Dear Professor Topping,

I would like to submit the enclosed paper entitled "Metamodeling of Dynamic Nonlinear Structural Systems through Polynomial Chaos NARX Models" co-authored by Dr. Minas Spiridonakos and myself for possible publication in *Computers and Structures*.

This work introduces an increased computational efficiency methodology for the metamodeling of large scale numerical models of nonlinear structural dynamics with uncertain parameters and under dynamic excitation. The metamodel utilized is based on the fusion of Nonlinear ARX models with a Polynomial Chaos expansion methodology. The introduced PC-NARX model features stochastic parameters which depend on the input random variables, with this dependency being described through their expansion on a properly constructed polynomial chaos basis. A vast reduction in computational time is achieved with sufficient accuracy, yielding a methodology that is highly appropriate for implementations where replacement of refined and computationally costly models is sought. Given the scope of both the journal and of the recent Civil-Comp conference in Sardinia, we believe that the submitted work would nicely fit within the context of utilizing computational resources toward a better understanding of engineered systems.

We also believe that the following researchers could possibly serve as excellent reviewers for this submission:

- Prof. Spilios Fassois (fassois@mech.upatras.gr), Director of the Stochastic Mechanical Systems & Automation Laboratory, University of Patras, Greece

- Prof. Raimondo Betti (betti@civil.columbia.edu), Dept. of Civil Engineering and Engineering Mechanics, Columbia University, US

- Prof. Hilmi Lus (hilmilus@boun.edu.tr), Dpt. of Civil Engineering, Bogazici University Turkey,

- Prof. Babak Moaveni (babak.moaveni@tufts. edu), Department of Civil and Environmental Engineering, Tufts University, US

- Joel Conte (jpconte@ucsd.edu), Structural Engineering, Jacons School of Engineering, UC San Diego, US.

with kind regards,

Eleni Chatzi

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