



Joint Program for Virtual Mobility  
Advanced Manufacturing: Innovations  
in Materials and Technologies

www.iatdi.org

# CERTIFICATE

is proudly presented to

## Mykyta Kochetov

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.  
The Program is certified by the International Association for Technological Development and Innovations.

Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator

Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator

Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic

# CERTIFICATE

is proudly presented to

## Sviatoslav Korshunov

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.  
The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine  
**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland  
**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic

# CERTIFICATE

is proudly presented to

## Yurii Yermakov

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.

The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic

# CERTIFICATE

is proudly presented to

## Vadym Petrikieiev

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.

The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic



Joint Program for Virtual Mobility  
Advanced Manufacturing: Innovations  
in Materials and Technologies

www.iatdi.org

# CERTIFICATE

is proudly presented to

## Mykyta Davydov

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.

The Program is certified by the International Association for Technological Development and Innovations.

Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator

Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator

Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic

Date: December 20, 2024

# CERTIFICATE

is proudly presented to

## Illia Lazorkin


who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.

The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic

# CERTIFICATE

is proudly presented to

## Vladyslav Zavhorodnii

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.  
The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic

# CERTIFICATE

is proudly presented to


## Dmytro Myroshnyk

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.  
The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic



# CERTIFICATE

is proudly presented to


## Oleksii Hrytsenko

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.  
The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic

# CERTIFICATE

is proudly presented to

## Kyrylo Lys

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.

The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic

# CERTIFICATE

is proudly presented to

## Arsenii Chumak

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.  
The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic

# CERTIFICATE

is proudly presented to

## Denys Olonets

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.

The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic



Joint Program for Virtual Mobility  
Advanced Manufacturing: Innovations  
in Materials and Technologies

@ www.iatdi.org

# CERTIFICATE

is proudly presented to

## Rostyslav Pitak

who has successfully completed the **Joint Program for Virtual Mobility "Advanced Manufacturing: Innovations in Materials and Technologies"**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.

The Program is certified by the International Association for Technological Development and Innovations.

  
Dr. **Nadia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator

  
Dr. **Yulia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator

  
Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic

# CERTIFICATE

is proudly presented to

## Oleh Zhuha


who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.

The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic

# CERTIFICATE

is proudly presented to

## Yaroslav Sviridov

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.

The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic

# CERTIFICATE

is proudly presented to


## Vladyslav Babenko

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.  
The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic



# CERTIFICATE

is proudly presented to


## Denys Davydov

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.  
The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic

# CERTIFICATE

is proudly presented to

## Kate Reshetnyak

who has successfully completed the **Joint Program for Virtual Mobility “Advanced Manufacturing: Innovations in Materials and Technologies”**, between Sumy State University (Ukraine), Poznan University of Technology (Poland), Technical University of Košice (Slovak Republic), and International Association for Technological Development and Innovations (Ukraine) from October 21, 2024 till December 13, 2024.

The Certificate is equal to 60 academic hours or 2.0 credits ECTS.

The Program is certified by the International Association for Technological Development and Innovations.



Dr. **Nadiia KHARCHENKO**, Ph.D.,  
Sumy State University,  
Coordinator



Dr. **Yuliia DENYSENKO**, Ph.D.,  
Poznan University of Technology,  
Coordinator



Prof. **Michal HATALA**, Ph.D.,  
Technical University of Kosice,  
Coordinator



Date: December 20, 2024

## PROGRAM CONTENT

Manufacturing: Fundamentals and Advanced Technologies	2
TIPS Methodology as a Tool for Finding Solutions to Technical Contradictions and Introducing Innovations	2
Cutting Force During Machining	2
ISO System for Tolerances and Fits	2
Thermal Phenomena in the Cutting Process	2
Modern Approaches to Predicting the Properties of Multicomponent Materials	2
Empowering Rehabilitation: Medical Knowledge Through 3D Manufacturing	2
3D Printing for Surgery Medicine	2
The Role of Engineers in Sustainable Development	2
Navigating Quality Management in Agile Manufacturing: Strategies for Effective Reporting	2
Advanced Polymer Materials in Additive Production for Bioengineering	2
Using Markov Chains in the Manufacturing Engineering	2
Tool Wear in Cutting Theory	2
Application of Artificial Intelligence in Manufacturing Processes	2
Simulation of Manufacturing Systems	2
Self-Study	20
Student-Lecturer Scientific Discussions	8
Final Test	2
<b>TOTAL (hours)</b>	<b>60</b>

## ADVISORY BOARD

**Prof. Vitalii IVANOV**,  
Sumy State University, Ukraine

**Dr. Justyna TROJANOWSKA**,  
Poznan University of Technology, Poland

**Prof. Jan PITEL**,  
Technical University of Kosice, Slovak Republic