

Alma Mater Studiorum – Università Di Bologna

School of Engineering and Architecture

Department of Civil, Chemical, Environmental and Materials Engineering - DICAM

International PhD program in Structural and Environmental

Health Monitoring and Management (SEHM2)

Title: On the Structural Response of Actual Steel Silos Containing Grain like Material

Candidate : SULYMAN MANSOUR

Advisor: PROF. STEFANO SILVESTRI

Co-Advisor: ENG. FRANCESCO SELVA (AGI FRAME S.R.L.)

Academic Year : 2019/2020

22/10/2019

Objectives:

The objectives of the research are divided into three parallel research lines to be followed:

- 1- **MATERIAL:** the “grain-silo system” mechanical properties
- 2- **SEISMIC DEMAND AND RESPONSE:** the seismic response of flat-bottom steel manufactured silos containing grain-like material, as obtained from a large number of shaking tables tests performed in February 2019
- 3- **CAPACITY:** the capacity of the “grain-silo system” (e.g. the shear-wall resisting mechanism, the stiffeners role, the grain role ...)



Potential multidisciplinary collaborations within the research:

In general:

- AGI FRAME S.R.L
- AGI PTM S.R.L.



Regarding the 1st objective:

- Prof. Adam Jan Sadowski - Imperial College London
- Prof. Joergen Nielsen – Aalborg University



Regarding the 2nd objective:

- SEismic Response of Actual steel SILOS (SERA-SILOS TA#18)
- **Signal analysis experts (we may need)**

