

## Gianluca Frison - DTU Orbit (07/08/2016)

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Department of Applied Mathematics and Computer Science - PhD Student, Former

### Publications:

#### **Algorithms and Methods for High-Performance Model Predictive Control**

Frison, G. & Jørgensen, J. B. 2016 Kgs. Lyngby: Technical University of Denmark (DTU). 324 p. (DTU Compute PHD-2015; No. 402).

Publication: Research › Ph.D. thesis – Annual report year: 2016

#### **A Homogeneous and Self-Dual Interior-Point Linear Programming Algorithm for Economic Model Predictive Control**

Sokoler, L. E., Frison, G., Skajaa, A., Halvgaard, R. F. & Jørgensen, J. B. 2015 In : I E E E Transactions on Automatic Control. PP, 99, 6 p.

Publication: Research - peer-review › Journal article – Annual report year: 2015

#### **Efficient solvers for soft-constrained MPC**

Frison, G. & Jørgensen, J. B. 2015 *Proceedings of the 19th Nordic Process Control Workshop*. Skogestad, S. (ed.). Norwegian University of Science and Technology, 2 p. 6

Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2015

#### **High-Performance Small-Scale Solvers for Moving Horizon Estimation**

Frison, G., Vukov, M., Poulsen, N. K., Diehl, M. & Jørgensen, J. B. 2015 *Preprints of the 5th IFAC Conference on Nonlinear Model Predictive Control (NMPC)*. International Federation of Automatic Control, p. 80-86

Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

#### **MPC Related Computational Capabilities of ARMv7A Processors**

Frison, G. & Jørgensen, J. B. 2015 *Proceedings of the European Control Conference (ECC 2015)*. IEEE, p. 3414-3421

Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

#### **Real-time nonlinear MPC and MHE for a large-scale mechatronic application**

Vukov, M., Gros, S., Horn, G., Frison, G., Geebelen, K., Jørgensen, J. B., Swevers, J. & Diehl, M. 2015 In : Control Engineering Practice. 45, p. 64-78

Publication: Research - peer-review › Journal article – Annual report year: 2015

#### **A Family of High-Performance Solvers for Linear Model Predictive Control**

Frison, G., Sokoler, L. E. & Jørgensen, J. B. 2014 *Proceedings of the 19th IFAC World Congress 2014*. International Federation of Automatic Control, Vol. 19, p. 3074-3079 (I F A C Workshop Series; No. 1, Vol. 19).

Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

#### **Efficient Implementation of Solvers for Linear Model Predictive Control on Embedded Devices**

Frison, G., Kwame Minde Kufoalor, D., Imsland, L. & Jørgensen, J. B. 2014 *Proceedings of 2014 IEEE International Conference on Control Applications (CCA): Part of 2014 IEEE Multi-conference on Systems and Control*. IEEE, p. 1954-1959

Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

#### **High-performance small-scale solvers for linear Model Predictive Control**

Frison, G., Sørensen, H. H. B., Dammann, B. & Jørgensen, J. B. 2014 *Proceedings of European Control Conference (ECC) 2014*. IEEE, p. 128-133

Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

#### **Input-constrained model predictive control via the alternating direction method of multipliers**

Sokoler, L. E., Frison, G., Andersen, M. S. & Jørgensen, J. B. 2014 *Proceedings of European Control Conference (ECC) 2014*. IEEE, p. 115-120

Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

**A Fast Condensing Method for Solution of Linear-Quadratic Control Problems**

Frison, G. & Jørgensen, J. B. 2013 *52nd IEEE Conference on Decision and Control*. IEEE, p. 7715-7720

Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

**A Riccati Based Homogeneous and Self-Dual Interior-Point Method for Linear Economic Model Predictive Control**

Sokoler, L. E., Frison, G., Edlund, K., Skajaa, A. & Jørgensen, J. B. 2013 *2013 IEEE Multi-conference on Systems and Control*. IEEE, p. 592-598

Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

**A Warm-Started Homogeneous and Self-Dual Interior-Point Method for Linear Economic Model Predictive Control**

Sokoler, L. E., Skajaa, A., Frison, G., Halvgaard, R. & Jørgensen, J. B. 2013 *52nd IEEE Conference on Decision and Control*. IEEE, p. 3677-3683

Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

**Efficient Implementation of the Riccati Recursion for Solving Linear-Quadratic Control Problems**

Frison, G. & Jørgensen, J. B. 2013 *2013 IEEE Multi-conference on Systems and Control*. IEEE, p. 1117-1122

Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

**Parallel Implementation of Riccati Recursion for Solving Linear-Quadratic Control Problems**

Frison, G. & Jørgensen, J. B. 2013 *Proceedings of the 18th Nordic Process Control Workshop*. 6 p.

Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

**Numerical Methods for Solution of the Extended Linear Quadratic Control Problem**

Jørgensen, J. B., Frison, G., Gade-Nielsen, N. F. & Dammann, B. 2012 *Nonlinear Model Predictive Control*. International Federation of Automatic Control, Vol. 4, p. 187-193 (IFAC Proceedings Volumes (IFAC-PapersOnline) ).

Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

**Real-Time Optimization for Economic Model Predictive Control**

Sokoler, L. E., Edlund, K., Frison, G., Skajaa, A. & Jørgensen, J. B. 2012 *The 10th European Workshop on Advanced Control and Diagnosis (ACD 2012)*. Technical University of Denmark, 8 p.

Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

**Projects:**

**Optimization Algorithms for Experimental Design, Parameter Estimation, and Control of Dynamic Systems**

Frison, G., Jørgensen, J. B., Poulsen, N. K., Engsig-Karup, A. P., Axehill, D. & Ferreau, H. J.

01/10/2012 → 20/04/2016

Project: PhD