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UNION OF SCIENTISTS - RUSE

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SESSIONS SCHEDULE & ABSTRACTS
ПРОГРАМА & РЕЗЮМЕТА

2017
BULGARIA
Ruse
Razgrad
Silistra

	Natasha Vaklieva-Bancheva, Rayka Vladova, Elisaveta Georgieva Kirilova
FRI-2.209-1-EC-03:	Features of climate change and the impact on the functioning of the agro-industrial complex south-east of Kazakhstan **Suleimenova N. Sh, Margarita Filipova, Kalikov D. B**
FRI-2.209-1-EC-04:	Soil contamination by heavy metals in the application mineral fertilizers in the irrigated zones of Kazakhstan **Suleimenova N. Sh, Mahamedova B. Y, Margarita Filipova, Kuandikova E. M**
FRI-2.209-1-EC-05:	Analysis of environmental criticality **Lyubomir Vladimirov**
FRI-2.209-1-EC-06:	The risk of cross-border smuggling of radioactive materials **Stefko Burdjiev**
FRI-2.209-1-EC-07:	The modular underwater – bottom installation for semi-extensive growing of bivalves **Plamen Manev, Anton Antonov**
FRI-2.209-1-EC-08:	Motivation of the students-ecologists in training for their specialty **Daniela Hristova**
FRI-2.209-1-EC-09:	Study of the noise, generated from different car's tyres **Nikolay Kovachev**

14:00-16:00	***Parallel Sessions Room 16.203***
FRI-16.203-1-ID	**Industrial Design** ***Session Chair: Cvetomir Konov***
FRI-16.203-1-ID-01:	Geometric heuristics in art end design **Boryana Georgieva**
FRI-16.203-1-ID-02:	Becoming the most successful world fashion blog: analysis, problems, technology and solutions **Stoyan Bundjulov**
FRI-16.203-1-ID-03:	Materials for model and mock-up activity **Cvetomir D. Konov**
FRI-16.203-1-ID-04:	A three-dimensional representation of semantic circle **Petya Boneva**

14:00-16:00	***Parallel Sessions Room 1.417***
FRI-1.417-1-MEMBT	**Mechanical Engineering and Machine-building Technologies** ***Session Chair: Rusi Minev***
FRI-1.417-1-MEMBT-01:	Design developments of vibration-driven mobile robots **Ivan Loukanov, Venko Vitliemov, Svetlin Stoyanov, Stoyan Stoyanov**
FRI-1.417-1-MEMBT-02:	Determination of joint angles of bipedal robot using forward and inverse kinematics and zero moment point models **Taşkın Tez, Hilmi Kuşçu**
FRI-1.417-1-MEMBT-03:	Investigation of wear properties and strength of polymeric materials used in tension pulleys which is reinforced with glass fiber and glass bead **Nurşen Öntürk, Osman Yeşen, Sencer Karabeyoğlu**
FRI-1.417-1-MEMBT-04:	Investigation of properties of thermoplastic composite layers supported by organic and inorganic materials **Sencer Karabeyoğlu, Olcay Ekşi**

DETERMINATION OF JOINT ANGLES OF BIPEDAL ROBOT USING FORWARD AND INVERSE KINEMATICS AND ZERO MOMENT POINT MODELS

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Abstract: *In recent years, robotics studies have gained great momentum in industry, medicine, education, agriculture, and in all areas of life along with rapid developments in electronics, computers, and control technologies. With the increase in robotic studies, the walking of biped robots has increasingly become similar to that of humans. Compared to other living creatures in nature, walking on two legs is one of the most important features of man. For this reason, this study aims to calculate joint angles of a bipedal robot using forward and inverse kinematics to imitate human-like walking. In this study, 12 state-of-the-art intelligent servo motors are used to make a bipedal robot.*

Keywords: *Bipedal Robot, Servo Control, Forward and Inverse Kinematics, Zero Moment Point.*

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FRI-1.417-1-MEMBT-03

INVESTIGATION OF WEAR PROPERTIES AND STRENGTH OF POLYMERIC MATERIALS USED IN TENSION PULLEYS WHICH IS REINFORCED WITH GLASSFIBER AND GLASS BEAD

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Abstract: *In this study, materials which are used in plastic pulleys of the tension rollers is investiagted. The materials for tension pulleys have produced by using various polymers (POM, PE, and PA6.6) and material reinforcements (glass fiber and glass bead). Special abrasion test machines have assayed those produced tension pulleys. In these test machines, pulleys abrasion values have obtained on a stable temperature at variated loads. Mechanicaland physical tests are also applied to the produced composite materials. In the light of obtained data, high wear resistance and durability are aimed.*

Keywords: *Tension Roller, Composite Materials, Pulley abrasion.*