01 April 2013). A Robust Nonlinear Feedback Control Strategy for a Class of Bioprocesses. "IET Control Theory and Applications, 7" (6), 829-841.
Texte intégral : [CTA-2012-0336-PROOF.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Dewasme, L., Goffaux, G., Hantson, A.-L., & Vande Wouwer, A. (01 February 2013). Experimental Validation of an Extended Kalman Filter Estimating Acetate Concentration in E. coli Cultures. "Journal of Process Control, 23" (2), 148-157. doi:10.1016/j.jprocont.2012.09.004
Texte intégral : [Dewasme2013.PDF](#) (Accès réservé aux membres du personnel de l'UMONS)
- Goffaux, G., Remy, M., & Vande Wouwer, A. (26 January 2013). Continuous - discrete confidence interval observers - application to vehicle positioning. "Information Fusion, 14", 541-550.
- Donoso Bravo, A. E., Mailier, J., Gonzalo, R.-F., & Vande Wouwer, A. (01 January 2013). Identification in an anaerobic batch system: global sensitivity analysis, multi-start strategy and optimization criterion selection. "Bioprocess and Biosystems Engineering, 36" (1), 35-43.
Texte intégral : [Identification in an anaerobic batch system global sensitivity analysis multi-start strategy and optimization criterion selection criteria evaluation.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Suvarov, P., Vande Wouwer, A., & KIENLE, A. (28 March 2013). "A plug and control strategy for simulated moving bed processes - stability analysis -". Paper presented at 32nd Benelux Meeting on Systems and Control, Houffalize, Belgium.
- Benavides Castro, M., Massart, A., Hantson, A.-L., Vande Wouwer, A., & Van Impe, J. (26 March 2013). "Parameter Identification of Droop Model". Paper presented at 32th Benelux Meeting on Systems and Control, Houffalize, Belgium.
Texte intégral : [Micaela benelux meeting 2013.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Retamal, C., Dewasme, L., Hantson, A.-L., & Vande Wouwer, A. (26 March 2013). "Monitoring and modelling of E. coli BL21(DE3)". Paper presented at 32th Benelux Meeting on Systems and Control, Houffalize, Belgium.
Texte intégral : [Retamal_2013.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Araujo Pimentel, G., Vande Wouwer, A., Rapaport, A., & Harmand, J. (26 March 2013). "A simplified model of a submerged membrane bioreactor". Paper presented at 32nd Benelux Meeting on Systems and Control, Houffalize, Belgium.
Texte intégral : [GPimentelBM2013.pdf](#) (Accès libre)
- Sbarciog, M., Coutinho, D., & Vande Wouwer, A. (26 March 2013). "Robust cascaded control of an animal cell culture". Paper presented at 32nd Benelux Meeting on Systems and Control, Houffalize, Belgium.
- Miranda Almeida, P., Dewasme, L., Remy, M., & Vande Wouwer, A. (26 March 2013). "Nitrate and Oxygen control of a recirculating aquaculture unit". Paper presented at 32nd Benelux Meeting on Systems and Control, Houffalize, Belgium.
Texte intégral : [Palmeida_abstract_benelux.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication publiée dans un ouvrage

- Catoire, L., Kinnaert, M., & Vande Wouwer, A. (2013). "32nd Benelux Meeting on Systems and Control: Book of Abstracts". Paper presented at 32nd Benelux Meeting on Systems and Control, Houffalize, Belgium.
Texte intégral : [boa.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Dewasme, L., Amribt, Z., Santos, L., Hantson, A.-L., Bogaerts, P., & Vande Wouwer, A. (2013). "Hybridoma cell culture optimization using nonlinear model predictive control". Paper presented at 12th International Symposium on Computer Applications in Biotechnology (CAB), Mumbai, India.
Texte intégral : [CAB2013_Dewasme.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Amribt, Z., Dewasme, L., Vande Wouwer, A., & Bogaerts, P. (2013). "Optimal operation of hybridoma cell fed-batch cultures using the overflow metabolism model: numerical and analytical approach". Paper presented at 12th International Symposium on Computer Applications in Biotechnology (CAB), Mumbai, India.
- De Jesus Saraiva, I., Vande Wouwer, A., Hantson, A.-L., & Moreno, J. (2013). "Observability analysis and software sensor design for an animal cell culture in perfusion mode". Paper presented at 12th International Symposium on Computer Applications in Biotechnology (CAB), Mumbai, India.
- Sbarciog, M., Coutinho, D., & Vande Wouwer, A. (2013). "An Adaptive Cascade Structure for the Estimation and Control of Perfusion Animal Cell Cultures". Paper presented at Computer Applications in Biotechnology, Mumbai, India.
Texte intégral : [Sbarciog_CAB2013_final.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Sbarciog, M., Coutinho, D., & Vande Wouwer, A. (2013). "Kinetics independent multivariable robust control of animal cell cultures". Paper presented at 17th International Conference on System Theory, Control and Computing, Sinaia, Romania.
Texte intégral : [081 Sbarciog ID 068.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Miranda Almeida, P., Araujo Pimentel, G., Vassel, J.-L., Hantson, A.-L., Rapaport, A., Harmand, J., & Vande Wouwer, A. (2013). "Analysis of two recirculating aquaculture systems (RAS): Submerged membrane bioreactor and fixed bed biofilter technologies". Paper presented at 3rd IWA Benelux Young Water Professional Regional Conference, Belval, Luxembourg.
Texte intégral : [abstract_YWP.pdf](#) (Accès réservé aux membres du personnel de l'UMONS) [Poster YWP v2.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Araujo Pimentel, G., Vande Wouwer, A., Rapaport, A., & Harmand, J. (2013). "Modeling of submerged membrane bioreactor with a view of control". Paper presented at 11th IWA Conference on Instrumentation Control and Automation, Narbonne, France.
- Sbarciog, M., Moreno, J., Guzman, E., & Vande Wouwer, A. (2013). "State and Unknown Input Estimation for an Anaerobic Digestion System". Paper presented at 11th IWA Conference on Instrumentation Control and Automation, Narbonne, France.
Texte intégral : [Sbarciog_IWA-12614.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Sbarciog, M., Coutinho, D., & Vande Wouwer, A. (2013). "A Cascade MPC-Feedback Linearizing Strategy for the Multivariable Control of Animal Cell Cultures". Paper presented at 9th IFAC Symposium on Nonlinear Control Systems (NOLCOS), Toulouse, France.
Texte intégral : [Sbarciog_NOLCOS2013_proceedings.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Lepore, R., Renotte, C., Frère, M., & Dumont, E. (2013). "Energy consumption reduction in office buildings using model-based predictive control". Paper presented at 13th International Conference of IBPSA, Chambéry, France.

Colloques et congrès scientifiques/Communication poster

- Suvarov, P., Vande Wouwer, A., & KIENLE, A. (29 November 2013). "Stability analysis of an adaptive control strategy for simulated moving bed chromatographic processes". Poster session presented at IAP DYSCO - study days, Bruxelles, Belgium.
Texte intégral : [29112013_Poster_PaulSuvarov.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Benavides Castro, M., Coutinho, D., Hantson, A.-L., Van Impe, J., & Vande Wouwer, A. (22 November 2013). "Quasi-LPV gain-scheduled observer for Microalgal Cultures". Poster session presented at IAP DYSCO Study Day : Dynamical systems, control and optimization, Bruxelles, Belgium.

- Araujo Pimentel, G., Harmand, J., Vande Wouwer, A., & Rapaport, A. (22 November 2013). "Time Scaling Study Using Tikhonov's Theorem in a Submerged Membrane Bioreactor". Poster session presented at IAP DYSCO Study Day : Dynamical systems, control and optimization, Bruxelles, Belgium.
- Benavides Castro, M., Coutinho, D., Van Impe, J., & Vande Wouwer, A. (24 May 2013). "Design of a robust Luenberger Observer for monitoring microalgae cultures". Poster session presented at IAP DYSCO Study Day : Dynamical systems, control and optimization, Mons, Belgium.
- Araujo Pimentel, G., Benavides Castro, M., Retamal, C., Dewasme, L., Vande Wouwer, A., & Coutinho, D. (24 May 2013). "Robust Partial Feedback Linearizing Control of Bioreactor in Fed-Batch Mode". Poster session presented at IAP DYSCO Study Day : Dynamical systems, control and optimization, Mons, Belgium.
- De Jesus Saraiva, I., Vande Wouwer, A., & Hantson, A.-L. (12 March 2013). "Identification of Animal Cell Culture Models: a sequenced approach". Poster session presented at Matinée des Chercheurs 2013, Mons, Belgium.
Texte intégral : [20130312_Poster_InesSaraiva_MDC2013_v5.jpg](#) (Accès réservé aux membres du personnel de l'UMONS)

Allocutions et communications diverses/Article grand public

- Mailier, J., Hantson, A.-L., & Vande Wouwer, A. (2013). La culture de micro-algues : le nouveau biocarburant? "Athena".

2012

Périodiques scientifiques/Compte rendu et recension critique d'ouvrage

- Dewasme, L., & Vande Wouwer, A. (11 September 2012). Advanced control strategies applied to bioprocesses: an overview. "Chemie Ingenieur Technik, 84" (8), 1287-1287.

Périodiques scientifiques/Article

- Mailier, J., & Vande Wouwer, A. (24 December 2012). Identification of nested biological kinetic models using likelihood ratio tests. "Chemical Engineering Science, 84", 727-734. doi:10.1016/j.ces.2012.08.033
Texte intégral : [paper.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Sbarciog, M., Loccufier, M., & Vande Wouwer, A. (13 December 2012). An optimizing start-up strategy for a biomethanator. "Bioprocess and Biosystems Engineering, 35", 565-578.
Texte intégral : [Sbarciog_BBE_2011.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Lepore, R., Remy, M., Dumont, E., & Frère, M. (01 September 2012). Dynamic lumped-parameter model of a heat pump designed for performance optimization. "Building Simulation, 5" (3), 233-242.
- Mailier, J., Remy, M., & Vande Wouwer, A. (2012). Stoichiometric identification with maximum likelihood principal component analysis. "Journal of Mathematical Biology", 1-27. doi:10.1007/s00285-012-0559-0
Texte intégral : [paper.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Donoso Bravo, A. E., & Mairet, F. (20 July 2012). Determining the limiting reaction in anaerobic digestion processes. How has this been tackled? "Journal of Chemical Technology and Biotechnology, 87", 1375-1378.
Texte intégral : [Determining the limiting reaction in anaerobic digestion processes. How has this been tackled.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Donoso Bravo, A. E., Pérez-Elvira, S., & Vande Wouwer, A. (29 May 2012). Long-term hydrolytic capacity evaluation of a thermophilic anaerobic digester treating sewage sludge. "Water Science and Technology, 66.11", 2378-2384.
Texte intégral : [Long-term hydrolytic capacity evaluation of a thermophilic anaerobic digester treating sewage sludge.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Santos, L., Dewasme, L., Coutinho, D., & Vande Wouwer, A. (06 April 2012). Nonlinear model predictive control of fed-batch cultures of micro-organisms exhibiting overflow metabolism: Assessment and robustness. "Computers and Chemical Engineering, 39", 143-151.
Texte intégral : [Santos2012.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Vlad, C., Sbarciog, M., Barbu, M., Caraman, S., & Vande Wouwer, A. (15 January 2012). Indirect control of substrate concentration for a wastewater treatment process by dissolved oxygen tracking. "Control Engineering and Applied Informatics, 14" (1), 37-47.
Texte intégral : [paper_CEA1_2011_VLAD_Ciprian.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- De Jesus Saraiva, I., Sbarciog, M., & Vande Wouwer, A. (29 March 2012). "Practical Design of an Extended Kalman Filter for an Animal Cell Culture". Paper presented at 31st Benelux Meeting on Systems and Control, Heijen, Netherlands.
Texte intégral : [Benelux2012BookOfAbstracts_InesSaraiva.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Araujo Pimentel, G., Vande Wouwer, A., Coutinho Ferreira, D., & Rapaport, A. (29 March 2012). "Some Preliminary Results on Modeling and Control of MBR Process". Paper presented at 31st Benelux Meeting on Systems and Control, Heijen, Netherlands.
Texte intégral : [GPimentelBM2012.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Miranda Almeida, P., Donoso Bravo, A. E., & Vande Wouwer, A. (29 March 2012). "Dynamic Simulation and Control of a Recirculating Aquaculture System". Paper presented at 31st Benelux Meeting on Systems and Control, Heijen, Netherlands.
Texte intégral : [PedroAlmeidaBenelux2012.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Suvarov, P., Vande Wouwer, A., & KIENLE, A. (29 March 2012). "A plug and control strategy for simulated moving bed processes". Paper presented at 31st Benelux Meeting on Systems and Control, Heijen, Netherlands.
Texte intégral : [A plug and control strategy for simulated moving bed processes.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Benavides Castro, M., Vande Wouwer, A., & Van Impe, J. (27 March 2012). "Comparative study of a few state estimation techniques for monitoring microalgae cultures". Paper presented at 31st Benelux Meeting on Systems and Control, Heijen, Netherlands.
Texte intégral : [3DE6Fd01.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Sbarciog, M., Moreno, J., & Vande Wouwer, A. (2012). "Simple approaches to start-up anaerobic digestion systems for biogas production". Paper presented at 16th International Conference on System Theory, Control and Computing, Sinaia, Romania.
Texte intégral : [Sbarciog_ICSTCC_2012.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Dewasme, L., Vargas, A., Moreno, J., & Vande Wouwer, A. (2012). "Real-time optimization of a fed-batch bioreactor with substrate inhibition using extremum-seeking". Paper presented at IEEE Multi-conference on Systems and Control (MSC), Dubrovnik, Croatia.
Texte intégral : [Dewasme2012_MSC.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Retamal, C., Timmermans, J., Dewasme, L., Hantson, A.-L., Van Melderen, L., & Vande Wouwer, A. (2012). "Investigation of the effect of a genetic manipulation through macroscopic dynamic modeling". Paper presented at 8th IFAC Symposium on Biological and Medical Systems, Budapest, Hungary.
Texte intégral : [Retamal2012.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vargas, A., Dewasme, L., Moreno, J., & Vande Wouwer, A. (2012). "A simple output-feedback controller for fed-batch cultures of microbial strains with overflow metabolism". Paper presented at International Symposium on Advanced Control of Chemical Processes (ADCHEM), Singapore, Singapore.
Texte intégral : [VargasADCHEM2012 \(2\).pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Sbarciog, M., Moreno, J., & Vande Wouwer, A. (2012). "A Biogas-Based Switching Control Policy for Anaerobic Digestion Systems". Paper presented at IFAC ADCHEM, Singapore, Unknown/unspecified.
Texte intégral : [Sbarciog_ADCHEM_AnaerobicDigestion_final.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Suvarov, P., Vande Wouwer, A., & KIENLE, A. (2012). "A Simple robust control for simulated moving bed chromatographic separation". Paper presented at International Symposium on Advanced Control of Chemical Processes (ADCHEM), Singapore, Singapore.
Texte intégral : [A Simple robust control for simulated moving bed chromatographic separation.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Mailier, J., Donoso Bravo, A. E., & Vande Wouwer, A. (2012). "A simple procedure for the identification of macroscopic bioprocess models: application to anaerobic digestion". Paper presented at 7th Vienna International Conference on Mathematical Modelling (MATHMOD), Vienna, Austria.
Texte intégral : [Mailier_final.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Sbarciog, M., & Vande Wouwer, A. (2012). "Some Considerations About Control of Multi-species Anaerobic Digestion Systems". Paper presented at 7th Vienna International Conference on Mathematical Modelling (MATHMOD), Vienna, Austria.
Texte intégral : [Sbarciog_MATHMOD2012_submission.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication poster

- Miranda Almeida, P., & Vande Wouwer, A. (08 October 2012). "Nitrogen and oxygen control in a recirculating aquaculture system : Classical versus model based control". Poster session presented at IAP DYSCO Study day 2012, Louvain-la-Neuve, Belgium.
Texte intégral : [Almeida_Poster_IAP_2012.pdf](#) (Accès réservé aux membres du personnel de l'UMONS) [Abstract.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Rapports/Rapport de recherche interne

- Witsel, A.-C., Renotte, C., & Remy, M. (2012). "Projet Mint - SP12 : 'Ligne virtuelle' : Rapport de fin de projet".
- Witsel, A.-C., Renotte, C., & Remy, M. (2012). "Modélisation et simulation de la traction sur la ligne d'Eurogal : Réalisation d'un simulateur Matlab/Simulink".

Mémoires et thèses/Thèse de doctorat

- Mailier, J. (2012). "Contribution to mathematical modeling of bioprocesses with application to cultures of microalgae and anaerobic digestion". Unpublished doctoral thesis, Université de Mons. Jury: Vande Wouwer, A. (Promotor), Hantson, A.-L. (Promotor), Thomas, D., Remy, M., Bernard, O., Harmand, J., & Bogaerts, P.

2011

Périodiques scientifiques/Compte rendu et recension critique d'ouvrage

- Vande Wouwer, A., & Rocha, E. (15 November 2011). State and input estimation in phytoplanktonic cultures using quasi-unknown input observers. "Chemical Engineering Journal, 175", 39-48.
- Vande Wouwer, A., & Rocha, E. (01 November 2011). State and Input Estimation in Phytoplanktonic Cultures using Quasi-Unknown Input Observers. "Chemical Engineering Journal, 175", 39-48.

Parties d'ouvrages/Contribution à des ouvrages collectifs

- Dewasme, L., Coutinho, D., & Vande Wouwer, A. (2011). Adaptive and robust linearizing control strategies for fed-batch cultures of micro-organisms exhibiting overflow metabolism. In "Lectures notes in control and information sciences" (pp. 283-305). Springer-Verlag Berlin Heidelberg.
Texte intégral : [Dewasme2011.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Renotte, C., Delforge, M., Houart, M., & Slosse, P. (2011). Comment les TICE peuvent-elles participer à la réussite des étudiants primants? In "Recherches et Actions en faveur de la réussite en première année universitaire : vingt ans

de collaboration dans la Commission 'Réussite' du CIUF /sous la direction de Ph. Parmentier". Presses Universitaires de Namur.

Périodiques scientifiques/Article

- Donoso Bravo, A. E., Mailier, J., Martin, C., Rodríguez, J., Aceves-Lara, C., & Vande Wouwer, A. (01 November 2011). Model selection, identification and validation in anaerobic digestion: A review. "Water Research, 45" (17), 5347-5364.
Texte intégral : [WR\(45\) 5347-5364.PDF](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vlad, C., Sbarciog, M., & Barbu, M. (15 August 2011). Linear predictive control of a wastewater treatment process. "Annals of Dunarea de Jos University of Galati, Fascicle III, Electrotechnics, Electronics, Automatic Control, Informatics, 34" (1), 15-20.
Texte intégral : [3_Vlad_Predictive_Control.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Jungers, R., Zamorano, F., Blondel, V. D., Vande Wouwer, A., & Bastin, G. (01 June 2011). Fast computation of minimal elementary decompositions of metabolic flux vectors. "Automatica, 47" (6), 1255-1259.
- Mailier, J., Delmotte, A., Cloutier, M., Jolicoeur, M., & Vande Wouwer, A. (01 May 2011). Parametric sensitivity analysis and reduction of a detailed nutritional model of plant cell cultures. "Biotechnology and Bioengineering, 108" (5), 1108-1118.
Texte intégral : [bit_23030.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vilas Fernandez, C., & Vande Wouwer, A. (15 February 2011). Combination of multi-model predictive control and the wave theory for the control of simulated moving bed plants. "Chemical Engineering Science, 66", 632-641.
- Dewasme, L., Srinivasan, B., Perrier, M., & Vande Wouwer, A. (2011). Extremum seeking algorithm design for fed-batch cultures of microorganisms with overflow metabolism. "Journal of Process Control", (21), 1092-1104.
doi:10.1016/j.jprocont.2011.05.002
Texte intégral : [Dewasme2011_scd.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Severino, A., Nobre, C., Teixeira, J., Rodrigues, L., Vande Wouwer, A., & De Weireld, G. (29 November 2011). "Sugars separation in a fermentative broth by Simulated Moving Bed chromatography - SMB". Paper presented at 13ème Congrès de la Société Française de Génie des Procédés - SFGP 2011, Lille, France.
- Zamorano, F., Jungers, R., Vande Wouwer, A., & Bastin, G. (06 September 2011). "Multiple Modelling of CHO cell cultures through the computation of minimal sets of EFMs". Paper presented at CHEMPOR 2011 (11th International Chemical and Biological Engineering Conference), Lisbon, Portugal.
- Renotte, C. (01 April 2011). "UMONS : Promotion de la Réussite". Paper presented at Forum d'échanges de pratiques sur la Promotion de la Réussite - Pôle hainuyer, Mons, Belgium.
- De Jesus Saraiva, I., Sbarciog, M., & Vande Wouwer, A. (17 March 2011). "Multivariable Control of Animal Cell Cultures in Perfusion Mode". Paper presented at 30th Benelux Meeting on Systems and Control, Lommel, Belgium.
Texte intégral : [InesSaraiva_AbstractBenelux2011.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Mailier, J., & Vande Wouwer, A. (17 March 2011). "Exploring Reaction Kinetics with the Likelihood Ratio Test". Paper presented at 30th Benelux Meeting on Systems and Control, Lommel, Belgium.
Texte intégral : [Mailier - Reviewed abstract.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Miranda Almeida, P., Donoso Bravo, A. E., & Vande Wouwer, A. (15 March 2011). "Dynamic Modelling of a recirculating aquaculture system". Paper presented at 30th Benelux Meeting on Systems and Control, Lommel, Belgium.
Texte intégral : [Presentation Benelux Meeting 2011.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
[Abstract.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Sbarciog, M., & Vande Wouwer, A. (15 March 2011). "Optimizing the methane production during the anaerobic degradation of solid wastes". Paper presented at 30th Benelux Meeting on Systems and Control, Lommel, Belgium.
Texte intégral : [Sbarciog_Benelux2011_book of abstracts.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Retamal, C., Dewasme, L., Hantson, A.-L., & Vande Wouwer, A. (15 March 2011). "Modelling a hyper-proliferative E. coli". Paper presented at 30th Benelux Meeting on Systems and Control, Lommel, Belgium.
Texte intégral : [abstract_retamal_2011.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Donoso Bravo, A. E., Perez Elvira, S., Vande Wouwer, A., & Fdz Polanco, F. (2011). "Evolution of the hydrolytic capacity in long-term operation of a thermophilic anaerobic digester". Paper presented at Latin American Workshop and Symposium on Anaerobic Digestion (DAAL), Ouro Preto, Brazil.
Texte intégral : [4F6S.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Donoso Bravo, A. E., Mailier, J., & Vande Wouwer, A. (2011). "Optimal design of anaerobic batch tests for kinetic parameter determination through global sensitivity analysis". Paper presented at Latin American Workshop and Symposium on Anaerobic Digestion (DAAL), Ouro Preto, Brazil.
Texte intégral : [4ET4.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Donoso Bravo, A. E., Mailier, J., & Vande Wouwer, A. (2011). "The role of the sensitivity analysis and optimization criterion on kinetic parameter determination in anaerobic digestion". Paper presented at CHEMPOR 2011 (11th International Chemical and Biological Engineering Conference), Lisbon, Portugal.
Texte intégral : [Manuscript.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Retamal, C., Dewasme, L., Hantson, A.-L., & Vande Wouwer, A. (2011). "Parameter estimation in a model of E. coli MG1655 culture". Paper presented at CHEMPOR 2011 (11th International Chemical and Biological Engineering Conference), Lisbon, Portugal.
Texte intégral : [chempor_retamal_2011.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vande Wouwer, A. (2011). "Modeling of the Aromatic Profile in Wine-Making Fermentation: The Backbone Equations". Paper presented at 18th IFAC World Congress, Milan, Italy.
Texte intégral : [David_etal_IFACworld2011.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Sbarciog, M., Loccufier, M., & Vande Wouwer, A. (2011). "On the Optimization of Biogas Production in Anaerobic Digestion Systems". Paper presented at 18th IFAC World Congress, Milan, Italy.
Texte intégral : [Sbarciog_IFAC_2011.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Mailier, J., Delmotte, A., Cloutier, M., Jolicoeur, M., & Vande Wouwer, A. (2011). "Sensitivity Analysis for Parameter Identification of a Plant Growth Model". Paper presented at 18th IFAC World Congress, Milan, Italy.
Texte intégral : [Final version.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Lepore, R., Remy, M., Dumont, E., & Frère, M. (2011). "Evaluation of the benefits in heat pump design when using a dynamic lumped-parameter model". Paper presented at 23rd IIR International Congress of Refrigeration, Praha, Czechia.
Texte intégral : [550.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Lepore, R., Remy, M., Dumont, E., & Frère, M. (2011). "Dynamic-lumped parameter model of a heat pump - Sensitivity analysis for performance optimization". Paper presented at 10th IEA Heat Pump Conference, Tokyo, Japan.
Texte intégral : [HPC2011_Lepore.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Sbarciog, M., Donoso Bravo, A. E., & Vande Wouwer, A. (2011). "Evaluation of Steady State Multiplicity for the Anaerobic Degradation of Solid Organic Waste". Paper presented at 21 European Symposium on Computer Aided Process Engineering, Greece.
Texte intégral : [Sbarciog_ESCAPE21_2011.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Miranda Almeida, P., Donoso Bravo, A. E., & Vande Wouwer, A. (2011). "Dynamic Modelling and Analysis of a Recirculating Aquaculture System". Paper presented at Symposium on Systems Analysis and Integrated Assessment (WATERMATEX), San Sebastian, Spain.
Texte intégral : [Almeida_fullpaper.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication poster

- Torres Zuniga, J. I., & Vande Wouwer, A. (29 November 2011). "Varicol process optimization strategy based on the solution of a MINLP". Poster session presented at IAP VI/4 DYSCO, Leuven, Belgium.
Texte intégral : [Poster.pdf](#) (Accès libre)
- Suvarov, P., Vande Wouwer, A., & KIENLE, A. (29 November 2011). "A simple adaptive controller for simulated moving bed chromatographic systems". Poster session presented at IAP DYSCO Study Day, Leuven, Belgium.
Texte intégral : [A simple adaptive controller for simulated moving bed chromatographic systems.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- De Jesus Saraiva, I., Sbarciog, M., Coutinho, D., & Vande Wouwer, A. (29 November 2011). "Performance and robustness assessment of multivariable control strategies for a high-cell-density perfusion bioreactor". Poster session presented at IAP DYSCO Study Day, Leuven, Belgium.
Texte intégral : [20111124_Poster_IAP_MihaelaSbarciogInesSaraiva.jpg](#) (Accès réservé aux membres du personnel de l'UMONS)
- Sbarciog, M., Donoso Bravo, A. E., & Vande Wouwer, A. (12 May 2011). "Evaluation of Steady State Multiplicity for the Anaerobic Degradation of Solid Organic Waste". Poster session presented at IAP DYSCO study day, Liège, Belgium.
Texte intégral : [Sbarciog_Poster_IAP_May2011.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Miranda Almeida, P., Donoso Bravo, A. E., & Vande Wouwer, A. (12 May 2011). "Dynamic modelling of a Recirculating Aquaculture System". Poster session presented at IAP DYSCO study day, Liège, Belgium.
Texte intégral : [Poster Final.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)[Abstract.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Donoso Bravo, A. E., Mailier, J., & Vande Wouwer, A. (11 May 2011). "Dynamic Modeling and identification of anaerobic digestion processes". Poster session presented at IAP DYSCO study day, Liège, Belgium.
- De Jesus Saraiva, I., Sbarciog, M., & Vande Wouwer, A. (22 March 2011). "Multivariable Control of Animal Cell Cultures in Perfusion". Poster session presented at Matinée des Chercheurs, Mons, Belgium.
Texte intégral : [20110322_Poster_InesSaraiva_MDC.jpg](#) (Accès réservé aux membres du personnel de l'UMONS)

2010

Parties d'ouvrages/Contribution à des ouvrages collectifs

- Coutinho Ferreira, D., & Vande Wouwer, A. (2010). A Robust H-infinity Quasi-LPV Approach for Designing Nonlinear Observers. In "Recent Advances in Optimization and its Applications in Engineering" (pp. 21-30). Springer.
Texte intégral : [A Robust H8 Quasi-LPV Approach for Designing Nonlinear Observers.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Périodiques scientifiques/Article

- Zamorano, F., Vande Wouwer, A., & Bastin, G. (01 December 2010). A detailed metabolic flux analysis of an underdetermined network of CHO cells. "Journal of Biotechnology, 150", 497-508.
Texte intégral : [A detailed metabolic flux analysis of an underdetermined network of CHO cells.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Dewasme, L., Richelle, A., Dehottay, P., Georges, P., Remy, M., Bogaerts, P., & Vande Wouwer, A. (21 November 2010). Linear robust control of *S. cerevisiae* fed-batch cultures at different scales. "Biochemical Engineering Journal, 53" (1), 26-37. doi:10.1016/j.bej.2009.10.001
Texte intégral : [Dewasme2010_published.PDF](#) (Accès réservé aux membres du personnel de l'UMONS)
- Tebbani, S., Dumur, D., Hafidi, G., & Vande Wouwer, A. (02 June 2010). Nonlinear predictive control of fed-batch cultures of *escherichia coli*. "Chemical Engineering and Technology, 33", 1112-1124.
- Mailier, J., & Vande Wouwer, A. (01 January 2010). A fast and systematic procedure to develop dynamic models of bioprocesses - application to microalgae cultures. "Brazilian Journal of Chemical Engineering, 27" (3), 381-390.

Texte intégral : [Paper_final.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Grosfils, V., Hanus, R., Vande Wouwer, A., & Kinnaert, M. (01 January 2010). Parametric uncertainties and influence of the dead volume representation in modelling simulated moving bed separation processes. "Journal of Chromatography. A, 1217", 7359-7371.

Texte intégral : [1-s2.0-S0021967310012501-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Dewasme, L., Vande Wouwer, A., & Coutinho, D. (30 March 2010). "Robust linearizing control of yeast and bacteria fed-batch cultures". Paper presented at 29th Benelux Meeting on Systems and Control, Heeze, Netherlands.
Texte intégral : [Benelux2010.pdf](#) (Accès réservé aux membres du personnel de l'UMONS) [Beneluxmeeting_2010.ppt](#) (Accès réservé aux membres du personnel de l'UMONS)
- De Jesus Saraiva, I., Santos, L., & Vande Wouwer, A. (30 March 2010). "Nonlinear model predictive control of animal cell cultures in perfusion mode". Paper presented at 29th Benelux Meeting on Systems and Control, Heeze, Netherlands.
Texte intégral : [InesSaraiva_AbstractBenelux2010.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Mailier, J., Delmotte, A., Vande Wouwer, A., Cloutier, M., & Jolicoeur, M. (01 March 2010). "On a Reduced Order Model for the Representation of Plant Bioprocesses". Paper presented at 29th Benelux Meeting on Systems and Control, Heeze, Netherlands.
Texte intégral : [Abstract - Mailier.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Retamal, C., Kinnaert, M., Vilas Fernandez, C., & Vande Wouwer, A. (01 March 2010). "State estimation of simulated moving bed chromatographic processes". Paper presented at 29th Benelux Meeting on Systems and Control, Heeze, Netherlands.
Texte intégral : [Benelux_C_Retamal_2010.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- David, R., Dochain, D., Vande Wouwer, A., Mouret, J.-R., & Sablayrolles, J.-M. (01 March 2010). "Dynamical modeling of alcoholic fermentation and its link with nitrogen consumption". Paper presented at 29th Benelux Meeting on Systems and Control, Heeze, Netherlands.

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Lepore, R., Remy, M., Dumont, E., & Frère, M. (2010). "Dynamic lumped-parameter model of a heat pump designed for performance optimization". Paper presented at 8th International Conference on System Simulation in Buildings, Liège, Belgium.
Texte intégral : [P161FINAL.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vilas Fernandez, C., & Vande Wouwer, A. (2010). "A receding-horizon multi-model approach to the control of SMB separation processes". Paper presented at IEEE Multi-conference on Systems and Control, Yokohama, Japan.
- Santos, L., Dewasme, L., Hantson, A.-L., & Vande Wouwer, A. (2010). "Nonlinear model predictive control of fed-batch cultures of micro-organisms exhibiting overflow metabolism". Paper presented at IEEE Multi-conference on Systems and Control, Yokohama, Japan.
Texte intégral : [SantosDewasmeVDW.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Santos, L., Dewasme, L., & Vande Wouwer, A. (2010). "Nonlinear model predictive control of fed-batch cultures of E. coli: performance and robustness analysis". Paper presented at 8th IFAC Symposium on Nonlinear Control Systems (NOLCOS), Bologne, Italy.
Texte intégral : [SantosDewasmeVdW2010_Nolcos.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- David, R., Dochain, D., & Vande Wouwer, A. (2010). "Dynamic modeling of alcoholic fermentation and its link with nitrogen consumption". Paper presented at 11th International Symposium on Computer Applications in Biotechnology (CAB), Leuven, Belgium.
Texte intégral : [FrAT2-01.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Zamorano, F., Vande Wouwer, A., & Bastin, G. (2010). "Metabolic flux analysis of CHO-320 cells: undetermined network and effect of measurement errors". Paper presented at 11th International Symposium on Computer Applications in Biotechnology (CAB), Leuven, Belgium.
Texte intégral : [FrPostersT3-06.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Torres, I., Queinnec, I., & Vande Wouwer, A. (2010). "Observer-based output feedback linearizing control applied to a denitrification reactor". Paper presented at 9th International Symposium on Dynamics and Control of Process Systems (DYCOPS), Leuven, Belgium.
Texte intégral : [WeAT4-05.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Torres, I., Queinnec, I., Vilas Fernandez, C., & Vande Wouwer, A. (2010). "Observer-based output feedback linear control applied to a denitrification reactor". Paper presented at American Control Conference (ACC), Baltimore, United States - Maryland.
- Nobre, C., Severino, A., Retamal, C., Teixeira, J., Rodrigues, L., De Weireld, G., & Vande Wouwer, A. (2010). "Operating conditions of a simulated moving bed chromatography unit for the purification of fructo-olisaccharides". Paper presented at FoodSim 2010, Bragança, Portugal.
- Dewasme, L., Vande Wouwer, A., & Coutinho Ferreira, D. (2010). "Linearizing control of yeast and bacteria fed-batch cultures - a comparison of adaptive and robust strategies". Paper presented at 7th International Conference on Informatics in Control, Automation and Robotics (ICINCO), Funchal, Madeira, Portugal.
Texte intégral : [ICINCO_Dewasme_Coutinho_VandeWouwer.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication poster

- Didion, D., Hantson, A.-L., Vande Wouwer, A., & Hellin, L. (18 October 2010). "Monitoring de bioprocédés par mesures spectrométriques NIR in-situ". Poster session presented at Journée GEPROC - SCI-BB FNRS, Bruxelles, Unknown/unspecified.

Rapports/Rapport de recherche interne

- Altdorfer, B., Feldheim, V., & Lepore, R. (2010). "EPICOOOL - Rapport R04 : Protections solaires - Ombrage".
Texte intégral : [aWP2_R04_Solar_protections_and_shading_\(final_report\)_20101215_FINAL.doc](#) (Accès libre)
- Lepore, R. (2010). "Modélisation et contrôle de combi-systèmes et implantation avec le logiciel Matlab".
Texte intégral : [2010_MaisonPlancherPAC.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

2009

Parties d'ouvrages/Contribution à des ouvrages collectifs

- Dewasme, L., Bogaerts, P., & Vande Wouwer, A. (2009). Monitoring of Bioprocesses: Mechanistic and Data-Driven Approaches. In "Computational Intelligence Techniques for Bioprocess Modelling, Supervision and Control" (pp. 57-98). Springer Verlag.
Texte intégral : [Monitoring_Dewasme2009.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Goffaux, G., & Vande Wouwer, A. (2009). Design of a Robust Nonlinear Receding-Horizon Observer - First-order and second-order approximations. In "Nonlinear Model Predictive Control, Towards New Challenging Applications" (pp. 295-304). Springer Verlag.
Texte intégral : [Design of a Robust Nonlinear Receding-Horizon Observer First Order and Second Order Approximations.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Périodiques scientifiques/Article

- Logist, F., Saucez, P., Van Impe, J., & Vande Wouwer, A. (15 December 2009). Simulation of (Bio)chemical processes with distributed parameters using MATLAB. "Chemical Engineering Journal, 155", 603-616.
Texte intégral : [1-s2.0-S1385894709005841-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Saucez, P., Some, L., & Vande Wouwer, A. (01 September 2009). MATLAB implementation of a moving grid algorithm based on the equidistribution principle. "Applied Mathematics and Computation, 215", 1821-1829.
Texte intégral : [1-s2.0-S0096300309006821-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Goffaux, G., Vande Wouwer, A., & Bernard, O. (01 July 2009). Improving continuous-discrete interval observers with application to microalgae-based bioprocesses. "Journal of Process Control, 19" (7), 1182-1190.
Texte intégral : [1-s2.0-S0959152409000560-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Goffaux, G., Vande Wouwer, A., & Bernard, O. (01 June 2009). Continuous - Discrete Interval Observers for Monitoring Microalgae Cultures. "Biotechnology Progress, 25" (3), 667-675.
- Vande Wouwer, A., & Queinnec, I. (15 May 2009). Editorial: Nonlinear Estimation and Control of BioProcesses. "Biotechnology Progress, 25" (3), 605.
- Tilmanne, J., Urbain, J., Kothare, M. V., Vande Wouwer, A., & Kothare, S. V. (01 March 2009). Algorithms for sleep-wake identification using actigraphy : a comparative study and new results. "Journal of Sleep Research, 18" (1), 85-98.
Texte intégral : [JournalofSleepResearch2009_Actigraphy_JT_JU_AVDW.pdf](#) (Accès libre)
- David, R., Vande Wouwer, A., Vassel, J.-L., & Queinnec, I. (01 January 2009). Robust Control of the Activated Sludge Process. "Biotechnology Progress, 25", 701-708.
- Mailier, J., & Vande Wouwer, A. (01 January 2009). A fast and systematic procedure to develop dynamic models of bioprocesses - Application to microalgae cultures. "Computer Aided Chemical Engineering, 27", 579-584.
Texte intégral : [PSE2009_final.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- David, R., Saucez, P., Vassel, J.-L., & Vande Wouwer, A. (2009). Modeling and numerical simulation of secondary settlers: a method of lines strategy. "Water Research", (43), 319-330.
Texte intégral : [1-s2.0-S0043135408004909-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- David, R., Vassel, J.-L., & Vande Wouwer, A. (01 January 2009). Settler Dynamic Modeling and MATLAB Simulation of the Activated Sludge Process. "Chemical Engineering Journal, 146", 174-183.
Texte intégral : [1-s2.0-S1385894708003203-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Renotte, C. (01 October 2009). "Modélisation et Simulation ... Pour quoi faire?" Paper presented at Journée d'étude IBRA, .
- Mailier, J., & Vande Wouwer, A. (17 March 2009). "A Systematic Procedure to Develop Dynamic Models of Bioprocesses". Paper presented at 28th Benelux Meeting on Systems and Control, Spa, Belgium.
Texte intégral : [Abstract.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Dewasme, L., Vande Wouwer, A., Srinivasan, B., & Perrier, M. (16 March 2009). "Adaptive Extremum-seeking Control of Fed-batch Cultures of Micro-organisms exhibiting Overflow Metabolism". Paper presented at 28th Benelux Meeting on Systems and Control, Spa, Belgium.
Texte intégral : [Benelux2009.pdf](#) (Accès réservé aux membres du personnel de l'UMONS) [Beneluxmeeting_2009.ppt](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vilas Fernandez, C., & Vande Wouwer, A. (01 March 2009). "An Efficient Methodology for Model Predictive Control of SMB Plants Based on the Wave Theory and Reduced Order Models". Paper presented at 28th Benelux Meeting on Systems and Control, Spa, Belgium.
- Zamorano, F., Vande Wouwer, A., & Bastin, G. (01 March 2009). "Metabolic Flux Interval Analysis of CHO Cells". Paper presented at 28th Benelux Meeting on Systems and Control, Spa, Belgium.
- Coutinho Ferreira, D., & Vande Wouwer, A. (01 March 2009). "On the Robustness of Feedback Linearizing Control Schemes for Multiple-Input/Multiple-Output Bioreactors". Paper presented at 28th Benelux Meeting on Systems and Control, Spa, Belgium.
- Retamal, C., Vilas Fernandez, C., Kinnaert, M., & Vande Wouwer, A. (01 March 2009). "A comparison between different state estimation methods in a nonlinear distributed parameter system". Paper presented at 28th Benelux Meeting on Systems and Control, Spa, Belgium.

- Rocha, E., & Vande Wouwer, A. (01 March 2009). "Input and State Estimation of a Microalgae Culture using a Linear Quasi Unknown Input Observer". Paper presented at 28th Benelux Meeting on Systems and Control, Spa, Belgium.

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Thomas, D., & Renotte, C. (2009). "Contribution à la modélisation dynamique fonctionnelle des colonnes de distillation batch pour des mélanges multi-composants". Paper presented at XIIème Congrès de la Société Française de Génie des Procédés, Marseille, France.
- Rocha, E., & Vande Wouwer, A. (2009). "Estimation of the dilution rate and the states of a microalgae culture using a linear unknown input observer". Paper presented at European Control Conference (ECC), Budapest, Hungary.
Texte intégral : [ECC-2009-Rocha-vdwa.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vilas Fernandez, C., & Vande Wouwer, A. (2009). "A Model Predictive Control Strategy for the Control of SMB Plants Based on the Wave Theory". Paper presented at European Control Conference (ECC), Budapest, Hungary.
Texte intégral : [ECC-2009-Vilas-vdwa.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Mailier, J., & Vande Wouwer, A. (2009). "A Fast and Systematic Procedure to Develop Dynamic Models of Bioprocesses - Application to Microalgae Cultures". Paper presented at 10th International Symposium on Process Systems Engineering, Salvador, Brazil.
Texte intégral : [PSE2009_final.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Torres, I., Queinnec, I., Vilas Fernandez, C., & Vande Wouwer, A. (2009). "A linear control strategy applied to a denitrification biofilter". Paper presented at IFAC Workshop on Control of Distributed Parameter Systems, Toulouse, France.
- Vilas Fernandez, C., & Vande Wouwer, A. (2009). "An efficient implementation of nonlinear model predictive control on SMB plants". Paper presented at IFAC Workshop on Control of Distributed Parameter Systems, Toulouse, France.
- Dewasme, L., Vande Wouwer, A., Srinivasan, B., & Perrier, M. (2009). "Adaptive Extremum-seeking Control of Fed-batch Cultures of Micro-organisms exhibiting Overflow Metabolism". Paper presented at IFAC International Symposium on Advanced Control of Chemical Processes, Istanbul, Turkey.
Texte intégral : [Dewasme_2009.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Mailier, J., & Vande Wouwer, A. (2009). "Robust Methodology for the Identification of Dynamic Bioprocess Models". Paper presented at 15th IFAC Symposium on System Identification, Saint-Malo, France.
Texte intégral : [Final_paper.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Coutinho Ferreira, D., Dewasme, L., & Vande Wouwer, A. (2009). "Robust Control of Yeast Fed-Batch Cultures to Productivity Enhancement". Paper presented at IFAC International Symposium on Advanced Control of Chemical Processes, Istanbul, Turkey.
Texte intégral : [Coutinho_Dewasme_2009.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- David, R., Saucez, P., Queinnec, I., Vassel, J.-L., & Vande Wouwer, A. (2009). "Dynamical modelling and control of activated sludge treatment". Paper presented at STIC & Environnement, Calais, France.
- Dumont, E., Lepore, R., Feldheim, V., & Frère, M. (2009). "Étude d'une pompe à chaleur air/eau installée dans une maison individuelle : modélisation couplée pompe à chaleur/bâtiment et validation expérimentale". Paper presented at IXème Colloque Interuniversitaire Franco-Québécois sur la Thermique des Systèmes, Lille, France.
Texte intégral : [221-226 - DUMONT.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Jungers, R., Zamorano, F., Blondel, V., Vande Wouwer, A., & Bastin, G. (2009). "A Fast Algorithm for Computing a Minimal Decomposition of a Metabolic Flux Vector in Terms of Elementary Flux Vectors". Paper presented at 6th Vienna International Conference on Mathematical Modelling, Vienna, Austria.
- Zamorano, F., Vande Wouwer, A., Hantson, A.-L., & Bastin, G. (2009). "Metabolic Flux Interval Analysis of CHO Cells". Paper presented at 6th conference on mathematical modelling, Vienna, Austria.
- David, R., Dochain, D., Vande Wouwer, A., Mouret, J.-R., & Sablayrolles, J.-M. (2009). "Metabolic Modelling of Wine-Making: A State of the Art". Paper presented at 6th Vienna International Conference on Mathematical Modelling, Vienna, Austria.

Colloques et congrès scientifiques/Communication poster

- De Jesus Saraiva, I., Hantson, A.-L., Vande Wouwer, A., & Santos, L. (27 November 2009). "Control of Animal Cell Cultures". Poster session presented at IAP DYSCO Study Day, Leuven, Belgium.
Texte intégral : [PosterInesSaraiva_FPMS_Biosys_IAPDYSCO2009.jpg](#) (Accès réservé aux membres du personnel de l'UMONS)
- Hellin, L., Parmentier, M., Vande Wouwer, A., & Hantson, A.-L. (17 March 2009). "Optimisation d'une chaîne de production d'anticorps monoclonaux". Poster session presented at Matinée des chercheurs 2009, Mons, Belgium.
- Hantson, A.-L., Zumbo, M., Aubry, E., & Mailier, J. (17 March 2009). "Optimisation des conditions de culture en photobioréacteur de micro-algues en vue de la production de biodiesel". Poster session presented at Matinée des chercheurs 2009, Mons, Belgium.
- Vilas Fernandez, C., & Vande Wouwer, A. (01 March 2009). "A Model Predictive Control Strategy for the Control of SMB Plants using the Wave". Poster session presented at Matinée des chercheurs 2009, Mons, Belgium.

2008

Périodiques scientifiques/Article

- Vande Wouwer, A., Bogaerts, P., & Hullhoven, X. (01 January 2008). State observer scheme for joint kinetic parameter and state estimation. "Chemical Engineering Science, 63", 4810-4819.
Texte intégral : [1-s2.0-S0009250907008895-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Skrylnyk, O., Lepore, R., Renotte, C., & Remy, M. (19 March 2008). "State-of-charge observers for lead-acid storage unit in photovoltaic installations". Paper presented at 27th Benelux Meeting on Systems and Control, Heeze, Netherlands.
- Goffaux, G., Vande Wouwer, A., & Mailier, J. (18 March 2008). "Analysis of Nonlinear Software Sensors Applied to Bioprocesses : Particle Filtering and Unscented Kalman Filtering". Paper presented at 27th Benelux Meeting on Systems and Control, Heeze, Netherlands.
Texte intégral : [Benelux meeting - Abstract.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Dewasme, L., & Vande Wouwer, A. (18 March 2008). "Productivity optimization of yeast fed-batch cultures using an extremum-seeking strategy". Paper presented at 27th Benelux Meeting on Systems and Control, Heeze, Netherlands.
Texte intégral : [Dewasme.pdf](#) (Accès réservé aux membres du personnel de l'UMONS) [Beneluxmeeting_2008.ppt](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Dewasme, L., Vande Wouwer, A., & Perrier, M. (2008). "Adaptive extremum-seeking control of yeast fed-batch cultures". Paper presented at CHEMPOR (10th International Chemical and Biological Engineering Conference), Braga, Portugal. Du 04 au 06/09/08, Braga, Portugal.
Texte intégral : [ES_full_text.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Dewasme, L., Hullhoven, X., & Vande Wouwer, A. (2008). "Scaling-up control of yeast fed-batch cultures". Paper presented at CHEMPOR (10th International Chemical and Biological Engineering Conference), Braga, Portugal. Du 04 au 06/09/08, Braga, Portugal.
Texte intégral : [RST_full_text.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Goffaux, G., & Vande Wouwer, A. (2008). "Design of a robust nonlinear receding-horizon observer - First-order and second-order approximations". Paper presented at International Workshop on Assessment and Future Directions of Nonlinear Predictive Control, Pavia, Italy.
Texte intégral : [170.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Liemans, I., Thomas, D., & Renotte, C. (2008). "Modelling and Simulation of a multi-component pilot-scale batch distillation column for control design". Paper presented at 18th International Congress of Chemical and Process Engineering, Prague, Czechia.
- Dewasme, L., & Vande Wouwer, A. (2008). "Adaptive Extremum-Seeking Control Applied to Productivity Optimization in Yeast Fed-Batch Cultures". Paper presented at 17th IFAC World Congress, Seoul, Unknown/unspecified.
Texte intégral : [IFAC2008_final.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vande Wouwer, A., Bogaerts, P., Rooman, M., & Vastemans, V. (2008). "Determination of macroscopic reaction schemes: towards a unifying view". Paper presented at 17th IFAC World Congress, Seoul, Unknown/unspecified.
Texte intégral : [3712.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vande Wouwer, A., Dumur, D., Hafidi, G., & Tebbani, S. (2008). "Nonlinear model predictive control applied to E. coli cultures". Paper presented at 17th IFAC World Congress, Seoul, Unknown/unspecified.
Texte intégral : [0529.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Goffaux, G., & Vande Wouwer, A. (2008). "Design of a robust nonlinear receding-horizon observer - Application to a biological system". Paper presented at 17th IFAC World Congress, Seoul, Unknown/unspecified.
Texte intégral : [2942.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vande Wouwer, A., Dumur, D., Hafidi, G., & Tebbani, S. (2008). "Robustness analysis of nonlinear predictive control of fed-batch E. coli cultures". Paper presented at 16th Mediterranean Conference on Control and Automation, Ajaccio, Corse, France.
- Dumont, E., Duprez, M.-E., Lepore, R., Nourricier, S., Feldheim, V., & Frère, M. (2008). "Performance analysis and modeling of a static air-to-water heat pump integrated in a single-family dwelling". Paper presented at 9th International Energy Agency Heat Pump Conference, Zürich, Switzerland.
Texte intégral : [Paper_Zurich_DumontE.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Saucez, P., Some, L., & Vande Wouwer, A. (2008). "Matlab implementation of a moving grid method based on the equidistribution principle". Paper presented at 4th International Conference on advanced computational methods in engineering, Liège, Belgium.
- Saucez, P., Vande Wouwer, A., & Some, L. (2008). "Matlab implementation of a moving grid method based on the equidistribution principle". Paper presented at Fourth International Conference on Advanced Computational Methods in Engineering, Liège, Belgium.

2007

Parties d'ouvrages/Contribution à des ouvrages collectifs

- Lepore, R., Vande Wouwer, A., Remy, M., & Bogaerts, P. (2007). Receding -horizon estimation and control of ball mill circuits. In "Assessment and Future Directions of Nonlinear Model Predictive Control" (pp. 485-493). Springer.
Texte intégral : [2005_NMPC05_Paper39.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Périodiques scientifiques/Article

- Logist, F., Vande Wouwer, A., Smets, I., & Van Impe, C. (01 September 2007). Optimal Temperature Profiles for Tubular Reactors Implemented through a Flow Reversal Strategy. "Chemical Engineering Science, 62" (17), 4675-4688.
Texte intégral : [1-s2.0-S000925090700423X-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Grosfils, V., Levrie, C., Kinnaert, M., & Vande Wouwer, A. (01 August 2007). A Systematic Approach to SMB Processes Model Identification from Batch Experiments. "Chemical Engineering Science, 62", 3894-3908.
- Renard, F., & Vande Wouwer, A. (21 May 2007). Robust Adaptive Control of Yeast Fed-Batch Cultures. "Computers and Chemical Engineering, 32" (6), 1238-1248.
Texte intégral : [Robust-adaptive-control-of-yeast-fed-batch-cultures_2008_Computers-and-Chemical-Engineering.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Renard, F., Vande Wouwer, A., Valentinotti, S., & Dumur, D. (01 March 2007). Control of Yeast Fed-Batch Cultures using Minimal a priori Process Knowledge and Measurement Information. "Journal of Process Control, 16", 855-864.
- Grosfils, V., Levrie, C., Kinnaert, M., & Vande Wouwer, A. (01 March 2007). On Simplified Modelling Approaches to SMB Processes. "Computers and Chemical Engineering, 31", 196-205.
Texte intégral : [1-s2.0-S0098135406001621-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Lepore, R., Vande Wouwer, A., Remy, M., Findeisen, R., Nagy, Z. K., & Allgöwer, F. (01 February 2007). Optimization strategies for a MMA polymerization reactor. "Computers and Chemical Engineering, 31", 281-291.
Texte intégral : [1-s2.0-S0098135406001967-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Grosfils, A., Vande Wouwer, A., & Bogaerts, P. (01 January 2007). On a General Model Structure for Macroscopic Biological Reaction Rates. "Journal of Biotechnology, 130", 253-264.
Texte intégral : [1-s2.0-S0168165607002702-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Garcia, S., Balsa-Canto, E., Banga, J., & Vande Wouwer, A. (01 January 2007). Dynamic optimization of a Simulated Moving Bed (SMB) chromatographic separation process. "Industrial and Engineering Chemistry Research, 45", 9033-9041.

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Nourricier, S., Dumont, E., Lepore, R., & Frère, M. (17 April 2007). "Implementation of the EBPD in Belgium: Performances of the simplified method for primary energy consumption calculations". Paper presented at Low Carbon Urban Built Environment Conference, Vienna, Austria.
- Dumont, E., Lepore, R., Nourricier, S., & Frère, M. (17 April 2007). "Integrated Modelling of a Dwelling and its Heating System". Paper presented at Low Carbon Urban Built Environment Conference, Vienna, Austria.
Texte intégral : [C23_Vienna_Dumont.pdf](#) (Accès libre)
- David, R., Vande Wouwer, A., Vassel, J.-L., & Queinnec, I. (13 March 2007). "Application of Robust Control to the Activated Sludge Process". Paper presented at 26th Benelux Meeting on Systems and Control, Lommel, Belgium.
- Goffaux, G., Vande Wouwer, A., Bodizs, L., Bogaerts, P., & Bonvin, D. (13 March 2007). "Parameter Identification to Enforce Practical Observability - Application to (Fed-)batch Bioprocesses". Paper presented at 26th Benelux Meeting on Systems and Control, Lommel, Belgium.
- Dewasme, L., Renard, F., & Vande Wouwer, A. (13 March 2007). "Productivity optimization of cultures of *S. cerevisiae* through a robust control strategy". Paper presented at 26th Benelux Meeting on Systems and Control, Lommel, Belgium.
Texte intégral : [ControlBenelux2007_final.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
[beneluxmeeting2007_control_2.ppt](#) (Accès réservé aux membres du personnel de l'UMONS)
- Lepore, R., Nourricier, S., Renard, F., Diricq, H., Duprez, M.-E., Dumont, E., Renotte, C., Feldheim, V., & Frère, M. (13 March 2007). "Control-oriented model of a dwelling coupled to a water-to-water heat pump system". Paper presented at 26th Benelux Meeting on Systems and Control, Lommel, Belgium.
Texte intégral : [BeneluxMeeting2007_Abstract.pdf](#) (Accès libre)
- Grosfils, V., Levrie, C., Kinnaert, M., & Vande Wouwer, A. (13 March 2007). "Modeling and Identification of a SMB Process". Paper presented at 26th Benelux Meeting on Systems and Control, Lommel, Belgium.
- Goffaux, G., Vande Wouwer, A., & Bernard, O. (13 March 2007). "Discrete-Time Interval Observers - Application to Continuous Cultures of Phytoplankton". Paper presented at 26th Benelux Meeting on Systems and Control, Lommel, Belgium.
- Tilmanne, J., Urbain, J., Vande Wouwer, A., Kothare, M. V., & Kothare, S. V. (13 March 2007). "Actigraphy as a way of distinguishing sleep from wake". Paper presented at 26th Benelux Meeting on Systems and Control, Lommel, Belgium.
- Dewasme, L., Vande Wouwer, A., Hullhoven, X., & Bogaerts, P. (13 March 2007). "NN-based software sensors in yeast and bacteria fed-batch processes". Paper presented at 26th Benelux Meeting on Systems and Control, Lommel, Belgium.
Texte intégral : [beneluxmeeting2007_NN_2.ppt](#) (Accès réservé aux membres du personnel de l'UMONS)
[NNBenelux2007_final.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Goffaux, G., Vande Wouwer, A., & Remy, M. (13 March 2007). "Interval Estimation with Confidence Degree - Application to AUV Positioning". Paper presented at 26th Benelux Meeting on Systems and Control, Lommel, Belgium.

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Goffaux, G., Vande Wouwer, A., & Bernard, O. (2007). "Discrete-time interval observers applied to cultures of phytoplankton". Paper presented at 7th IFAC Symposium on Nonlinear Control Systems, Pretoria, South Africa.
- Goffaux, G., Vande Wouwer, A., & Remy, M. (2007). "Design of a Confidence Interval Observer - Application to Vehicle Positioning". Paper presented at 7th IFAC Symposium on Nonlinear Control Systems, Pretoria, South Africa.
- Grosfils, V., Levrie, C., Kinnaert, M., & Vande Wouwer, A. (2007). "Identification of SMB process model from batch experiments". Paper presented at European Control Conference, Porto, Portugal.
- Dewasme, L., Renard, F., & Vande Wouwer, A. (2007). "Experimental investigations of a robust control strategy applied to cultures of *S. cerevisiae*". Paper presented at European Control Conference, Kos, Greece.
Texte intégral : [Dewasme2007.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- David, R., Vande Wouwer, A., Vassel, J.-L., & Queinnee, I. (2007). "Model reduction and robust control of the Activated Sludge Process". Paper presented at European Control Conference, Porto, Portugal.
- Tilmanne, J., Urbain, J., Vande Wouwer, A., Kothare, M. V., & Kothare, S. V. (2007). "Algorithms for Sleep-Wake Identification using Actigraphy: A Comparative Study and New Results". Paper presented at 21st Annual Meeting of the Associated Professional Sleep Societies, Minneapolis, United States.
- Logist, F., Vande Wouwer, A., Smets, I., & Van Impe, C. (2007). "Optimal Jacketed Tubular Reactor Operation: Classic vs. Flow Reversal". Paper presented at 8th IFAC Symposium on Dynamics and Control Process System, Cancun, Mexico.
Texte intégral : [DYCOPS-2007-Logist-vdwa.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Grosfils, V., Levrie, C., Kinnaert, M., & Vande Wouwer, A. (2007). "Modelling and Identification from Batch Experiments of a SMB Process". Paper presented at 8th IFAC Symposium on Dynamics and Control Process System, Cancun, Mexico.
Texte intégral : [DYCOPS-2007-Grosfils-vdwa.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Garcia, M. S., Balsa-Canto, E., Vande Wouwer, A., & Banga, J. (2007). "Optimal control of the Simulated Moving Bed (SMB) chromatographic separation process". Paper presented at 8th IFAC Symposium on Dynamics and Control Process System, Cancun, Mexico.
Texte intégral : [DYCOPS-2007-Garcia-vdwa.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Dewasme, L., Vande Wouwer, A., Dessoy, S., Dehottay, P., Hullhoven, X., & Bogaerts, P. (2007). "Experimental Study of Neural Network Software Sensors in Yeast and Bacteria Fed-Batch Cultures". Paper presented at 10th IFAC Symposium on Computer Applications in Biotechnology, Cancun, Mexico.
Texte intégral : [IFAC2007_final3.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Goffaux, G., Bodizs, L., Vande Wouwer, A., Bogaerts, P., & Bonvin, D. (2007). "Parameter Identification to Enforce Practical Observability of Nonlinear Systems". Paper presented at 10th IFAC Symposium on Computer Applications in Biotechnology, Cancun, Mexico.
Texte intégral : [CAB-2007-Goffaux-vdwa.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Grosfils, A., Vande Wouwer, A., & Bogaerts, P. (2007). "A General Kinetic Model Structure - Simulation and Experimental Validation". Paper presented at 10th IFAC Symposium on Computer Applications in Biotechnology, Cancun, Mexico.
Texte intégral : [CAB-2007-Grosfils-vdwa.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Hafidi, G., Tebbani, S., Dumur, D., & Vande Wouwer, A. (2007). "Nonlinear predictive control of *E. coli* cultures". Paper presented at Workshop on Nonlinear Model Based Control, Loughborough, Unknown/unspecified.

2006

Périodiques scientifiques/Article

- Grosfils, A., Vande Wouwer, A., & Bogaerts, P. (22 December 2006). Systematic Decoupled Identification of Pseudo-Stoichiometry, Degradation and Kinetics. "Computers and Chemical Engineering, 31" (11), 1449-1455.
Texte intégral : [1-s2.0-S0098135406003164-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vande Wouwer, A., Renotte, C., Queinnec, I., & Bogaerts, P. (2006). Transient analysis of a wastewater treatment biofilter- distributed parameter modeling and state estimation. "Mathematical and Computer Modelling of Dynamical Systems", (12), 5 423-440.
- Hullhoven, X., Vande Wouwer, A., & Bogaerts, P. (2006). Hybrid extended Luenberger asymptotic observer for bioprocess state estimation. "Chemical Engineering Science", (61), 7151-7160.
Texte intégral : [1-s2.0-S0009250906003940-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Queinnec, I., Ochoa, J.-C., Vande Wouwer, A., & Paul, A. (2006). Development and calibration of a nitrification PDE model based on experimental data issued from biofilter treating drinking water. "Biotechnology and Bioengineering", (94), 2 209-222.
- Renard, F., Vande Wouwer, A., Valentinotti, S., & Dumur, D. (2006). A practical robust control scheme for yeast fed-batch cultures - an experimental validation. "Journal of Process Control", (16), 8 855-864.
Texte intégral : [1-s2.0-S0959152406000242-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vande Wouwer, A., Renotte, C., & Bogaerts, P. (01 January 2006). A Short Note On SPSA Techniques and their Use in Nonlinear Bioprocess Identification. "Mathematical and Computer Modelling of Dynamical Systems, 12", 415-422.

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Dewasme, L., Renard, F., & Vande Wouwer, A. (13 March 2006). "A simple design procedure for robust adaptive control of yeast fed-batch culture". Paper presented at 25th Benelux Meeting on Systems and Control, Heeze, Netherlands.
- Bernard, O., Goffaux, G., & Vande Wouwer, A. (01 January 2006). "Guaranteed state estimation of biotechnological systems with discrete-time measurements". Paper presented at 25th Benelux Meeting on Systems and Control, Heeze, Netherlands.
- Bogaerts, P., Grosfils, V., & Vande Wouwer, A. (01 January 2006). "General kinetic model structure for macroscopic modeling of bioprocesses". Paper presented at 25th Benelux Meeting on Systems and Control, Heeze, Netherlands.
- David, R., Queinnec, I., Sol, O., Vande Wouwer, A., & Vassel, J.-L. (01 January 2006). "Derivation of a reduced-order linear model from ASM1 Control perspectives". Paper presented at 25th Benelux Meeting on Systems and Control, Heeze, Netherlands.
- Goffaux, G., Remy, M., & Vande Wouwer, A. (01 January 2006). "Robust filtering techniques applied to train positioning". Paper presented at 25th Benelux Meeting on Systems and Control, Heeze, Netherlands.

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Hullhoven, X., Renard, F., Dessoay, S., Dehottay, P., Bogaerts, P., & Vande Wouwer, A. (2006). "Monitoring and Control of a bioprocess for malaria vaccine production". Paper presented at 5th IFAC Symposium on Robust Control Design, Toulouse, France.
- Lepore, R., Vande Wouwer, A., Findeisen, R., Nagy, Z. K., Remy, M., & Allgöwer, F. (2006). "Scheduled optimization of a MMA polymerization process". Paper presented at International Symposium on Advanced Control of Chemical Processes, Gramado, Brazil.
- Queinnec, I., Ochoa, J.-C., Paul, E., & Vande Wouwer, A. (2006). "Dynamic modeling of a biofilter used for nitrification of drinking water at low influent ammonia concentrations". Paper presented at International Symposium on Advanced Control of Chemical Processes, Gramado, Brazil.

- David, R., Saucez, P., Vande Wouwer, A., & Vassel, J.-L. (2006). "Classical models of secondary settlers revisited". Paper presented at 16th European Symposium on Computer Aided Process Engineering, Garmisch-Partenkirchen, Germany.
- David, R., Saucez, P., Vande Wouwer, A., & Vassel, J.-L. (2006). "Classical Models of secondary Settlers revisited". Paper presented at 16th European Symposium on Computer Aided Process Engineering, Garmisch-Partenkirchen, Germany.
- Goffaux, G., Vande Wouwer, A., & Remy, M. (2006). "Robust filtering techniques applied to train positioning". Paper presented at 5th IFAC Symposium on Robust Control Design, Toulouse, France.
- Perrier, M., Renard, F., & Vande Wouwer, A. (2006). "Robust adaptive Control of yeast fed-batch cultures". Paper presented at International Symposium on Advanced Control of Chemical Processes, Gramado, Brazil.

Rapports/Rapport de recherche interne

- Lepore, R. (2006). "Le Pôle Energie et l'énergie photovoltaïque - Etude préliminaire".
Texte intégral : [2006_PolEn_Photovolt.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Mémoires et thèses/Thèse de doctorat

- Lepore, R. (2006). "Nonlinear optimization-based control techniques for cement grinding and polymerization processes". Unpublished doctoral thesis, Université de Mons. Jury: .
Texte intégral : [Thesis_Lepore.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

2005

Parties d'ouvrages/Contribution à des ouvrages collectifs

- Goffaux, G., & Vande Wouwer, A. (2005). Bioprocess state estimation: some classical and less classical approaches. In "Lecture notes in Control and Information Sciences" (pp. 111-128). Springer Verlag.
Texte intégral : [Bioprocess State Estimation Some Classical and Less Classical Approaches.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Périodiques scientifiques/Article

- Haag, J. E., Vande Wouwer, A., & Bogaerts, P. (2005). Dynamic modeling of complex biological systems: a link between metabolic and macroscopic description. "Mathematical Biosciences", (193), 25-49.
Texte intégral : [1-s2.0-S0025556404001567-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Bogaerts, P., Hullhoven, X., & Vande Wouwer, A. (2005). On a systematic procedure for the predetermination of macroscopic reaction schemes. "Bioprocess and Biosystems Engineering", (27), 5 283-291.
- Haag, J. E., Vande Wouwer, A., & Remy, M. (2005). A general model of reaction kinetics in biological systems. "Bioprocess and Biosystems Engineering", (27), 5 303-309.
- Vande Wouwer, A., & Schiesser, W. E. (01 January 2005). Special issue dedicated to Prof. Keith Miller (Berkley USA) on 'The Method of Lines'. "Journal of Computational and Applied Mathematics, 183", 241-244.
- Bogaerts, P., & Vande Wouwer, A. (2005). Special issue on 'Nonlinear modeling and Control of Bioprocesses'. "Bioprocess and Biosystems Engineering", (27), 5 281-282.
- Saucez, P., Vande Wouwer, A., & Zegeling, P. (01 January 2005). Adaptive method of lines solutions for the extended fifth order Korteweg-De Vries Equation. "Journal of Computational and Applied Mathematics, 183", 343-357.
Texte intégral : [1-s2.0-S0377042705000701-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

- Vande Wouwer, A., Saucez, P., Schiesser, W. E., & Thompson, S. (01 January 2005). A MATLAB implementation of upwind finite differences and adaptive grids in the method of lines. "Journal of Computational and Applied Mathematics, 183", 245-258.
Texte intégral : [1-s2.0-S0377042705000634-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Haag, J. E., Vande Wouwer, A., & Bogaerts, P. (2005). Systematic procedure for the reduction of complex biological reaction pathways and the generation macroscopic equivalents. "Chemical Engineering Science", (60), 459-465.
Texte intégral : [1-s2.0-S0009250904006141-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Bogaerts, P., Grosfils, V., & Vande Wouwer, A. (01 January 2005). "First principles models of bioprocesses versus hybrid neural network models". Paper presented at 24th Benelux Meeting on Systems and Control, Houffalize, Belgium.
- Lepore, R., Vande Wouwer, A., Remy, M., Findensen, R., Nagy, Z. K., & Allgöwer, F. (01 January 2005). "Optimal Control of a batch MMA Polymerization reactor under model uncertainty". Paper presented at 24th Benelux Meeting on Systems and Control, Houffalize, Belgium.
- Goffaux, G., & Vande Wouwer, A. (01 January 2005). "Bioprocess software sensor design based on particle filters". Paper presented at 24th Benelux Meeting on Systems and Control, Houffalize, Belgium.
- Witsel, A.-C., Renotte, C., & Remy, M. (01 January 2005). "Contribution to the control of a rotary cement kiln". Paper presented at 24th Benelux Meeting on Systems and Control, Houffalize, Belgium.
- David, R., Saucez, P., Vande Wouwer, A., & Vassel, J.-L. (01 January 2005). "1-D Modelling and numerical simulation of sedimentation". Paper presented at 24th Benelux Meeting on Systems and Control, Houffalize, Belgium.
- Logist, F., Smets, I., Van Impe, C., & Vande Wouwer, A. (01 January 2005). "Optimal Control of a tubular reactor: influence of dispersion". Paper presented at 24th Benelux Meeting on Systems and Control, Houffalize, Belgium.
- Goffaux, G., Vande Wouwer, A., & Remy, M. (01 January 2005). "Robust Kalman filtering techniques applied to train positioning". Paper presented at Workshop on State Estimation, Heidelberg, Germany.
- Perrier, M., Renard, F., & Vande Wouwer, A. (01 January 2005). "Robust control of yeast fed-batch culture in growth limitation conditions". Paper presented at 24th Benelux Meeting on Systems and Control, Houffalize, Belgium.
- Goffaux, G., Vande Wouwer, A., & Remy, M. (01 January 2005). "An evaluation of some state estimation techniques applied to an underwater vehicle positioning problem". Paper presented at 24th Benelux Meeting on Systems and Control, Houffalize, Belgium.

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Haag, J. E., & Vande Wouwer, A. (2005). "Modeling and parameter estimation in CHO-K1 cell cultures". Paper presented at International Symposium on design, operation and Control of Chemical Processes, Seoul, South Korea.
- Renard, F., Vande Wouwer, A., Valentinotti, S., & Dumur, D. (2005). "Bioprocess robust control using minimal a-priori knowledge". Paper presented at International Symposium on Advanced Control of Industrial Processes, Seoul, South Korea.
- Renard, F., Vande Wouwer, A., Valentinotti, S., & Dumur, D. (2005). "Robust control with Youla parametrization of yeast fed-batch cultures". Paper presented at 16th IFAC World Congress, Prague, Czechia.
- Witsel, A.-C., Barbieux, V., Renotte, C., & Remy, M. (2005). "Multi-loop control scheme of a cement kiln". Paper presented at 24th IASTED International Conference on Modelling, Identification and Control, Innsbruck, Austria.
- Witsel, A.-C., Renotte, C., & Remy, M. (2005). "New dynamic model of cement kiln". Paper presented at 17th IMACS World Congress Scientific Computation, Applied Mathematics and Simulation, Paris, France.
- Logist, F., Smets, I., Vande Wouwer, A., & Van Impe, C. (2005). "Optimal control of dispersive tubular chemical reactors part II". Paper presented at 16th IFAC World Congress, Prague, Czechia.
- Grosfils, V., Vande Wouwer, A., & Bogaerts, P. (2005). "Hybrid models of bioprocesses: a comparative study". Paper presented at 16th IFAC World Congress, Prague, Czechia.

- Grosfils, V., Levrie, C., Kinnaert, M., & Vande Wouwer, A. (2005). "A systematic approach of SMB processes model identification from SMB processes data". Paper presented at 16th IFAC World Congress, Prague, Czechia.

2004

Parties d'ouvrages/Contribution à des ouvrages collectifs

- Vande Wouwer, A. (2004). Modeling and simulation of distributed parameter systems. In "Control Systems Robotics and Automation - Encyclopedia of life Support Systems". Eolss Publishers, Oxford UK.
- Vande Wouwer, A., & Zeitz, M. (2004). State estimation in distributed parameter systems. In "Control Systems Robotics and Automation - Encyclopedia of life Support Systems". Eolss Publishers, Oxford UK.

Périodiques scientifiques/Article

- Saucez, P., Schiesser, W. E., Vande Wouwer, A., & Zegeling, P. (01 January 2004). Simulation of distributed parameter systems using a MATLAB-based Method of Lines Toolbox - Chemical Engineering applications. "Journal of Computational and Applied Mathematics", 168", 413-423.
- Bogaerts, P., & Vande Wouwer, A. (2004). Parameter identification for state estimation -application to bioprocess software sensors. "Chemical Engineering Science", (59), 2465-2476.
Texte intégral : [1-s2.0-S0009250904001782-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vande Wouwer, A., Renotte, C., & Bogaerts, P. (2004). Biological reaction modeling using radical basis function networks. "Computers and Chemical Engineering", (28), 11 2157-2164.
Texte intégral : [1-s2.0-S0098135404000651-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Saucez, P., Schiesser, W. E., & Vande Wouwer, A. (2004). Simulation of distributed parameter systems using a MATLAB-based Method of Lines Toolbox - Chemical Engineering applications. "Industrial and Engineering Chemistry Research", (43), 3469-3477.
- Saucez, P., Schiesser, W. E., Vande Wouwer, A., & Zegeling, P. (01 January 2004). Method of lines study of nonlinear dispersive waves. "Journal of Computational and Applied Mathematics", 168", 413-423.
Texte intégral : [1-s2.0-S0377042703009889-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Griffiths, G. W., Saucez, P., Schiesser, W. E., & Vande Wouwer, A. (2004). Can a non linearity be neglected? an example. "Computers and Mathematics with Applications", (40), 1393-1403.
Texte intégral : [1-s2.0-S0895717705000270-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Grosfils, V., Kinnaert, M., Levrie, C., & Vande Wouwer, A. (01 January 2004). "Identification of isotherm parameters and mass transfer coefficient in batch and SMB chromatography". Paper presented at 23rd Benelux Meeting on Systems and Control, Helvoirt, Netherlands.
- Dumur, D., Renard, F., & Vande Wouwer, A. (01 January 2004). "Robust control with Youla parametrization of fed-batch cultures of *S.Cerevisiae*". Paper presented at 23rd Benelux Meeting on Systems and Control, Helvoirt, Netherlands.
- Witsel, A.-C., Renotte, C., & Remy, M. (01 January 2004). "Contribution to dynamic modeling of a cement kiln". Paper presented at 23rd Benelux Meeting on Systems and Control, Helvoirt, Netherlands.
- Lepore, R., Vande Wouwer, A., Remy, M., Findeisen, R., & Allgöwer, F. (01 January 2004). "On open and closed-loop control of an MMA polymerization reactor". Paper presented at 23rd Benelux Meeting on Systems and Control, Helvoirt, Netherlands.
- Fritz, F., Haag, J. E., & Vande Wouwer, A. (01 January 2004). "A computational procedure for the predetermination of parameters in bioprocess models". Paper presented at 23rd Benelux Meeting on Systems and Control, Helvoirt, Netherlands.
- Grosfils, V., Kinnaert, M., Levrie, C., & Vande Wouwer, A. (01 January 2004). "Nonlinear distributed parameter observers applied to chromatographic separation processes". Paper presented at 23rd Benelux Meeting on Systems and Control, Helvoirt, Netherlands.

- Lepore, R., Findeisen, R., Nagy, Z. K., Allgöwer, F., & Vande Wouwer, A. (01 January 2004). "Optimal open and closed-loop control for disturbance rejection in batch process control". Paper presented at BATCHPRO, Poros, Greece.
- Goffaux, G., Vande Wouwer, A., & Remy, M. (01 January 2004). "Robust state estimation techniques: applications to an autonomous underwater vehicle". Paper presented at 23rd Benelux Meeting on Systems and Control, Helvoirt, Netherlands.
- Bogaerts, P., Grosfils, V., & Vande Wouwer, A. (01 January 2004). "Systematic decoupled identification of pseudo-stoichiometry, Lysis rate and kinetics for xylanase production". Paper presented at 23rd Benelux Meeting on Systems and Control, Helvoirt, Netherlands.

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Lepore, R., Vande Wouwer, A., Remy, M., & Bogaerts, P. (2004). "Software sensor design for cement grinding circuits -practical issues". Paper presented at 11th IFAC Symposium on Automation in Mining, Mineral and Metal processing, Nancy, France.
- Lepore, R., Vande Wouwer, A., Remy, M., & Bogaerts, P. (2004). "State and parameter estimation in cement grinding circuits - practical aspects". Paper presented at DYCOPS'2004, Boston, United States - Massachusetts.
- Bogaerts, P., Hullhoven, X., Renard, F., & Vande Wouwer, A. (2004). "Modeling and optimal experiment design for cultures of *S.cerevisiae*". Paper presented at 9th International Conference on Computer Applications in Biotechnology, Nancy, France.
Texte intégral : [1018.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Haag, J. E., Paul, E., Queinnec, I., & Vande Wouwer, A. (2004). "Experimental modeling of a biofilter for combined adsorption and nitrification". Paper presented at 9th International Conference on Computer Applications in Biotechnology, Nancy, France.
Texte intégral : [1014.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Haag, J. E., & Vande Wouwer, A. (2004). "Continuous -discrete observer desing for a CHO-K1 cell culture in suspension". Paper presented at DYCOPS'2004, Boston, United States - Massachusetts.
- Haag, J. E., Vande Wouwer, A., Remy, M., & Bogaerts, P. (2004). "Systematic model identification of complex bioprocesses : application to a CHO-K1 Cell culture". Paper presented at 9th International Conference on Computer Applications in Biotechnology, Nancy, France.
Texte intégral : [1011.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Haag, J. E., & Vande Wouwer, A. (2004). "A fast computational procedure for the predetermination of parameters in nonlinear bioprocess models". Paper presented at DYCOPS'2004, Boston, United States - Massachusetts.
- Bogaerts, P., Dauvrin, T., Gaspard, A., Grosfils, V., & Vande Wouwer, A. (2004). "Systematic decoupled identification of pseudo-stoichiometry, death rate and kinetics for a xylanase production". Paper presented at 9th International Conference on Computer Applications in Biotechnology, Nancy, France.
Texte intégral : [1057.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication poster

- Grosfils, V., Kinnaert, M., Levrie, C., & Vande Wouwer, A. (01 January 2004). "On simplified modeling approaches to SMB processes". Poster session presented at SPICA 2004, Aachen, Germany.
- Grosfils, V., Kinnaert, M., Levrie, C., & Vande Wouwer, A. (01 January 2004). "Parameter identification from batch experiments for use in SMB Models". Poster session presented at SPICA 2004, Aachen, Germany.
- Grosfils, V., Kinnaert, M., Levrie, C., & Vande Wouwer, A. (01 January 2004). "Design of a nonlinear distributed parameter observer for an SMB process". Poster session presented at SPICA 2004, Aachen, Germany.

2003

Périodiques scientifiques/Article

- Bogaerts, P., & Vande Wouwer, A. (2003). Software sensors for bioprocesses. "ISA Transactions", (42), 4 p 547-558.
Texte intégral : [1-s2.0-S0019057807600056-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Renotte, C., & Vande Wouwer, A. (2003). Stochastic approximation techniques applied to parameter estimation in a biological model. "Computing", (2), 87-92.
- Boulvin, M., Vande Wouwer, A., Lepore, R., Renotte, C., & Remy, M. (2003). Modeling and control of cement grinding processes. "IEEE Transactions on Control Systems Technology", (11), 5 p 715-725.
- Haag, J. E., Vande Wouwer, A., & Queinnec, I. (2003). Macroscopic modeling and identification of an anaerobic waste treatment process. "Chemical Engineering Science", (58), 19 p 4307-4316.
Texte intégral : [1-s2.0-S0009250903002720-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vande Wouwer, A., Renotte, C., & Remy, M. (2003). Application of stochastic approximation techniques in neural modeling and control. "International Journal of Systems Science", (34), 851-863.
- Saucez, P., Schiesser, W. E., & Vande Wouwer, A. (01 January 2003). Numerical Experiments with the moving finite element method. "International Journal of Pure and Applied Mathematical Sciences, 4" (1), 1-31.

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Haag, J. E., Vande Wouwer, A., & Remy, M. (19 March 2003). "A general approach for modeling biological reaction kinetics". Paper presented at 22nd Benelux Meeting on systems and control, Lommel, Belgium.
- Lepore, R., Vande Wouwer, A., Remy, M., & Bogaerts, P. (19 March 2003). "On particle size estimation in cement grinding circuits". Paper presented at 22nd Benelux Meeting on systems and control, Lommel, Belgium.
- Grosfils, V., Kinnaert, M., Levrie, C., & Vande Wouwer, A. (01 January 2003). "Numerical investigations of chromatographic separation processes". Paper presented at 22nd Benelux Meeting on systems and control, Lommel, Belgium.
- Grosfils, V., Kinnaert, M., Levrie, C., & Vande Wouwer, A. (01 January 2003). "On a simplified modelig approach to SMB processes for use in optimization and control". Paper presented at 22nd Benelux Meeting on systems and control, Lommel, Belgium.
- Lepore, R., Vande Wouwer, A., & Remy, M. (01 January 2003). "Nonlinear model predictive control of cement grinding circuits". Paper presented at 22nd Benelux Meeting on systems and control, Lommel, Belgium.
- Lepore, R., Findeisen, R., Vande Wouwer, A., Remy, M., & Allgöwer, F. (01 January 2003). "On open and closed-loop control of a MMA". Paper presented at Seizièmes Entretiens du Centre Jacques Cartier: Polymer Reaction Engineering: modeling, optimisation and control, Lyon, France.
- Saucez, P., Schiesser, W. E., & Vande Wouwer, A. (01 January 2003). "MATMOL: a Matlab-based method of lines toolbox with the engineering applications". Paper presented at 5th International Congress on Industrial and Applied Mathematics, Sydney, Australia.
- Saucez, P., Schiesser, W. E., & Vande Wouwer, A. (01 January 2003). "MATMOL: a Matlab-bases method of lines toolbox with engineering applications". Paper presented at 5th International Congress on Industrial and Applied Mathematics, Sydney, Australia.
- Bogaerts, P., Hullhoven, X., Renard, F., & Vande Wouwer, A. (01 January 2003). "Modeling and optimal experiment design for cultures of *S.cerevisiae*". Paper presented at 22nd Benelux Meeting on systems and control, Lommel, Belgium.
- Bogaerts, P., Haag, J. E., & Vande Wouwer, A. (01 January 2003). "On dynamic metabolic modeling and unstructured modeling of complex bioprocesses". Paper presented at 22nd Benelux Meeting on systems and control, Lommel, Belgium.

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Haag, J. E., Vande Wouwer, A., & Remy, M. (2003). "A general model of reaction kinetics in biological systems". Paper presented at European Control Conference, Porto, Portugal.
- Vande Wouwer, A., Renotte, C., & Bogaerts, P. (2003). "Modeling biological reaction rates using RBF Networks". Paper presented at 4th Mathmod - IMACS Symposium on Mathematical Modeling, Vienna, Austria.
- Bogaerts, P., Haag, J. E., & Vande Wouwer, A. (2003). "From dynamic metabolic modeling to unstructured model identification of complex biosystems". Paper presented at 13th IFAC Symposium on System Identification, Rotterdam, Netherlands.
Texte intégral : [25.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Lepore, R., Vande Wouwer, A., & Remy, M. (2003). "Nonlinear Model and predictive control of cement grinding circuits". Paper presented at IFAC ADCHEM'2003, Hong-Kong, China.
- Grosfils, V., Kinnaert, M., Levrie, C., & Vande Wouwer, A. (2003). "On simplified modeling approaches to SMB systems". Paper presented at 13th IFAC Symposium on System Identification, Rotterdam, Netherlands.
Texte intégral : [137.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vande Wouwer, A., Renotte, C., Deconinck, N., & Bogaerts, P. (2003). "Biomass reconstruction in a wastewater treatment biofilter". Paper presented at IFAC ADCHEM'2003, Hong-Kong, China.
- Bogaerts, P., Hullhoven, X., & Vande Wouwer, A. (2003). "Hybrid extended Luenberger-asymptotic observer for bioprocess state estimation". Paper presented at European Control Conference, Porto, Portugal.

2002

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Lepore, R., Remy, M., & Vande Wouwer, A. (01 January 2002). "Modeling and predictive control of cement grinding circuits". Paper presented at 21th Benelux Meeting on Systems and Control, Netherlands.
- Schiesser, W. E., Saucez, P., & Vande Wouwer, A. (01 January 2002). "High-order PDEs test problems". Paper presented at SIAM 50th Anniversary and 2002 Annual Meeting, Philadelphia, United States - Pennsylvania.
- Mills, P. L., Schiesser, W. E., Saucez, P., & Vande Wouwer, A. (01 January 2002). "Method-of-lines solution of a multiregion distributed parameter dynamic model of a fixed-bed reactor". Paper presented at SIAM 50th Anniversary and 2002 Annual Meeting, Philadelphia, United States - Pennsylvania.
- Vande Wouwer, A., Renotte, C., Remy, M., Queinnec, I., & Bogaerts, P. (01 January 2002). "Distributed parameter modeling of a fixed-bed biofilter". Paper presented at 21th Benelux Meeting on Systems and Control, Netherlands.
- Hullhoven, X., Vande Wouwer, A., & Bogaerts, P. (01 January 2002). "Hybrid extended Luenberger- asymptotic observer for bioprocess state estimation". Paper presented at 21th Benelux Meeting on Systems and Control, Netherlands.
- Haag, J. E., Vande Wouwer, A., & Remy, M. (01 January 2002). "Systematic model reduction for complex bioprocesses described by metabolic pathways". Paper presented at 21th Benelux Meeting on Systems and Control, Netherlands.
- Saucez, P., Schiesser, W. E., Vande Wouwer, A., & Zegeling, P. (01 January 2002). "A numerical study of high-order PDEs with solitary wave solutions". Paper presented at SIAM 50th Anniversary and 2002 Annual Meeting, Philadelphia, United States - Pennsylvania.

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Saucez, P., Schiesser, W. E., Vande Wouwer, A., & Zegeling, P. (2002). "Method of lines study of nonlinear dispersive waves". Paper presented at Second International Conference on advanced Computational Methods in Engineering, Liège, Belgium.

- Saucez, P., Vande Wouwer, A., Champneys, A., Zegeling, P., & Schiesser, W. E. (2002). "Numerical Investigations of existence properties of solitonic solutions of an extended fifth-order Korteweg-de Vries equation". Paper presented at IMACS workshop on adaptive methods for partial differential equations, Toronto, Canada.
- Haag, J. E., Remy, M., & Vande Wouwer, A. (2002). "A systematic model reduction procedure for complex bioprocesses described by metabolic pathway networks". Paper presented at 15th IFAC World Congress, Barcelone, Spain.
- Vande Wouwer, A., Renotte, C., Bogaerts, P., & Remy, M. (2002). "Hybrid first-principle -neural network approach to modeling of animal cell cultures". Paper presented at 10 th Mediterranean Conference on Control and Automation, Lisbonne, Portugal.
Texte intégral : [482.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Lepore, R., Vande Wouwer, A., & Remy, M. (2002). "Modeling and predictive control of cement grinding circuits". Paper presented at 15th IFAC World Congress, Barcelone, Spain.
- Vande Wouwer, A., Renotte, C., Queinnec, I., Remy, M., & Bogaerts, P. (2002). "Distributed parameter modeling of a fixed-bed biofilter - an experimental study". Paper presented at 10 th Mediterranean Conference on Control and Automation, Lisbonne, Portugal.
Texte intégral : [470.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vande Wouwer, A., & Bogaerts, P. (2002). "Software sensors in bioprocesses / Capteurs Logiciels en Biotechnologie". Paper presented at Forum Ira Advantiv - Apport Industriel de l'Automatique Avancée, Arles, France.
- Bogaerts, P., & Vande Wouwer, A. (2002). "Parameter identification for state estimation of a fed-batch bioreactor: analysis through model falsification". Paper presented at Symposium on Supervision, Control and Optimization of Biotechnological Processes, Gent, Belgium.

2001

Périodiques scientifiques/Article

- Renotte, C., Vande Wouwer, A., & Remy, M. (01 January 2001). A simple frequency domain approach to the tuning of PID controllers -design of an interactive software tool. "Journal A. Benelux Quarterly Journal on Automatic Control, 42" (3), 23-27.
- Haag, A., Lehoucq, S., Saucez, P., & Vande Wouwer, A. (2001). Modeling and simulation of a chromatographic process design for enantioseparation. "Control Engineering Practice", (9), 921-928.
Texte intégral : [1-s2.0-S0967066101000533-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Saucez, P., Schiesser, W. E., & Vande Wouwer, A. (2001). Upwinding in the Method of Lines. "Mathematics & Computers in Simulation", (56), 171-185.
Texte intégral : [1-s2.0-S0378475401002889-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Renotte, C., Vande Wouwer, A., Bogaerts, P., & Remy, M. (01 January 2001). Neural Network applications in nonlinear modeling of (bio)chemical processes. "Measurement and Control, 34", 197-201.

Ouvrages/Ouvrage collectif publié en tant qu'éditeur ou directeur

- Vande Wouwer, A., Saucez, P., Schiesser, W. E., Vande Wouwer, A. (Ed.), Saucez, P. (Ed.), & Schiesser, W. E. (Ed.). (2001). "Adaptive Method of Lines". Chapman Hall / CRC Press.
Texte intégral : [front.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Renotte, C., Bogaerts, P., Queinnec, I., Saucez, P., & Vande Wouwer, A. (01 July 2001). "Modeling, parameter identification, state and input reconstruction for a fixed-bed biofilter". Paper presented at International Conference on Scientific Computation And Differential Equations, Vancouver, Canada.

- Bogaerts, P., & Vande Wouwer, A. (01 January 2001). "Parameter identification for state estimation of a fed-batch bioreactor: analysis through model falsification". Paper presented at 20th Benelux Meeting on Systems and Control, Houffalize, Belgium.
- Haag, J. E., Queinnec, I., & Vande Wouwer, A. (01 January 2001). "Dynamic Modeling and identification of a methanisation process in waste treatment". Paper presented at 20th Benelux Meeting on Systems and Control, Houffalize, Belgium.
- Vande Wouwer, A., Saucez, P., Schiesser, W. E., & Zegeling, P. (01 January 2001). "Adaptive grids for high-order PDE Models". Paper presented at International Conference on SCientific Computation And Differential Equations, Vancouver, Canada.
- Lepore, R., Vande Wouwer, A., Bogaerts, P., & Remy, M. (01 January 2001). "Control-oriented modeling in grinding processes: a new approach". Paper presented at 20th Benelux Meeting on Systems and Control, Houffalize, Belgium.
- Saucez, P., Vande Wouwer, A., & Schiesser, W. E. (01 January 2001). "Application of non-oscillatory schemes and adaptive grids to problems with flow reversals". Paper presented at International Conference on SCientific Computation And Differential Equations, Vancouver, Canada.
- Bogaerts, P., & Vande Wouwer, A. (01 January 2001). "Systematic generation of identifiable macroscopic reaction schemes". Paper presented at 20th Benelux Meeting on Systems and Control, Houffalize, Belgium.

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Vande Wouwer, A., Renotte, C., Bogaerts, P., & Remy, M. (2001). "Application of SPSA techniques to nonlinear system identification". Paper presented at Conference ECC'01, Porto, Portugal.
- Sehab, R., Remy, M., & Renotte, C. (2001). "An approach to design PI supervisor for a nonlinear system". Paper presented at Conference IFSA/NAFIPS 2001, Vancouver, Canada.
- Navarrete, E., Bittencourt, C., & Llobet, E. (2001). "Control oriented modeling in grinding processes : a new approach". Paper presented at European Control Conference, Porto, Portugal.
- Haag, J. E., Queinnec, I., & Vande Wouwer, A. (2001). "Modeling and identification of a methanisation process in waste treatment". Paper presented at 8th IFAC Conference on Computer Application in Biotechnology, Québec, Canada.
- Vande Wouwer, A., Renotte, C., Remy, M., & Bogaerts, P. (2001). "Hybrid physical - neural network modeling of animal cell cultures". Paper presented at IFAC Conference on new technologies for Computer Control, Hong-Kong, China.
- Bogaerts, P., Hanus, R., Hullhoven, X., & Vande Wouwer, A. (2001). "Systematic generation of identifiable macroscopic reaction schemes -application to a perfusin cell culture". Paper presented at European Control Conference, Porto, Portugal.
- Bogaerts, P., & Vande Wouwer, A. (2001). "Parameter identification for state estimation of a fed-batch bioreactor: analysis through model falsification". Paper presented at 8th IFAC Conference on Computer Application in Biotechnology, Québec, Canada.
- Fortemps, P., & Vande Wouwer, A. (2001). "Commande flexible: commande prédictive sous contraintes flexibles/ Flexible control: predictive control with flexible constraints". Paper presented at Rencontres Francophones sur la Logique Floue et ses Applications, Mons, Belgium.

2000

Périodiques scientifiques/Article

- Lehoucq, S., Verheve, D., Vande Wouwer, A., & Cavoy, E. (01 February 2000). SMB enantioseparation : process development, modeling and operating conditions. "AIChE Journal, 46" (2), 247-256.
Texte intégral : [SMB Enantioseparation Process Development Modeling and Operating Conditions.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Vierlinck, O., Vande Wouwer, A., Renotte, C., & Remy, M. (01 January 2000). Some numerical experiments with nonlinear model predictive control. "Journal A. Benelux Quarterly Journal on Automatic Control, 41" (1), 31-36.

- Bogaerts, P., Hanus, R., & Vande Wouwer, A. (2000). Kinetic modeling and parameter identification for simulation and state estimation of bioprocesses. "Journal A. Benelux Quarterly Journal on Automatic Control", (41), 3-11.
- Vande Wouwer, A., Point, N., Porteman, S., & Remy, M. (2000). An approach to the selection of optimal sensor locations in distributed parameter systems. "Journal of Process Control", (10), 291-300.
Texte intégral : [1-s2.0-S0959152499000487-main.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Bogaerts, P., & Vande Wouwer, A. (01 January 2000). Modellidentifikation zur Zustandschätzung - Anwendung auf einen Bioprozess. "Automatisierungstechnik, 48" (5), 240-247.

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Bogaerts, P., & Vande Wouwer, A. (01 January 2000). "Parameter identification for state estimation - application to a bioprocess". Paper presented at 19th Benelux Meeting on Systems and Control, Mierlo, Netherlands.
- Stengle, G. A., Saucez, P., Vande Wouwer, A., & Schiesser, W. E. (01 January 2000). "Variable -order spatial differentiation in the method of lines". Paper presented at SIAM Annual Meeting, Rio Grande, Puerto Rico, United States.
- Vande Wouwer, A., & Bogaerts, P. (01 January 2000). "Distributed parameter modeling of an industrial condenser". Paper presented at 19th Benelux Meeting on Systems and Control, Mierlo, Netherlands.
- Sehab, R., Remy, M., & Renotte, C. (01 January 2000). "An approach to design robust and optimal fuzzy PI supervisor for nonlinear systems". Paper presented at 19th Benelux Meeting on Systems and Control, Mierlo, Netherlands.

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Renotte, C., Vande Wouwer, A., & Remy, M. (2000). "Neural modeling and control of a heat exchanger based on SPSA Techniques". Paper presented at American Control Conference 2000, Chicago, United States.
Texte intégral : [711.pdf](#) (Accès réservé aux membres du personnel de l'UMONS)
- Haag, J. E., Lehoucq, S., Saucez, P., & Vande Wouwer, A. (2000). "Modeling and Simulation of a SMB Chromatographic Process Designed for Enantioseparation". Paper presented at IFAC ADCHEM 2000, Pise, Italy.
- Sehab, R., Remy, M., & Renotte, C. (2000). "An approach to design robust an optimal fuzzy PI supervisor for nonlinear systems". Paper presented at Workshop on Fuzzy Logic and Applications, Mons, Belgium.
- Schiesser, W. E., Vande Wouwer, A., & Saucez, P. (2000). "Application of the adaptative method of Lines to Non-Linear Waves propagation problems". Paper presented at PIERS 2000 (Progress in Electromagnetics Research Symposium), Cambridge, MA, United States.
- Vande Wouwer, A., Saucez, P., & Schiesser, W. E. (2000). "Application of Spatial p-an r- refinement in the method of lines". Paper presented at SIAM Annual Meeting, Rio Grande, Puerto Rico, United States.
- Bogaerts, P., & Vande Wouwer, A. (2000). "Parameter identification of a model to be used for state estimation-application to a bioprocess". Paper presented at IEE Control'2000 Conference, Cambridge, United Kingdom.
- Haag, J. E., Lehoucq, S., Saucez, P., & Vande Wouwer, A. (2000). "Modeling and simulation of a chromatographic process designed for enantioseparation". Paper presented at IFAC ADCHEM 2000, Pise, Italy.
- Bogaerts, P., Hanus, R., & Vande Wouwer, A. (2000). "Systematic modeling methodology for simulation and state estimation of bioprocess". Paper presented at 3rd Mathmod -IMACS Symposium on Mathematic Modeling, Vienna, Austria.

1999

Périodiques scientifiques/Article

- Boulvin, M., Renotte, C., Vande Wouwer, A., Remy, M., Tarasiewicz, S., & César, P. (01 January 1999). Modeling, simulation and Evaluation of Control Loops for a Cement Grinding Process. "European Journal of Control, 5", 10-18.

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Saucez, P., Vande Wouwer, A., & Schiesser, W. E. (01 January 1999). "On the solution of the cubic Schrödinger equation using the moving finite element method". Paper presented at IMACS Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, Athens, United States.
- Boulvin, M., Lepore, R., & Remy, M. (01 January 1999). "Instability of closed-loop cement grinding circuits". Paper presented at 18th Benelux Meeting on Systems and Control, Houthalen, Belgium.
- Vande Wouwer, A., Renotte, C., & Remy, M. (01 January 1999). "Neural Network Training Using simultaneous perturbation stochastic approximation". Paper presented at 18th Benelux Meeting on Systems and Control, Houthalen, Belgium.
- Lehoucq, S., Haag, J. E., & Vande Wouwer, A. (01 January 1999). "Modeling, simulation and optimization of a simulated moving bed separation unit". Paper presented at 18th Benelux Meeting on Systems and Control, Houthalen, Belgium.
- Renotte, C., Vande Wouwer, A., & Remy, M. (01 January 1999). "Tuning of PID controllers based on loop shaping". Paper presented at 18th Benelux Meeting on Systems and Control, Houthalen, Belgium.
- Watson, M., Caram, H., Schiesser, W. E., Vande Wouwer, A., & Saucez, P. (01 January 1999). "Ignition Front Propagation in Reaction Bonded Aluminium Oxide". Paper presented at 1999 IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena Computation and Theory, Athens, United States.

Colloques et congrès scientifiques/Communication publiée dans un périodique

- Boulvin, M., Lepore, R., & Remy, M. (1999). "On the unstable behaviour of cement grinding circuits". Paper presented at European Control Conference, Karlsruhe, Germany.
- Yu, B., Tarasiewicz, S., & Vande Wouwer, A. (1999). "Mechatronic system definition and its modeling based on a ball mill". Paper presented at 3è Conférence Internationale sur l'Automatisation Industrielle, Montréal, Canada.
- Vande Wouwer, A., Point, N., Porteman, S., & Remy, M. (1999). "On a practical criterion for optimal sensor configuration-application to a fixed-bed-reactor". Paper presented at 14th IFAC World Congress, Beijing, China.
- Fiordaliso, A., & Renotte, C. (1999). "Reconstitution de variables d'état à l'aide de structure multi-observateurs". Paper presented at LFA' 99, Valenciennes, France.
- Vande Wouwer, A., Renotte, C., & Remy, M. (1999). "On the use of simultaneous perturbation stochastic approximation for neural network training". Paper presented at American Control Conference, San Diego, United States - California.
- Renotte, C., Vande Wouwer, A., & Remy, M. (1999). "On a model of the human ventilatory system : sensitivity analysis and effect of gas properties". Paper presented at 14th IFAC World Congress, Beijing, China.
- Bogaerts, P., Cuvelier, A., Hanus, R., & Vande Wouwer, A. (1999). "Distributed parameter modeling and identification of an industrial condenser". Paper presented at European Control Conference, Porto, Portugal.
- Lepore, R., Boulvin, M., Renotte, C., & Remy, M. (1999). "On mill flow rate and fineness control in cement grinding circuits: instability and delayed measurements". Paper presented at 38th Conference of Metallurgists, Québec, Canada.

 1996

Parties d'ouvrages/Contribution à des ouvrages collectifs

- Vande Wouwer, A., Zeitz, M., Point, N., & Remy, M. (1996). On-line temperature reconstruction using non linear state estimators. In D. Lemonnier, J. B. Saulnier, & M. Fiebig (Eds.), "Advanced Concepts and Techniques in Thermal Modelling". Elsevier.

Périodiques scientifiques/Article

- Point, N., Vande Wouwer, A., & Remy, M. (01 January 1996). Practical Issues in Distributed Parameter Estimation: Gradient Computation and Optimal Experiment Design. "Control Engineering Practice, 4", 1553-1562.

1995

Périodiques scientifiques/Article

- Saucez, P., Remy, M., Renotte, C., & Mauroy, M. (01 March 1995). Thermal behaviour of the constant volume body plethysmograph. "IEEE Transactions on Biomedical Engineering, 42" (3), 269-277.

1994

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Point, N., Vande Wouwer, A., & Remy, M. (02 March 1994). "Identification of distributed parameter systems through minimization of an output least squares criterion". Paper presented at 13th Benelux Meeting on Systems and Control, Veldhoven, Netherlands.

1993

Périodiques scientifiques/Article

- Point, N., Vande Wouwer, A., Remy, M., & Zeitz, M. (01 January 1993). PC Environment for Simulation and Parameter Estimation of Distributed Parameter Systems. "Mathematics & Computers in Simulation, 35", 481-491.
- Vande Wouwer, A., Zeitz, M., Point, N., & Remy, M. (01 January 1993). On-Line Implementation of a Nonlinear Distributed Observer for a Multizone Furnace - Comparative Study with a Nonlinear Filter. "Control Engineering Practice, 1", 947-955.

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Vande Wouwer, A., Zeitz, M., Point, N., & Remy, M. (01 March 1993). "On-line implementation and comparison of nonlinear observers for a multizone Furnace". Paper presented at 12th Benelux Meeting on Systems and Control, Houffalize, Belgium.

1992

Périodiques scientifiques/Article

- Vande Wouwer, A., Point, N., & Zeitz, M. (01 January 1992). Simulation, identification and state estimation of an electrical furnace model by means of orthogonal collocation. "Journal of mathematical modelling and simulation in systems analysis, 9", 23-34.

Colloques et congrès scientifiques/Communication orale non publiée/Abstract

- Vande Wouwer, A., Point, N., & Remy, M. (01 March 1992). "Simulation and Parameter Estimation of an Electrical Furnace". Paper presented at 11th Benelux Meeting on Systems and Control, Velhoven, Netherlands.