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**Curriculum Vitae**

**Assoc. Prof. BOYCHO IVANOV MARINOV – Dr. Mech. Eng.**

**1. PERSONAL DETAILS**

Full Name Boycho Ivanov Marinov

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 Bulgarian Academy of Sciences

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**2. EDUCATION AND CAREER**

Graduate Technical University of Sofia, Department of Transportation - Dipl. Eng. in Mechanical Engineering.

 Machine designer in The Institute of Plastic Machining and Power Machines.

 Ph.D. student, Technical University of Sofia, Department of Mechanics.

Machine designer in private firm “Megatex”- Sofia.

 PhD awarded for thesis entitled "Design of Machines with Cardan Transmissions to Reduce Vibration, Noise and Providing the Necessary Reliability”, TU - Sofia.

 Researcher, Institute of Mechanics, Bulgarian Academy of Sciences.

**3. RESEARCH SPECIALISATION**

Research to date has been primarily in the field of vibrations - structural vibrations, applied mathematics, engineering design, viz. dynamic modelling of single, double and multi-mass systems; vibration control, and dynamic systems - for which computer solutions has been validated by extensive experimental studies. Modelling includes a computer and analytical modelling of the frequency and dynamic behaviour of single, double and multi-mass dynamic vibration systems. Modelling includes several up to date computer codes, such as MATLAB, SolidWorks and others.

Investigation of the dynamic loads that arise in operating mode in various machines such as internal combustion engines, transportation machines, machines and mechanisms utilising cardan transmissions, woodworking machines and others. Particularly important, my research activity is aimed to study the vibro-shock processes in certain classes of machines and in particular, a study of vibro-shock processes in vehicles and woodworking machines.

Various optimization tasks are solved, to perform optimal selection of the parameters of the links of different machines and equipment, which allows the system to operate at optimum conditions, away from the resonant modes. Studies are conducted to optimize the process of dynamic and impulse impact on the mechanical systems.

I have experience as a university lecturer.

**4. PUBLICATIONS**

Pisarev, A., G. Polihronov, B. Marinov, G. Voukov, Dynamic Loads in the Machine Unit with Two Parallel Connected Cardan Transmissions, Proceedings of 6thNational Congress of Theoretical and Applied Mechanics, Varna, 1989.

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Marinov B., Dynamic Loading During Gearless Drive of a Locomotive Wheelset, National Centre for Information and Documentation - Central Technological Library, Sofia, 1997, (Hd 567/98, HD II 16891).

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Marinov B., Y. Tsankov, Dynamic Dimensioning of Locomotive Wheelsets with Traction Engine Axle Suspended, Journal of Mechanical Engineering, Vol. XLVIII, № 7-8, 1999, (ISSN 0025-455X).

Marinov B., Hr. Hristov, G. Voukov, Dynamic Sizing of the Links of a Multi-Cylinder Engine, Reduced to a Two-Mass System, Mechanics of Machines Magazine, Vol. 28, №4, 1999, (ISSN 0861-9727).

Marinov B., M. Todorov, K. Minkov, On the Dynamics of a Connecting Gears for Drive of Locomotives, Mechanics of Machines Magazine, Vol. 29, №1, 2000, (ISSN 0861-9727).

Marinov B. Establishment of the Functional Dependencies Between the Inertial and Elastic Characteristics of Basic Links of ICE and the Formed Tensions, National Centre for Information and Documentation - Central Technological Library, Sofia, 2000, (NACID-CTL, № 133-01-02).

Vukov G., N. Staneva, M. Belberov, B. Marinov, Effect of the Transverse Vibrations Induced by the Static Unbalance of Longitudinal Milling Woodworking Machine on the Pressing Force, Festschrift Scientific Reports -75 years of Higher Forestry Education in Bulgaria, University of Forestry-Sofia, 2000.

Marinov B., J. Tsankov, Research on the Twisting of ICE Crankshaft as a Result the Bending in Operation Mode, the Scientific Newsletter, Vol. 54, № 3, 2000, (ISSN 1310-3946).

Marinov B., M. Mihaylov, Optimizing the Design of Roller Feeding Mechanism for Longitudinal Milling Woodworking Machine, The Scientific Newsletter, Vol.54, № 3, 2000, (ISSN 1310-3946).

Marinov B., Hr. Hristov, Links Dimension Optimization Approach in a Three Mass System of Multi Cylinder Internal Combustion Engine, Journal of Archives of Transport, Vol. 13, issue 1, 2001, Publisher: Degruyter*,* (ISSN 0866-9546).

Marinov B., On the Design of Power Transmission Line of a Ship, Journal of Archives of Transport, Vol. 14, issue 4, 2002, Publisher: Degruyter*,* (ISSN 0866-9546).

Marinov B., G. Voukov, Determination of the Zones to Change the Critical Angular Velocities of Circular Machines for Longitudinal Cutting, Proceeding Scientific Papers-International Scientific Conference "50 Years University of Forestry", 2003, Sofia, Publisher: Lotus.

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Todorov M., G. Voukov, B. Marinov, Parametric Torsional Oscillations of the Helicopter Transmission, Proceedings of Jubilee Scientific Session "10 Years Department of Air Transport", 2003, Sofia.

Marinov B., Behaviour Investigation of Power Transmission Lines in Vehicles in Case of Simultaneous Action of Torsional and Longitudinal Vibration Excitation, Journal of Theoretical and Applied Mechanics, Vol. 33, № 2, 2003, Publisher: Versita, (ISSN 0861-6663).

Marinov B. G. Voukov, Arising of Impulse Loads in Some Classes Circular Machines, Mechanics of Machines Magazine, Vol. 51, №2, 2004, (ISSN 0861-9727).

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Marinov B., Impulse Impacts Optimization on Two-Stage Spring Suspension Railway Vehicles, Journal of Archives of Transport, Vol. 17, issue 2, 2005, Publisher: Degruyter*,* (ISSN 0866-9546).

Marinov B., Shock Wave Vibration Processes Investigation on Certain Classes Circular Machines, Proceeding of 10th Jubilee National Congress on Theoretical and Applied Mechanics, Saints Constantine and Helena, Varna, 2005, (ISBN-10: 954-322-123-5, ISBN-13: 978-954-322-123-3)

Marinov B., Dynamic Stresses Caused by Shocks Processes in the Links of Certain Classes Circular Machine for Longitudinal Cutting, National Centre for Information and Documentation - Central Technological Library, Sofia, 2006, (Hd 1/2006, HD II 18715).

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Marinov B., Dynamic Reactions in the Bearings of Circular Shafts, Driving Big Circular Saws, Mechanics of Machines Magazine, Vol. 68, №2, 2007, (ISSN 0861-9727).

Marinov B., Energy Losses in Consequence of Percussion Actions on the Bogies of Two-Stage Spring Suspension Carriages, Scientific Journal Mechanics Transport Communications, №3, 2007, (ISSN 1312-3823).

Marinov B., Full Energy Losses in Consequence of Shock Impacts on Two-Stage Spring Suspension Railway Vehicles, National Centre for Information and Documentation - Central Technological Library, Sofia, 2008, (Hd 2/2008, HD II 18730).

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Marinov B., ShockProcesses on Railway Vehicles with One-Stage Spring Suspension, Journal of Archives of Transport, Vol. 24, issue 4, 2012, Publisher: Degruyter*,* (DOI 10.2478/v10174*-*012-0029*-*x),(ISSN 0866-9546).

Marinov B., Dynamic Reactions in the Basic Shaft Bearings of Band Saw Machines, Mechanics of Machines Magazine, Vol. 100, №1, 2013, (ISSN 0861-9727).

Kazakoff Al., B. Marinov, Shock-Wave Processes Modelling on Railway Vehicles Using a Scaled Model Utilizing Viscoelastic Properties, Compt. Rend. De l’Acad. Bulgare des Sciences, Vol. 66, No 1, 2013, (ISSN 1310-1331).

Marinov B., Full Dynamic Reactions in the Basic Shaft Bearings of Big Band Saw Machines, Journal of Theoretical and Applied Mechanics*,* Vol.43, №1, 2013, Publisher: Versita, DOI: 10.2478/jtam-2013-0001, (ISSN 0861-6663).

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**5. CONGRESSES, CONFERENCES, SCIENTIFIC SESSIONS and SEMINARS**

Pisarev, A., G. Polihronov, B. Marinov, G. Voukov, Dynamic Loads in the Machine Unit with Two Parallel Connected Cardan Transmissions, VIthNational Congress of Theoretical and Applied Mechanics, Varna, 1989.

Pissarev A., B. Marinov, Dynamic Loadings Due to Torsional and Bending Vibrations on the Links of Machines with Cardan Transmissions, VIIthCongress of Theoretical and Applied Mechanics, Sofia, VIII-IX, 1993.

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Marinov B. G. Voukov, Arising of Impulse Loads in Some Classes Circular Machines,

Scientific Conference "Days of Mechanics in Varna-XXX National Seminar on Dynamics of Mechanical Systems”, Varna, 2004.

Marinov B., Shock Wave Vibration Processes Investigation on Certain Classes Circular Machines, 10th Jubilee National Congress on Theoretical and Applied Mechanics, Saints Constantine and Helena, IX-2005.

Marinov B. Optimization of Impact Process Occurring in the Operating Regime for Railway Vehicles with One-Stage Spring Suspensions, XVI International Scientific Conference "Transport 2006", Higher School of Transport "Todor Kableshkov", XI-2006.

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Marinov B., Energy Losses in Consequence of Percussion Actions on the Bogies of Two-Stage Spring Suspension Carriages, XVII International Scientific Conference "Transport 2006", Higher School of Transport "Todor Kableshkov", XI-2007.

Marinov B., Deformations of Circular Shafts, Driving Big Circular Saws in Consequence of Dynamic Loads, "Days of Mechanics in Varna-XXXIV National Seminar on Dynamics of Mechanical Systems”, Varna, 2007.

Marinov B., Influence of the Circular Shaft Deformations, Driving Big Circular Saws on Their Work in Operating Mode, "Days of Mechanics in Varna-XXXV National Seminar on Dynamics of Mechanical Systems”, Varna, 2008.

Vukov G., B. Marinov, Identification of the Typical Defects of the Driving Mechanism of Carved Veneer Machines Using Vibrodiagnostics, Scientific-Technical Conference "Innovations in Woodworking Industry and Engineering Design", Yundola, XI-2008.

Marinov B., Kinetic Energy Loss in Some Classes Circular Machines as a Result of the Circular Saws Unbalance, 11th National Congress on Theoretical and Applied Mechanics, Borovets, IX-2009.

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Marinov B., Dynamic Stresses in Consequence of Impulse Impacts in the Links of Certain Classes Band Saw Machines with a Feeding Mechanism, "Days of Mechanics in Varna - XXXVIII National Seminar on Dynamics of Mechanical Systems”, Varna, 2011.

Marinov B., Dynamic Reactions in the Basic Shaft Bearings of Band Saw Machines, "Days of Mechanics in Varna - XXXIX National Seminar on Dynamics of Mechanical Systems”, Varna, 2012.

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**6. MONOGRAPHS**

Marinov B., Shock-WaveProcesses on Railway Vehicles-an Optimization, Publisher: VDM Verlag Dr. Müller GmbH & Co. KG, Germany, 2011, (ISBN: 978-3-639-32902-5, ISBN: 3639329023).