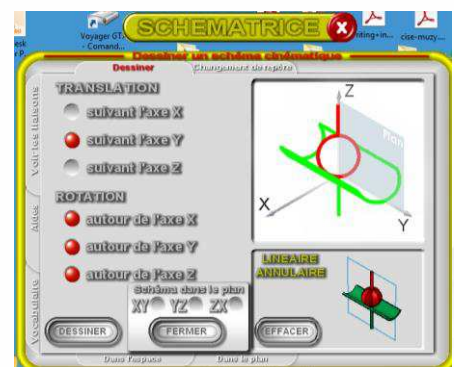
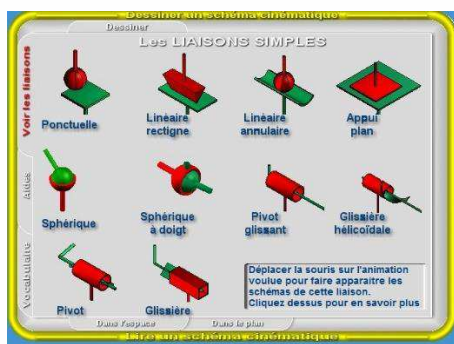


Development and implementation of an interdisciplinary virtual laboratory-classroom *research project*

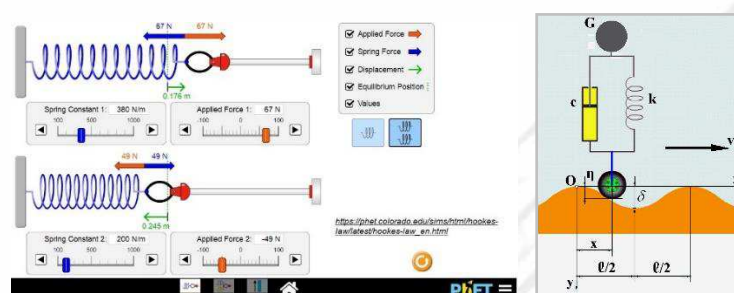
Authors: **ALIC Daniela Delia** , **RACKOV Milan**

Politehnica University of Timisoara, Faculty of Engineering Hunedoara, Romania
 University of Novi Sad, Faculty of Technical Sciences, Serbia

The project is focused on the development of an interdisciplinary virtual laboratory-classroom, based on the multimedia potential as learning and teaching tool. Currently operational in our faculty, the laboratory is dedicated to our students, future mechanical engineers, who have the opportunity to use, via internet or face-to-face, innovative and advanced educational software solutions.

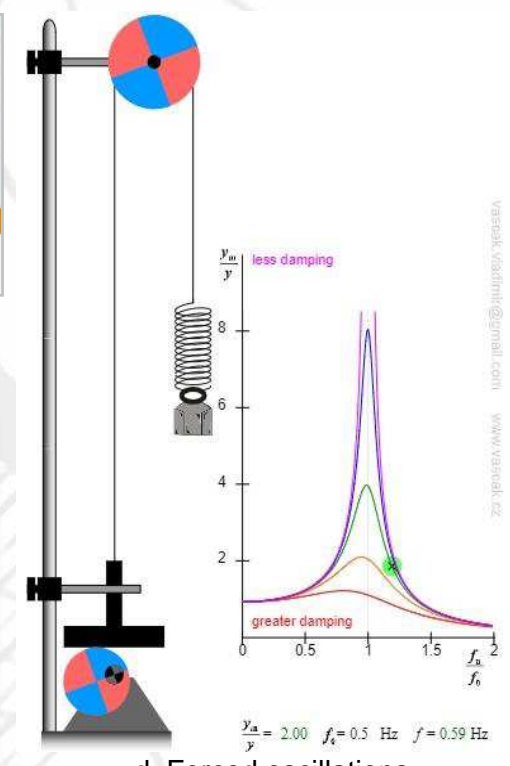
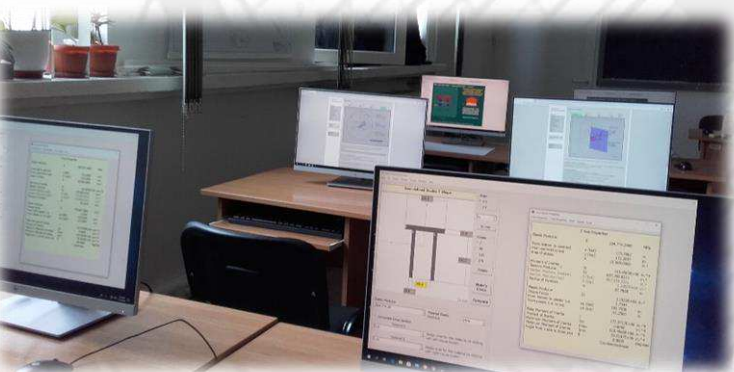


a. Educational software **SCHEMATRICE**
 (source https://eduscol.education.fr/sti/ressources_pedagogiques/schematrice)

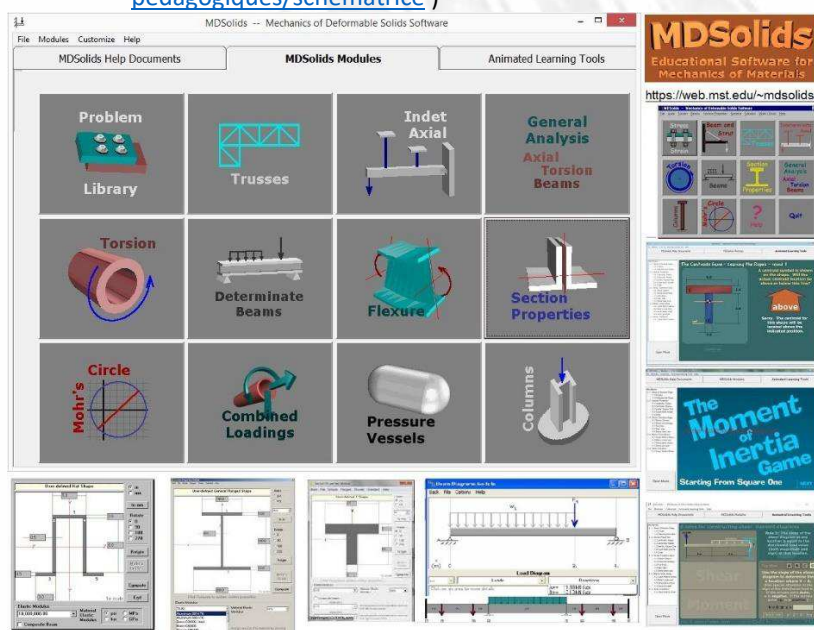


b. Hooke's Law
 (source <https://phet.colorado.edu/>)

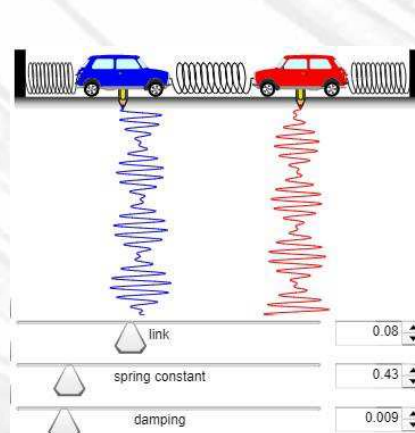
c. 1DOF model car suspension



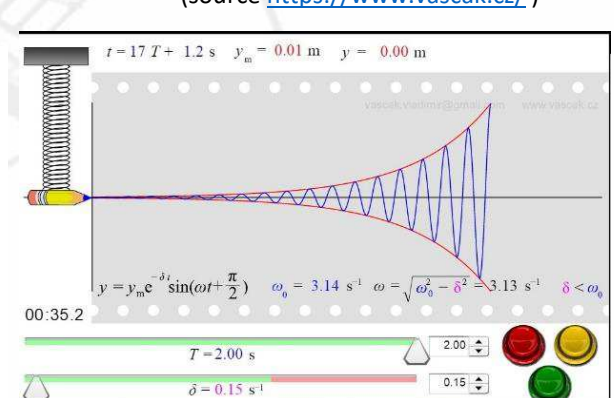
d. Forced oscillations
 (source <https://www.vascak.cz/>)



e. Educational software *Mechanics of Deformable Solids 4.1.0*
 (source <http://www.mdsolids.com> ; <https://web.mst.edu/~mdsolids/>)



f. Collisions
 (source <https://www.vascak.cz/>)



g. Damped oscillations (source <https://www.vascak.cz/physicsanimations.php?l=en>)

Figure 1 a-g. Teaching resources used in the virtual laboratory-classroom. Java Applets. Animations. Educational software

Conclusions:

The most important benefit provided by multimedia resources can be considered the interactivity. Results of surveys indicate that the use of multimedia educational software in the virtual laboratory-classroom was extremely well received by our students and helped in understanding the training material in mechanical engineering subjects.

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