Name	Oleksandr Shekhov
Position, Department/Faculty	Senior lecturer of the Department of Theoretical Mechanics, Mechanical Engineering and Robotic Systems, Faculty of Aviation Engines
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Web of Science ResearcherID:	HHZ-3047-2022
ORCID iD:	0000-0003-2312-0155
Google Scholar:	https://scholar.google.com.ua/citations?hl=uk&user=amTxAa8AAAAJ
ResearchGate:	https://www.researchgate.net/profile/Aleksandr-Shekhov

EDUCATION:

Basic education (university, major, year of graduation):

Master of Science systems of automatic control

National Aerospace University “Kharkiv Aviation Institute”, Kharkiv, 01.09.1971 - 11.02.1977, Ukraine

WORK EXPERIENCE:

Professional Career (Workplace, Years, Position):

Senior research fellow of the Department of Strength of Materials *National Aerospace University - Kharkiv Aviation Institute* [01.09.1991 – 31.08.2000]

Assistant Professor of the Department of Theoretical Mechanics and Theory of Mechanisms and Machines *National Aerospace University - Kharkiv Aviation Institute* [01.09.2000 – 31.08.2006].

Senior Lecturer of Department of Theoretical Mechanics, Engineering and Robomechanical Systems *National Aerospace University - Kharkiv Aviation Institute* [01.09.2006 – Current]

Teaching Experience:

Teacher of the Department of Strength of Materials *National Aerospace University - Kharkiv Aviation Institute* [01.09.1991 – 31.08.2000]
teaching courses: strength of materials, technical mechanics

Teacher of the Department of Theoretical Mechanics and Theory of Mechanisms and Machines *National Aerospace University - Kharkiv Aviation Institute* [01.09.2000 – 31.08.2006].
teaching courses: technical mechanics, theory of mechanisms and machines, applied mechanics and design fundamentals

Teacher of Department of Theoretical Mechanics, Engineering and Robomechanical Systems *National Aerospace University - Kharkiv Aviation Institute* [01.09.2006 – Current]

teaching courses: fundamentals of mechanics of aerospace objects, fundamentals of theoretical mechanics and the theory of mechanisms and machines, applied mechanics and design fundamentals, fundamentals of modeling technical systems, computer motion study, visualization of structures, engineering analysis of structures (CAD, CAE)

RESEARCH ACTIVITIES:

Main Research Areas:

Classic mechanics, mechanics of the deformed solid, development of methodologies of calculations on durability, reliability and strength of constructions, development of theory and methods of the optimal design of mechanisms and machines, computer design of dynamics of the mechanical and electromechanical systems, mathematical and computer design of d mechatronic drives of control system of aircrafts

Number of Publications (Scopus, WoS, others):

Over 40 scientific publications, including articles indexed in the databases Index Copernicus, Urlich's periodicals directory (USA), Google Scholar; numerous conference proceedings and results of applied research.

Monographs, Textbooks:

author of one textbook in the field of fundamentals of theoretical mechanics and the theory of mechanisms and machines, co-author of 1 textbook in the field of the theory of mechanisms and machines

Participation in Scientific Conferences:

Regular participant (over 20) and speaker at international and national scientific conferences on the problems of quality and durability of gear transmissions and mechanical drives (Ukraine).

TEACHING ACTIVITIES:

Courses Taught:

Technical mechanics, Technical mechanics (course project), Computer motion study, Visualization of structures, Engineering analysis of structures (CAD, CAE).

Author Courses, Academic Programs:

Author of the course “Computer motion study”, “Visualization of structures”, “Engineering analysis of structures (CAD, CAE)”.
Developer of academic content for “Computer motion study”, “Visualization of structures” and “Engineering analysis of structures (CAD, CAE)”.

Methodological Materials, Textbooks:

Author of templates for completing individual assignments in all taught disciplines

Co-author of the textbook on practical exercises in the Mathcad software environment on the theory of mechanisms and machines
Author of electronic lecture notes on the course "Fundamentals of Theoretical Mechanics and Theory of Mechanisms and Machines"
Author of e-courses in the Mentor system for all taught disciplines

SELECTED PUBLICATIONS:

Key Articles (Scopus, WoS, others):

Sharaban Yu. V., Shekhov A. V. Analysis of slip in gearings of optimal type 3k planetary mechanism by the criterion of end overlap. (2025). Bulletin of the National Technical University «KhPI». Series: Engineering and CAD, No. 2 (2025). P. 131-141. https://doi.org/10.20998/2079-0775.2025.2.15.
Sharaban Yu. V., Shekhov A. V. Optimization of gear designs of a 3K type planetary mechanism according to the end overlap criterion. (2024). Bulletin of the National Technical University «KhPI». Series: Engineering and CAD, No. 2 (2024). P. 121-133. https://doi.org/10.20998/2079-0775.2024.2.12.
Sharaban Yu. V., Shekhov A. V. Comparative analysis of the bearing capacity of planetary mechanisms formed on the basis by two simple James planetary mechanisms, according to sequential non-loop and closed kinematic schemes with one loop. (2023). Bulletin of the National Technical University «KhPI». Series: Engineering and CAD, No. 2 (2023). P. 41-49. https://doi.org/10.20998/2079-0775.2023.2.12.
Matusevych V. A., Sharaban Ju. V., Shehov A. V. Objective function of parametric optimization of the speed of a closed planetary mechanism formed by two simple James planetary mechanism. (2022). Bulletin of the National Technical University «KhPI». Series: Engineering and CAD, No. 2 (2022). P. 41-52. https://doi.org/10.20998/2079-0775.2022.2.05.
Matusevych V. A., Sharaban Ju. V., Shehov A. V. Modeling and analysis of parametric optimization of the mass of a closed planetary mechanism formed by two simple planetary mechanisms of James. (2021). Bulletin of the National Technical University «KhPI». Series: Engineering and CAD, No. 2 (2021). P. 56-70. https://doi.org/10.20998/2079-0775.2021.2.09.
Matusevich V. A., Sharaban Yu. V., Shekhov A. V. Parametric optimization on criterion volume two stage planetary mechanism of type AI–II. (2019). Aerospace technic and technology No. 7 (159) (2019). P. 92-102. https://dx.doi.org/10.32620/aktt.2019.7.13.

Books, Chapters in Collective Monographs:

Shekhov O. V. (2024). Fundamentals of theoretical mechanics and the theory of mechanisms and machines [Electronic resource]: comp. lectures. Kharkiv: National Aerospace University “Kharkiv Aviation Institute”, 2024. – 251 p.

ADDITIONAL INFORMATION:

Language Proficiency:

Ukrainian, English (Intermediate)

IT Skills:

Microsoft Office / Microsoft Powerpoint / Zoom / Google Meet / FORTRAN / C++ / Python / Matlab / Mathcad / Maple / Mathematica / SolidWorks / ANSYS / Windows OS / Android / Linux.

Social and Community Activities:

Member of the Trade Union of Education and Science Workers of Ukraine