



TEHNOLOGIA INOVATIVĂ

REVISTA CONSTRUCȚIA DE MAȘINI - SERIE NOUĂ

Anul 68, Nr. 3-4 / 2016

- "Tehnologia Inovativa"
printed form: ISSN 2248 - 0420; ISSN-L 2248 - 0420
- "Tehnologia Inovativa"
online form: ISSN 2248 - 0420; ISSN-L 2248 - 0439

EDITOR: ICTCM – CITAF

041303 Bucuresti
Șos. Olteniței nr. 103, sector 4, O.P. 8
Tel / Fax: 0216341038
E-mail: ictcm@ictcm.ro

RESPONSABIL EDITOR
Florica Costin

REDACTOR- ȘEF
Irina Rădulescu

INFORMAȚII, ABONAMENTE:

Revista este evaluată CNCSIS la categoria B+,
apare trimestrial.
Abonamentele se fac direct, prin dispoziție de plată
sau mandat poștal, trimis pe adresa revistei.

CONT – ICTCM:
BRD Suc Vacaresti cod IBAN
RO81BRDE441SV15480194410

COPYRIGHT 2003

Toate drepturile asupra acestei ediții sunt rezervate
ICTCM – CITAF. Nu este permisă reproducerea integrală sau
parțială a articolelor din revista „Tehnologia Inovativă” fără
consimțământul scris al editorului.

Opiniile exprimate în revistă aparțin semnatariilor articolelor,
fără să reflecte obligatoriu și punctul de vedere al editorului.
Toate drepturile asupra acestei ediții sunt rezervate
ICTCM – CITAF. Nu este permisă reproducerea integrală sau
parțială a articolelor din revista „Tehnologia Inovativă” fără
consimțământul scris al editorului.

Opiniile exprimate în revistă aparțin semnatariilor articolelor,
fără să reflecte obligatoriu și punctul de vedere al editorului.



Din sumar

**ANALIZA CU ELEMENT FINIT /
FINIT ELEMENT ANALYSIS**

TEHNOLOGIE / TECHNOLOGY

TRIBOLOGIE / TRIBOLOGY



ABSTRACTS “INNOVATIVE TECHNOLOGY” 3-4 / 2017

REHABILITATION MECHATRONIC SYSTEM – EXPERIMENTAL MODEL

**BARTNIAK Mateusz¹, COOK Finlay²,
JACQUEMIN Jérémy³, MARTINEZ
TARRAZONA Mar⁴, SÎMBOTIN Ionelia⁵**

¹ Lodz University of Technology

² Glasgow Caledonian University

³ Ecole Nationale d'Ingenieurs de Tarbes

⁴ Polytechnic University from Valencia

⁵ University Politehnica of Bucharest,
E-mail: ioneliasimbotin@gmail.com

Coordinators: Prof. Dr. Ing. Petre Lucian Seiciu,
Prof. Dr. Ing. Gina Florica Stoica, Lecturer Dr.
Anca Greculescu

The paper presents the Mechatronic System for Environmental Medical Rehabilitation RELIVE project. The design and execution of this system is achieved firstly by designing and manufacturing the scale RELIVE Experimental Model used is to develop and upgrade the actual model (RELIVE) and to be able to present it to the public in a minimalist manner in case of release on the market of the product. RELIVE project promotes the use of commercially available equipment for building its rehabilitation mechatronic complex and, in that way, making it marketable. The project's main goal is to realize an artificial habitat, created using new, innovative technologies to increase the efficiency of physio-neuromotor rehabilitation and to stimulate the adaptation to natural environment conditions. The results obtained are the ones pursued by our goals.

RESEARCH, DESIGN AND CONSTRUCTION OF A PROSTHETIC APPENDAGE

**¹FITZSIMMONS Dylan, ²FOY Steve,
³MARTIN Albert, ⁴MARTIN Guijarro Diego**

¹Glasgow Caledonian University, Glasgow, Scotland,
e-mail: DFITZS201@caledonian.ac.uk

²Université de Bourgogne, Dijon, France,
e-mail: steve.foy@iut-dijon.u-bourgogne.fr

³Universitat Politècnica de Catalunya, Vilanova, Spain,
e-mail: betooo.m.7@gmail.com

⁴Universidad Politécnica de Valencia, Valencia, Spain,
e-mail: diegoguijarro93@gmail.com

Coordinators: Prof. Diana Rum, Prof. Radu Constantin Parpala, Prof. Dr. Ing. Gina Florica Stoica, Prof. Anca Greculescu

The prosthetic hand has failed to modernize with the remainder of most medical technological breakthroughs. Furthermore, what is available is undesirable and unaffordable to most, which presents an issue for a high number of recipients that require the appendage. The solution to this is to utilise a new technology; 3D printing, whilst feeding off the positives of open source material now available on the internet. Taking ideas from past designs and going against the modus operandi, the team could agglutinate the useful and admired characteristics – based on market research – and eliminate some of the more unfavourable properties in the process without becoming too quixotic. The results are ongoing, as the project is still in operation. However, as the team work towards the deadline with assiduous detail, more tweaks and new ideas fuel the path to amelioration. An early conclusion would suggest that the details within the document, and the design itself, very much possess the potential to achieve all the objectives set by the team.

**MULTIFUNCTIONAL URBAN
FURNITURE OPTIMIZATION THROUGH
PARAMETRIC DESIGN METHODS
APPLICATIONS**

**Miguel López Sánchez, Emeric Le Pape,
Yaro Van Engelen, Petre Şimonescu, Elske Marieke
Borneman, Cosmin Lazar,**

Ph.D Prof. Lucian Cucu, Ph.D Prof. Gina Stoica, Ph.D
Lecturer Anca Greculescu
University POLITEHNICA of Bucharest, ROMANIA,
e-mail: gina.stoica@upb.ro

The main aim of the project is to create a new space for people to enjoy their break in an outdoor environment. This place has to be created by using a parametric design process, so that we can use all the space we have at our disposal. Grasshopper is going to be used mainly for this project, being one of the best softwares solution in the industry. In this article we will focus on the parametric desing methods in regards to urban furniture. The documentation it is the most important because everything depends on it when referring to the parametric process of design. For our site we will be using agent based design to emulate the system and to be able to divide the space properly. Based on the results of this study the project group made a plan for the area and designed the outdoor furniture with the help of the parametric solution.