Dépôt Institutionnel
ORBI UMONS
Université de Mons

# Publications of the Unit "Systems, Assessment, Control and Optimization"

*2024*

Scientific journals/Article

- Dewasme, L., Mäkinen, M., & Chotteau, V. (April 2024). Multivariable robust tube-based nonlinear model predictive control of mammalian cell cultures. "Computers and Chemical Engineering, 183", 108592. doi:10.1016/j.compchemeng.2024.108592
  **Full Text :** Dewasme2024.pdf (Open Access)

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*2023*

Scientific journals/Complete issue

- Bogaerts, P., & Vande wouwer, A. (Eds.). (2023). Mathematical Modeling and Control of Bioprocesses. "Processes". doi:10.3390/books978-3-0365-7141-6
  **Full Text :** Mathematical_Modeling_and_Control_of_Bioprocesses.pdf (Open Access)

Scientific journals/Article

- Araujo pimentel, G., Dewasme, L., & Vande wouwer, A. (2023). Data-driven inference of bioprocess models: A low-rank matrixapproximation approach. "Journal of Process Control".
  **Full Text :** 10_Pimentel_Dewasme_VandeWouwer_JPC_2023.pdf (Open Access)

- Araujo pimentel, G., Dewasme, L., & Vande wouwer, A. (22 November 2023). On the Number of Reactions and Stoichiometry of Bioprocess Macroscopic Models: an Implicit Sparse Identification Approach. "IFAC-PapersOnLine, 56" (2), 9721-9726. doi:10.1016/j.ifacol.2023.10.285
  **Full Text :** Pimentel2023b.pdf (Open Access)

- Lopez-Jimenez, J., Quijano, N., & VANDE WOUWER, A. (November 2023). Agent-based sensor location strategy for smart irrigation of large crop fields. "Computers and Electronics in Agriculture, 214", 108282. doi:10.1016/j.compag.2023.108282
  **Full Text :** Agent-based sensor location strategy for smart irrigation of large crop fields.pdf (Open Access)

- Mohet, J., Hastir, A., Dimassi, H., Winkin, J. J., & Vande wouwer, A. (September 2023). Infinite-dimensional sliding mode observer analysis for a disturbed linear reaction–convection–diffusion model. "Systems and Control Letters, 179", 105599. doi:10.1016/j.sysconle.2023.105599
  **Full Text :** Infinite dimensional sliding mode observer.pdf (Open Access)

- Delansnay, G., & Vande wouwer, A. (September 2023). Design of a Reference Governor in a Zonotopic Framework Applied to a Quadrotor under Feedback Linearization Control Strategies. "Journal of Intelligent and Robotic Systems, 109" (1). doi:10.1007/s10846-023-01947-7
  **Full Text :** Reference_governor_feedback_lin_finalversion.pdf (Open Access)

- Salton, A. T., Araujo pimentel, G., Melo, J. V., Castro, R. S., & Benfica, J. (August 2023). Data-driven Covariance Tuning of the Extended Kalman Filter for Visual-based Pose Estimation of the Stewart Platform. "Journal of Control, Automation and Electrical Systems, 34" (4), 720 - 730. doi:10.1007/s40313-023-01006-4
  **Full Text :** 09_SaltonPimentelMeloCastroBenfica2023.pdf (Open Access)

- Dewasme, L., Mäkinen, M., & Chotteau, V. (01 February 2023). Practical data-driven modeling and robust predictive control of mammalian cell fed-batch process. "Computers and Chemical Engineering, 171", 108164. doi:10.1016/j.compchemeng.2023.108164
  **Full Text :** CACE_revision2_black.pdf (Open Access)

Scientific congresses and symposiums/Unpublished conference/Abstract

- Garcia tenorio, C., & Vande wouwer, A. (13 May 2023). "Development of accurate and tractable EDMD approximations for analysis and control" [Paper presentation]. SIAM Conference on Applications of Dynamical Systems (DS23), Portland, United States.
  **Full Text :** ConferenceAbstract.pdf (Open Access)

- Archila, O., Vande wouwer, A., & Schiffer, J. (21 March 2023). "Collision avoidance for UAV system using switching forces: Average dwell time analysis" [Paper presentation]. 42nd Benelux Meeting on Systems and Control, Elspeet, Netherlands.
  **Full Text :** oscar_bmsc_2023.pdf (Open Access)

- Delansnay, G., & Vande wouwer, A. (March 2023). "Reference Governor in the Zonotopic Framework applied to a Quadrotor under an INDI Control Strategy". Paper presented at 42nd Benelux Meeting on Systems and Control, Netherlands.
  **Full Text :** Abstract___Benelux____governor.pdf (Open Access)

Scientific congresses and symposiums/Paper published on a website

- Garcia tenorio, C., & Vande wouwer, A. (03 July 2023). "Data-Driven Modeling of PFR Kiln" [Paper presentation]. 2023 9th International Conference on Control, Decision and Information Technologies (CoDIT), Rome, Italy. doi:10.1109/CoDIT58514.2023.10284118
  **Full Text :** root.pdf (Open Access)

- Araujo pimentel, G., Dewasme, L., Santos navarro, F. N., Boes, A., Côte, F., Filée, P., & Vande wouwer, A. (2023). "Macroscopic Dynamic Modeling of Metabolic Shift to Lactate Consumption of Mammalian Cell Batch Cultures" [Paper presentation]. 2023 9th International Conference on Control, Decision and Information Technologies (CoDIT), Rome, Ita. doi:10.1109/CoDIT58514.2023.10284210
  **Full Text :** CoDIT2023.pdf (Open Access)

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*2022*

Scientific journals/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
  **Full Text :** Robust state and input estimation with enhanced convergence rate for monitoring anaerobic digestion.pdf (Open Access)

- 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
  **Full Text :** Data-Driven Predictive Control of Interconnected Systems.pdf (Open Access)

- Boutry, S., Laurent, S., & Burtea, C. (2022). Editorial for "New Cluster Analysis Method for Quantitative DCE-MRI Assessing Tumor Heterogeneity Induced by E7130 Treatment to a Breast Cancer Mouse Model". "Journal of Magnetic Resonance Imaging". doi:10.1002/jmri.28225
  **Full Text :** Magnetic Resonance Imaging - 2022 - Boutry - Editorial for New Cluster Analysis Method for Quantitative DCE MRI Assessing.pdf (Open Access)

- 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.
  **Full Text :** water-14-00889-v2.pdf (Open Access)

- 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.
  **Full Text :** Abadli2022.pdf (Open Access)

- Abeli, A., & Dupont, C. (2022). Analyse de l'impact d'une transformation agile sur la reconnaissance au travail. "@GRH, 3" (44), 133-158. doi:10.3917/grh.044.0133
  **Full Text :** GRH_044_0133.pdf (Open Access)

- Bottieau, J., Wang, Y., De Grève, Z., Vallée, F., & Toubeau, J.-F. (2022). Interpretable Transformer Model for Capturing Regime Switching Effects of Real-Time Electricity prices. "IEEE Transactions on Power Systems", 1-14. doi:10.1109/TPWRS.2022.3195970
  **Full Text :** Interpretable_Transformer_Model_for_Capturing_Regime_Switching_Effects_of_Real-Time_Electricitynbspprices (1).pdf (Open Access)

Scientific congresses and symposiums/Unpublished conference/Abstract

- Tsakirmpaloglou, K., & Kaufmann, O. (November 2022). "Geostatistical regularization methods for synthetic ERT crosshole imagery". Paper presented at GELMON 2022 6th International Workshop on Geoelectric Monitoring.

- 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.
  **Full Text :** Benelux_meeting_2022-Chernev-Vande_Wouwer-Kienle-Santos.pdf (Open Access)

- Zamudio lara, J., Dewasme, L., Hernández Escoto, H., & Vande Wouwer, A. (05 July 2022). "Experimental modeling of a beer fermentation process" [Paper presentation]. Benelux Meeting on Systems and Control 2022, Bruxelles, Belgium.
  **Full Text :** Zamudio.pdf (Open Access)

- Seha, M., & Duroisin, N. (09 May 2022). "Analyse comparée des programmes de géométrie de l'enseignement primaire et du début de l'enseignement secondaire dans quatre pays francophones à l'aide du modèle de Duval". Paper presented at Congrès de l'ACFAS, Québec, Canada.

Scientific congresses and symposiums/Paper published in a journal

- 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
  **Full Text :**
  Model_Predictive_Control_of_Simulated_Moving_Bed_Chromatographic_Processes_Using_Conservation_Element_Solution_Element_Method.pdf (Open Access)

- 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".
  **Full Text :** Escoto2022.pdf (Open Access)

- 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.
  **Full Text :** Pimentel2022.pdf (Open Access)

- 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.
  **Full Text :** Dewasme2022c.pdf (Open Access)

Scientific congresses and symposiums/Poster

- Bamps, J.* , Capouillez, B., Rinaldi, R., & Patris, S.*. (06 September 2022). "Détection du syndrome "fragile" par les professionnels de la santé : revue systématique des outils disponibles" [Poster presentation]. Mardi des Chercheurs, Mons, Belgium.

Scientific congresses and symposiums/Paper published on a website

- Dewasme, L., & Vande Wouwer, A. (06 December 2022). "Two Simple Model-free Extremum Seeking Strategies with Convergence Acceleration through Hessian Estimation" [Paper presentation]. 61st IEEE Conference on Decision and Control, Cancun, Mexico.
  **Full Text :** Dewasme2022d.pdf (Open Access)

- Bodart, M., Bruyninckx, M., & Vandecassye, M. (06 September 2022). "Soutenir l'acquisition précoce des mathématiques par la mise en place de modules de psychomotricité" [Paper presentation]. Le Mardi des Chercheurs 2022 – 11ème édition, Mons, Belgium.

Learning materials/Course notes

- Pieropan, L. (2022). "Portfolio de traduction IT-FR (MAB1 21-22 Q2/Traduction générale)".

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*2021*

Scientific journals/Article

- Bottieau, J., Bruninx, K., Sanjab, A., De Grève, Z., Vallée, F., & Toubeau, J.-F. (11 December 2021). Automatic Risk Adjustment for Profit Maximization in Renewable Dominated Short-Term Electricity Markets. "International Transactions on Electrical Energy Systems, e1352".
  **Full Text :** ITEES-21-0328_Paper_accepted.pdf (Open Access)

- 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.
  **Full Text :** A_Concise_Review_of_State_Estimation_Techniques_for_Partial_Differential_Equation_Systems.pdf (Open Access)

- 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.
  **Full Text :** Metabolic_Flux_Analysis_of_VERO_Cells_under_Various_Culture_Conditions.pdf (Open Access)

- 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.
  **Full Text :** How_to_Tackle_Underdeterminacy_in_Metabolic_Flux_Analysis_A_Tutorial_and_Critical_Review.pdf (Open Access)

- 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.
  **Full Text :** Feudjio2021.pdf (Open Access)

- 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.
  **Full Text :** Abadli2021.pdf (Open Access)

- 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
  **Full Text :** 10.1515_nleng-2021-0009.pdf (Open Access)

- 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.
  **Full Text :**
  Extended_Kalman_Filter_Design_for_Semilinear_Distributed_Parameter_Systems_with_Application_to_Anaerobic_Digestion.pdf
  (Open Access)

- 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.
  **Full Text :** mathematics-09-01119-v2.pdf (Open Access)

- 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
  **Full Text :** A_model-based_optimisation_strategy_for_the_start-up_of_anaerobic_codigestion_processes.pdf (Open Access)

- 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
  **Full Text :** An_Agent-Based_Crop_Model_Framework_for_Heterogeneous_Soils.pdf (Open Access)

Scientific congresses and symposiums/Unpublished conference/Abstract

- Pineda-Hernandez, K., Rycx, F., & Volral, M. (21 December 2021). "Moving-up The Social Ladder? Intergenerational Earnings Mobility Among Immigrants in Belgium" [Paper presentation]. UGent @ Work seminarie #6, Gent, Belgium.

- 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.
  **Full Text :** SafeFlightEnvelopeOfClosedLoopQuadcopters_BeneluxMeetings.pdf (Open Access)

- Bourgaux, A.-E. (26 June 2021). "'La démocratie participative en Belgique : franchir le Rubicon' - audition dans le cadre de l'étude juridique des possibilités de modernisation de la démocratie" [Paper presentation]. Commission du renouveau démocratique et de la citoyenneté, Bruxelles, Sénat , Belgium.
  **Full Text :** 2021_Senat_Auditions_AEB.pdf (Open Access)

- Bodart, M., Bruyninckx, M., & Delaunoy, M. (08 March 2021). "Education and Vocational Training of MotoGP Racing Teams Mechanics" [Paper presentation]. 15th International Technology, Education and Development Conference, Valence, Spain.

- Dewasme, L. (28 January 2021). "Dynamic optimization of continuous microalgae cultures" [Paper presentation]. 3ème WORKSHOP VIRTUEL DU PROJET ALPO - Nouveaux matériaux polymères issus de la biomasse micro-algale, Virtual, Unknown/unspecified.
  **Full Text :** Session1_presentation3.pdf (Open Access)

Scientific congresses and symposiums/Paper published in a journal

- 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)".
  **Full Text :** Zonotopic_Reachability_Analysis_of_Multirotor_Aircraft.pdf (Open Access)

- 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.
  **Full Text :** Dewasme_BMS.pdf (Open Access)

- 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.

- Bridoux, S., Grenier-Boley, N., Hache, C., Horoks, J., Robert, A., & Vandebrouck, F. (2021). "Une opérationnalisation de la Théorie de l'Activité en didactique des mathématiques". Paper presented at XXème école d'été de didactique des mathématiques, Autrans, Unknown/unspecified.

- 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.
  **Full Text :** Dewasme2021.pdf (Open Access)

Scientific congresses and symposiums/Paper published on a website

- Garcia Tenorio, C., Vande Wouwer, A., Abbate, T., & Rijmenans, L. (20 October 2021). "PFR Kiln Feature Selection for Modelling and Control" [Paper presentation]. 25th International Conference on System Theory, Control and Computing, Iasi, Romania. doi:10.1109/ICSTCC52150.2021.9607084
  **Full Text :** PFR_Kiln_Feature_Selection_for_Modelling_and_Control.pdf (Open Access)

Reports/Internal report

- 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".
  **Full Text :** FEDER2015Algotech1510612-validé_20210330_S7.pdf (Open Access)

- 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".
  **Full Text :** Complément_Feder_-Algotech_-_1510612_-_Rapport_Scientifique_-_n3.pdf (Open Access)

- 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".
  **Full Text :** dgo6_rapports20171_S6_RA__RS.pdf (Open Access)

- 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".
  **Full Text :** FEDER2015Algotech1510612-validé_210202_S5.pdf (Open Access)

Learning materials/Course notes

- Pieropan, L. (2021). "Dossiers Ateliers de traduction IT-FR".

Diverse speeches and writings/Article for a general audience

- Bourgaux, A.-E. (2021). Traditionnaliste, le droit covid est pensé par des hommes et éloigné des réalités de terrain, entretien avec Angèle Olivier. "RTBF avec Belga".
  **Full Text :** 2021.pdf (Open Access)

Diverse speeches and writings/Other

- Bourgaux, A.-E. (2021). "Coronavirus : la démocratie en danger ? Invitée de Pierre Fagnart".

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*2020*

Scientific journals/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
  **Full Text :** IEEE_Trans_CST_Grimard_v2.pdf (Open Access)

- 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
**Full Text :** Experimental_Study_of_Substrate_Limitation_and_Light_Acclimation_in_Cultures_of_The_Microalgae_Scenedesmus_obliquus.pdf (Open Access)

- 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
**Full Text :** Dewasme2019b.pdf (Open Access)

- 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
**Full Text :** Feudjio2020.pdf (Open Access)

- 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
**Full Text :** Efficient_Simulation_of_Chromatographic_Processes_Using_the_Conservation_Element_Solution_Element_Method.pdf (Open Access)

- 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
**Full Text :** Almeida2020.pdf (Open Access)

- 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
**Full Text :** Dewasme2020b.pdf (Open Access)

- 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
**Full Text :** A_constructive_approach_to_assess_the_stability_of_anaerobic_digestion_systems.pdf (Open Access)

- 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
**Full Text :** Abadli2020.pdf (Open Access)

- 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
**Full Text :** Abbate2020.pdf (Open Access)

- 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.
**Full Text :** Abbate2019c.pdf (Open Access)

- 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
**Full Text :** Dewasme2020.pdf (Open Access)

- Lahooti, A., Shanehsazzadeh, S., & Laurent, S. (01 January 2020). Preliminary studies of 68Ga-NODA-USPION-BBN as a dual modality contrast agent using in PET/MRI. "Nanotechnology, 31(1)".
**Full Text :** lahooti2019.pdf (Open Access)

Scientific congresses and symposiums/Unpublished conference/Abstract

- Hupez, M., Toubeau, J.-F., De Grève, Z., & Vallée, F. (11 November 2020). "Cooperative Frameworks For A Fair And Efficient Allocation Of Resources Within LV Electricity Communities: Considering the mutualization of resources". Paper presented at Infoms Annual Meeting, Washington DC, United States - District of Columbia.

- 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 presentation]. S3martMed Virtual Brokerage Event, Lyon, France.
  **Full Text :** Presentation_25062020.pdf (Open Access)

- 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.

- Garcia Tenorio, C., Mojica-Nava, E., & Vande Wouwer, A. (10 March 2020). "Linear Predictors for Interconnected Systems: a Koopman Operator Approach" [Paper presentation]. 39th Benelux Meeting on Systems and Control, Elspeet, Netherlands.

Scientific congresses and symposiums/Paper published in a journal

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- Lopez Jimenez, J. A., Dewasme, L., Quijano, N., & Vande Wouwer, A. (2020). "Towards agent-based modeling of crop irrigation" [Paper presentation]. 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 presentation]. 21st IFAC World Congress, Berlin, Germany.
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- 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".
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- 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., Brüls, O., Ahmadi, K., ... Gagnol, V.
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Diverse speeches and writings/Article for a general audience

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- Dalodiere, R. (2019). "Analyse du discours RSE des entreprises : Comparaison de PME scandinaves et francophones".
  **Full Text :** Poster - R. Dalodiere.pdf (Open Access)

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- 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.
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- Feudjio Letchindjio, C., Dewasme, L., & Vande Wouwer, A. (28 March 2017). "Optimization of continuous cultures of Dunaliella tertiolecta using extremum-seeking" [Paper presentation]. 36th Benelux Meeting on Systems and Control, Spa, Belgium.
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- Grimard, J., Dewasme, L., & Vande Wouwer, A. (28 March 2017). "Model-based control of a twin screw extruder" [Paper presentation]. 36th Benelux Meeting on Systems and Control, Spa, Belgium.
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- Grimard, J., Dewasme, L., & Vande Wouwer, A. (18 May 2016). "Modélisation à paramètres distribués d'une extrudeuse bi-vis" [Poster presentation]. 9ème édition de la Matinée des Chercheurs 2016 (MdC2016), Valenciennes, France.
- Arcolia, V., Wattier, A., Remmelink, M., Decaestecker, C., & Saussez, S. (30 January 2016). "Involvement of galectin-1 in thyroid cancers" [Poster presentation]. BACR Annual Meeting, ULB Erasme, Belgium.

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- 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 presentation]. 19th IFAC World Congress, Cape Town, South Africa.
- 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.
  **Full Text :** bastin-et-al-ECC2014.pdf (Open Access)
- Benavides Castro, M., Coutinho, D., Hantson, A.-L., Van Impe, J., & Vande Wouwer, A. (2014). "Gain Scheduled Luenberger Observers for Microalgal Cultures" [Paper presentation]. 13th European Control Conference, Strasbourg, France.
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- 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.

Scientific congresses and symposiums/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.
- 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. (23 October 2014). "Two different approaches of mathematical modeling of an extruder" [Poster presentation]. Journée des jeunes chercheurs, Ecole doctorale GEPROC, Université de Mons, 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.
- Grimard, J., Dewasme, L., & Vande Wouwer, A. (16 May 2014). "Mathematical modeling of a twin-screw extruder using the residence time distribution" [Poster presentation]. IAP DYSCO Study Day, Namur, Belgium.

Dissertations and theses/Master's dissertation

- Wauters, L. (2014). "Caractérisation de plantes médicinales et étude de leur génotoxicité". Unpublished master thesis, Université de Mons. Jury: Duez, P. (Promotor).

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Scientific journals/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.
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- 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
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- Trouillas, P., Marchetti, C., Bonnefont-Rousselot, D., Lazzaroni, R., Jore, D., Gardès-Albert, M., & Collin, F. (19 April 2013). Mechanisms of One-electron Oxidation of Metformin in Aqueous Solution. "Physical Chemistry Chemical Physics, 15", 9871-9878.
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- 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.
  **Full Text :** CTA-2012-0336-PROOF.pdf (Open Access)
- 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
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- 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.
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Scientific congresses and symposiums/Unpublished conference/Abstract

- Campoleoni, A. (08 July 2013). "A metric-like perspective on asymptotic symmetries in higher-spin gauge theories" [Paper presentation]. 20th International Conference on General Relativity and Gravitation, Warsaw, Poland.
- 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.

- Bridoux, S. (28 March 2013). "La transition secondaire/supérieur: la parole aux acteurs de terrain". Paper presented at Journée des Préfets et des Directeurs d'écoles, Mons, Belgium.

- 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.

- 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.
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- Retamal, C., Dewasme, L., Hantson, A.-L., & Vande Wouwer, A. (26 March 2013). "Monitoring and modelling of E. coli BL21(DE3)" [Paper presentation]. 32th Benelux Meeting on Systems and Control, Houffalize, Belgium.
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- Miranda Almeida, P., Dewasme, L., Remy, M., & Vande Wouwer, A. (26 March 2013). "Nitrate and Oxygen control of a recirculating aquaculture unit" [Paper presentation]. 32nd Benelux Meeting on Systems and Control, Houffalize, Belgium.
  **Full Text :** Palmeida_abstract_benelux.pdf (Open Access)

- Benavides Castro, M., Massart, A., Hantson, A.-L., Vande Wouwer, A., & Van Impe, J. (26 March 2013). "Parameter Identification of Droop Model" [Paper presentation]. 32th Benelux Meeting on Systems and Control, Houffalize, Belgium.
  **Full Text :** Micaela benelux meeting 2013.pdf (Open Access)

- Lahaye, W., Pannecoucke, I., & Vranken, J. (31 January 2013). "Présentation de l'Annuaire fédéral 2013, Pauvreté en Belgique". Paper presented at Combattre la pauvreté en période de crise, Résidence Palace Bruxelles, Belgium.

Scientific congresses and symposiums/Paper published in a book

- 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.
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Scientific congresses and symposiums/Paper published in a journal

- 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.
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- 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 presentation]. 12th International Symposium on Computer Applications in Biotechnology (CAB), Mumbai, India.
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- 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 presentation]. 12th International Symposium on Computer Applications in Biotechnology (CAB), Mumbai, India.

- 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.
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- Miranda Almeida, P., Araujo Pimentel, G., Vasel, 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.
**Full Text :** abstract_YWP.pdf (Open Access)Poster YWP v2.pdf (Open Access)

- 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.
**Full Text :** Sbarciog_IWA-12614.pdf (Open Access)

- 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., Coutinho, D., & Vande Wouwer, A. (2013). "A Cascade MPC-Feedback Linearizing Strategy for the Multivariable Control of Animal Cell Cultures" [Paper presentation]. 9th IFAC Symposium on Nonlinear Control Systems (NOLCOS), Toulouse, France.
**Full Text :** Sbarciog_NOLCOS2013_proceedings.pdf (Open Access)

- Lepore, R., Renotte, C., Frère, M., & Dumont, E. (2013). "Energy consumption reduction in office buildings using model-based predictive control" [Paper presentation]. 13th International Conference of IBPSA, Chambéry, France.

Scientific congresses and symposiums/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.
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- 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., Hantson, A.-L., Van Impe, J., & Vande Wouwer, A. (22 November 2013). "Quasi-LPV gain-scheduled observer for Microalgal Cultures" [Poster presentation]. IAP DYSCO Study Day : Dynamical systems, control and optimization, Bruxelles, Belgium.

- De La Kethulle De Ryhove, L., Geens, M., dimitrova, J., Ansseau, E., Sermon, K., & Belayew, A. (24 May 2013). "DUX4 expression in embryonic stem cells". Poster session presented at Journée de l'institut santé, Mons, Belgium.

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- 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 presentation]. 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.
**Full Text :** 20130312_Poster_InesSaraiva_MDC2013_v5.jpg (Open Access)

- Ben Fekih, L., Kouroussis, G., & Verlinden, O. (12 March 2013). "Fatigue damage assessment of BGA electronics under aerospace random vibrations". Poster session presented at 7ième Matinée des Chercheurs, Mons, Belgium.
**Full Text :** MDC2013_LBF.pdf (Open Access)

Reports/Internal report

- Pourtois, J.-P., Desmet, H., Lahaye, W., Berger, M., Couvreur, P., Della Piana, V., Hachat, A., Hardy, F., Houx, M., Humbeeck, B., & Tutak, A. (2013). "Parents partenaires de l'éducation. Recherche-action visant la coéducation et la stimulation du langage de l'enfant en maternelle : Rapport final".

Diverse speeches and writings/Article for a general audience

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

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Scientific journals/Book review

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

Scientific journals/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
  **Full Text :** paper.pdf (Open Access)

- Sbarciog, M., Loccufier, M., & Vande Wouwer, A. (13 December 2012). An optimizing start-up strategy for a bio-methanator. "Bioprocess and Biosystems Engineering, 35", 565-578.
  **Full Text :** Sbarciog_BBE_2011.pdf (Open Access)

- Biringanine, G., Ouédraogo, M., Vray, B., Samuelsen, A. B., & Duez, P. (01 November 2012). Partial characterization of immunomodulatory polysaccharides from Plantago palmata Hook. f. s. leaves. "International Journal of Carbohydrate Chemistry, 2012".

- 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
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- 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.
  **Full Text :** Determining the limiting reaction in anaerobic digestion processes. How has this been tackled.pdf (UMONS staff members only)

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- 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.
  **Full Text :** Santos2012.pdf (Open Access)

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  **Full Text :** paper_CEAI_2011_VLAD_Ciprian.pdf (Open Access)

Scientific congresses and symposiums/Unpublished conference/Abstract

- Leclère, P. (18 October 2012). "Lumière sur les dispositifs photovoltaïques organiques : apport des techniques de microscopies à sonde locale (Invited Talk)" [Paper presentation]. Bruker Nano Meeting, Paris, France.

- 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.
  **Full Text :** Benelux2012BookOfAbstracts_InesSaraiva.pdf (Open Access)

- 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.
  **Full Text :** PedroAlmeidaBenelux2012.pdf (Open Access)

- 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.
  **Full Text :** A plug and control strategy for simulated moving bed processes.pdf (Open Access)

- 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.
  **Full Text :** GPimentelBM2012.pdf (Open Access)

- 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 presentation]. 31st Benelux Meeting on Systems and Control, Heijen, Netherlands.
  **Full Text :** 3DE6Fd01.pdf (Open Access)

Scientific congresses and symposiums/Paper published in a journal

- 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.
  **Full Text :** Sbarciog_ICSTCC_2012.pdf (Open Access)

- 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 presentation]. IEEE Multi-conference on Systems and Control (MSC), Dubrovnik, Croatia.
  **Full Text :** Dewasme2012_MSC.pdf (Open Access)

- Drugman, T., Urbain, J., Bauwens, N., Chessini Bose, R., Aubriot, A.-S., Lebecque, P., & Dutoit, T. (2012). "Audio and Contact Microphones for Cough Detection". Paper presented at 13th Annual Conference of the International Speech Communication Association (Interspeech 2012), Portland, United States - Oregon.
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- 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 presentation]. 8th IFAC Symposium on Biological and Medical Systems, Budapest, Hungary.
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- 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 presentation]. International Symposium on Advanced Control of Chemical Processes (ADCHEM), Singapore, Singapore.
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- 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.
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- 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.
  **Full Text :** Almeida_Poster_IAP_2012.pdf (Open Access)Abstract.pdf (Open Access)

Reports/Internal report

- 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".

Dissertations and theses/Doctoral thesis

- Mailier, J. (2012). "Contribution to mathematical modeling of bioprocesses with application to cultures of microalagae 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.

Diverse speeches and writings/Other

- Duez, P. (2012). "Les plantes chinoises utilisées comme médicaments en Europe".

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Scientific journals/Book review

- 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.

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Parts of books/Contribution to collective works

- Dewasme, L., Coutinho, D., & Vande Wouwer, A. (2011). Adaptative and robust linearizing control stategies 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.
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- 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.
  **Full Text :** WR(45) 5347-5364.PDF (Open Access)

- 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.
  **Full Text :** 3_Vlad_Predictive_Control.pdf (UMONS staff members only)

- 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.

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- 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.

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  **Full Text :** Dewasme2011_scd.pdf (Open Access)

- Mahmoudi, M., Serpooshan, V., & Laurent, S. (01 January 2011). Engineered Superparamagnetic Iron Oxide Nanoparticles for Biomolecular Imaging. "Nanoscale, 3(8)", 3007-3026.
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- Laurent, S., & Mahmoudi, M. (01 January 2011). Superparamagnetic Iron Oxide Nanoparticles : Promises for Diagnosis and Treatment of Cancer. "International Journal of Molecular Epidemiology and Genetics, 2(4)", 367-390.
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- Leclère, P. (05 December 2011). "Caractérisation des propriétés nanomécaniques de matériaux polymères : l'apport des microscopies à sonde locale (Invited talk)" [Paper presentation]. Deuxièmes Journées Scientifiques Franco-Vietnamiennes, Toulon, France.

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- 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.
- 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.
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- 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.

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- 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.
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- 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.
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- 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.

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