

# Almas Shintemirov

## Curriculum Vitae (updated 05/2026)

Nazarbayev University  
53 Kabanbay Batyr Avenue,  
Astana, Kazakhstan [Z05HOP9](mailto:Z05HOP9)  
Phone: +7 7172 706155 (work)  
+7 705 324 5258 (mobile)  
Email: [ashintemirov@nu.edu.kz](mailto:ashintemirov@nu.edu.kz)  
[ashintemirov@gmail.com](mailto:ashintemirov@gmail.com)  
[www.alaris.kz](http://www.alaris.kz)  
<https://github.com/AlmasShintemirov>

### PERSONAL INFORMATION

Nationality: Kazakhstan

Languages: Russian (native), English (fluent), Kazakh (intermediate)

Married, 2 children

### EXPERIENCE

- Feb. 2026 – present** – **Director of Graduate Studies**, School of Engineering and Digital Sciences, Nazarbayev University, Kazakhstan
- Aug. 2011 – present** – **Associate Professor**, Department of Robotics, School of Engineering and Digital Sciences, Nazarbayev University, Kazakhstan (2011-2015 – Assistant Professor)
- Oct. 2022 – Sept. 2025** – **Research Fellow**, Intelligent Robotics group, Department of Electrical Engineering and Automation, Aalto University, Finland
- Sept. 2019 – Sept. 2022** – **Acting Chair**, Department of Electrical and Computer Engineering Nazarbayev University, Kazakhstan
- Dec. 2009 – Aug. 2011** – **Senior Researcher**, Department of Intellectual Systems and Energy Efficiency (since 2011), PI “Nazarbayev University Research and Innovation System” (NURIS)  
**Senior Manager**, Directorate for Scientific and Technical Projects (until Aug. 2010 – Department for Academic Development), JSC “Nazarbayev University”, Kazakhstan
- Oct. 2005 – June 2009** – **Graduate Teaching Assistant (part-time)**, Department of Electrical Engineering and Electronics, the University of Liverpool, U.K.
- Mar. 2004 – July 2005** – **Instructor**, Department of Electric Power Engineering, S. Toraighyrov Pavlodar State University, Kazakhstan

### EDUCATION

- 2005 – 2009** – **Ph.D. in Electrical Engineering and Electronics**, The University of Liverpool, the United Kingdom
- 2001 – 2004** – **Candidate’s (Ph.D) Degree in Technical Sciences** (Electrotechnical Complexes and Systems), S. Toraighyrov Pavlodar State University, Kazakhstan
- 1996 – 2001** – **Engineer’s Specialist Diploma with Honours** (Electric Drives and Automation of Technological Complexes (equivalent to German Dipl.-Ing. degree), S. Toraighyrov Pavlodar State University, Kazakhstan

## CURRENT RESEARCH INTERESTS

Information on past research activities with video demos is available at <https://www.alaris.kz>

- VLM/LLM-based robot task and motion planning
- Deformable object manipulation
- Human-robot interaction

## FUNDED RESEARCH AND INDUSTRIAL PROJECTS

- 2025**      **Project Manager and Researcher:** “Autonomous log grasping on forest machines. Pre-study”. Industrial project funded by John Deere Finland, Aalto University, Finland.
- 2022 – 2025**      **Research Fellow:** “Latent Space Servoing for Autonomous Manipulation of Deformable Objects”. WASP-Aalto University collaboration project. Funded by the Wallenberg AI, Autonomous Systems and Software Program (WASP), Sweden.
- 2021 – 2024**      **Principal investigator:** “Development of a Multipurpose Autonomous Hospital Mobile Robot-Manipulation Platform” (Project #021220FD1751, 150,000 USD).
- The project proposal was peer-reviewed through ORAU (<http://www.orau.org>) and is being funded through the Faculty Development Competitive Research Grant program by Nazarbayev University.
- 2020 – 2022**      **Principal investigator:** “Development of an Autonomous Skid-Steering Based Mobile Robot-Manipulation System for Automating Warehouse Operations in Kazakhstan” (Project IRN AP08052091, 135,530 USD)
- Research project grant from the Kazakhstan Ministry of Education and Science.
- 2020 – 2022**      **Investigator:** “Stochastic and Learning-Based Predictive Control Methods for Physical Human-Robot Interaction” (Project #091019CRP2118, 382,920 USD).
- The project proposal was peer-reviewed through ORAU (<http://www.orau.org>) and is being funded through the Collaborative Research Grant program by Nazarbayev University.
- 2019**      **Co-Principal investigator:** “Development of a Robotized Vehicle on a KAMAZ Truck Chassis”.
- Industrial project funded by the VIST Group company (Russia) (<http://vistgroup.ru/en/solutions/robotizirovannaya-tehnika/>) (130,000 USD).
- 2018 – 2020**      **Principal investigator:** “Development of an Intelligent Assistive Robot Manipulation System for Improving the Quality of Life of Disabled People in Kazakhstan” (Project #090118FD5340, 149,310 USD).
- The project proposal was peer-reviewed through ORAU (<http://www.orau.org>) and funded through the Faculty Development Competitive Research Grant program by Nazarbayev University.
- 2014 – 2016**      **Principal investigator:** “Research of Possible Applications of Renewable Energy for Development of Small/Mobile Autonomous Systems”.
- The project was funded through the target funding scheme by the Kazakhstan Ministry of Education and Science (about 200,000 USD).
- 2012 –2014**      **Principal investigator:** “Design and Control of a Gyro Stabilized Pan-Tilt Sensor System with Novel Multiple Object Tracking Algorithms”
- The project proposal was peer-reviewed through ORAU (<http://www.orau.org>)
  - Research project grant from the Kazakhstan Ministry of Education and Science (about 90,000 USD).

- 2012 – 2013**     **Co-Principal investigator (initial stage):** “Enhanced Object Manipulation Using Multigrasp Robotic Hand for Intelligent Industrial Automation”
  - The research grant was awarded within the joint Kazakhstan Technology Commercialization Project of the Kazakhstan Ministry of Education and Science and the World Bank
- 2012 – 2013**     **Co-Principal investigator:** “Hybrid Quadruped Robotic Platform for Investigation of Synergistic Legged and Wheeled Locomotion”,
  - The research project grant from the Kazakhstan Ministry of Education and Science
- 2012**             **Principal investigator:** “Investigation of Sensor Fusion Algorithms with a Pan-Tilt LIDAR System”. Nazarbayev University seed research grant (20,000 USD)
- 2011**             **Co-Principal investigator (Phase 1):** “Study and Development of Renewable Energy and Smart Grid Technologies With Purpose of Potential Application in Kazakhstan”
  - The project was funded by the Kazakhstan Ministry of Education and Science for funding within the 2011 research projects portfolio of NURIS.

## AWARDS

- 2022**             **Kazakhstan Best Researcher 2022 in Engineering and Technology award** (Kazakhstan Ministry of Science and Higher Education)
- 2018**             **Kazakhstan Scopus Award 2018 - Top Researcher in Engineering and Technologies.** (administered by Elsevier)
- 2017**             **The Certificate of Honor of the Republic of Kazakhstan**  
A state award for “...achievements in state and public activities, significant contribution to the social-economic and cultural development of the country, strengthening friendship and cooperation among nations”
- 2017**             **Diploma of the international forum “Integrating Science and Business” in the nomination “The most cited Kazakh researchers in the field of “green” energy””** according to the data of Web of Science Core Collection, 2012-2016  
Organized by the Ministry of Education and Science of the Republic of Kazakhstan at Expo-2017 Astana
- 2015**             **The Certificate of Honor of the Ministry of Education and Science of the Republic of Kazakhstan.** (departmental award)
- 2005 – 2009**     **Kazakhstan Presidential Bolashak Scholarship** (administered by JSC “Center for International Programs” under the Ministry of Education and Science of the Republic of Kazakhstan)
- 2008**             **“Sharyktau-2008” competition award** for young Kazakhstan scientists on innovation research in the “Information and Space Technologies” direction (administered by JCS “Science Fund”, Astana, Kazakhstan)
- 2004 – 2006**     **Young scientists’ Kunaev award for best research works in fundamental sciences** (administered by the Kazakhstan Ministry of Education and Science)

## PROFESSIONAL DEVELOPMENT/TRAINING

- July – Oct. 2021**     Udacity C++ Programming nanodegree program (online);
- July – Sept. 2021**     Udacity Robotics Software Engineer nanodegree program (online);
- Sept. 2017**             Summer School on Foundations of Robotics and Autonomous Learning, TU Berlin, Germany

- July 2013** Telerobotics Summer School 2013, Keio University, Japan
- April 2011** Energy Training Week, International Energy Agency, Paris, France
- April 2011** Workshop “The Use of Learning Outcomes in Higher Education” within the TEMPUS project “Chemical Engineering Curriculum Development and International Recognition”, Astana, Kazakhstan
- Nov. 2010** 2<sup>nd</sup> Science & Technology Training & Education Program for KISTEP-NIF JOINT PROJECT on Foresight Research, Astana

## PROFESSIONAL AFFILIATION

- 2011 – present** IEEE Membership (**from 2020 - IEEE Senior Member**)
- 2013 – present** Member of the IEEE Robotics and Automation Society

## ACADEMIC SERVICE

### Research publication/project proposal/report peer-review activity

- ❖ **Q1/Q2 journals:** IEEE Robotics and Automation Letters, IEEE/ASME Transactions on Mechatronics, IEEE Transactions on Industrial Electronics, Robotics and Autonomous Systems, ASME Journal of Mechanical Design, International Journal of Advanced Robotic Systems, Neural Computing and Applications
- ❖ **Research conferences:** IEEE International Conference on Robotics and Automation (ICRA), IEEE International Conference on Automation Science and Engineering (CASE), IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), IEEE/ASME Conference on Mechatronics and Embedded Systems (MESA), American Control Conference.
- ❖ **Kazakhstan National Center of Science and Technology Evaluation:** peer-review of more than 15 research grant and program target funding proposals submitted for state budget funding.

### Organized or chaired research conference sessions

- ❖ Chair of the regular session SuBT9 “Mechanism Design” at the 2019 IEEE 15th International Conference on Automation Science and Engineering (CASE), Vancouver, Canada, August 2019
- ❖ Chair of the regular session ThAT6 “Kinematics” at the 2014 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Besançon, France, July 2014

### Aalto University, Espoo, Finland

- ❖ Research work in intelligent robotics areas;
- ❖ Master, bachelor thesis and group project supervision;
- ❖ Coordination, facilitation and presentation of the Aalto Robot Lab demonstrations for visiting high school, university student groups, and external academic visitors.

### Nazarbayev University (NU), Astana, Kazakhstan (instruction in English):

#### Director of Graduate Studies, School of Engineering and Digital Sciences (SEDS)

- ❖ Serving as a Director of a PhD in Science, Engineering and Technology program, Chair of the SEDS Graduate Studies Committee, SEDS Student Travel Committee;
- ❖ Coordination of the school-wide efforts for SEDS PhD programs modifications (7 PhD programs in total).
- ❖ Member of the governing board of SEDS, NU Graduate Studies Committee, SEDS of Teaching and Learning Committee, SEDS Research Committee.
- ❖ Management of graduate student-related issues.

### **Dept. of Electrical and Computer Engineering (Acting Chair)**

- ❖ Management of the department including dealing with dept. faculty and student-related issues, conducting faculty renewal/promotion evaluation, program course arrangements and scheduling, faculty workload assignment and monitoring, etc.
- ❖ Member of the governing board of the School of Engineering and Digital Sciences (SEDS);
- ❖ Dept. representative in the SEDS Teaching and Learning Committee;
- ❖ Revision and modification of PhD in Electrical Engineering, MSc in Electrical and Computer Engineering and BEng in Electrical and Computer Engineering program curricula;
- ❖ Development of the departmental laboratory infrastructure;
- ❖ Performing short-term duties of an Acting Dean of the School of Engineering and Digital Sciences.
- ❖ Teaching ECE courses:
  - *Programming for Engineers (Fall 2020);*
  - *Undergraduate capstone project supervision (Fall 2020 – onwards),*
  - *Master student thesis supervision (Fall 2020 - onwards)*

### **Dept. of Robotics and Mechatronics (Assistant/Associate Professor):**

- ❖ One out of three founding faculty members of the dept. who were setting up BSc in Robotics and Mechatronics (R&M) program and robotics research program at Nazarbayev University;
- ❖ Assisting in developing MSc in Robotics program;
- ❖ Development course contents and teaching the following MSc/PhD in Computer Science and Robotics Engineering courses:
  - *Industrial Robotics (Fall 2025, 2024, 2019, 2018, 2017, 2016);*
  - *Hardware/Software Co-Design (Spring 2026, 2025, 2024, 2022, 2021, 2020, 2019, 2018, 2017, 2016);*
  - *Master projects supervision (Spring 2026, 2020, 2019, 2017, 2016);*
  - *PhD student supervision (2017 – present)*
- ❖ Development course contents and teaching the following BSc in Robotics Engineering courses:
  - *Robotic/Mechatronic System Design (Spring 2026, 2018, 2017, 2016, 2015);*
  - *Embedded Systems (Fall 2022, 2019, 2018, 2017, 2016, 2015, 2014, 2013);*
  - *Microcontrollers with Lab (Spring 2019, 2015, 2013, 2014);*
  - *Graduate projects supervision (Spring 2020, 2019, 2018, 2017, 2016, 2015);*
  - *Signals and Sensing with Lab (Fall 2014);*
  - *Electric and Electronic Circuits II with Lab (Lab sessions, Spring 2013,2014);*
  - *Computer Aided Drawing (Fall 2012, Summer 2012);*
  - *Introduction to Robotics and Mechatronics (Fall 2012, 2011);*
  - *Programming to Robotics and Physics (Lab sessions, Spring 2012);*
  - *Freshman Robotics Colloquium (Spring 2012);*
- ❖ Development high school course “Fundamentals of Robotics” and training high school teachers for Nazarbayev Intellectual Schools ([www.nis.edu.kz](http://www.nis.edu.kz)) (*Summer 2012*);
- ❖ Academic advising of undergraduate Robotics and Mechatronics and graduate Robotics students;
- ❖ Tutoring students on individual basis during office hours;
- ❖ Supervising PhD, master and undergraduate student research and graduation projects (Spring 2015 – present).
- ❖ Representative of the R&M Department in/during:
  - *School Teaching and Learning Committee (2025-present, 2015 – 2018)*
  - *School Research Committee (2018 - 2019)*
  - *School Library Committee (2011 – 2012);*
  - *School Website Development Committee (2013 – 2014);*
  - *Member of various tender commissions for procurement of teaching and research equipment (2011- present);*

- *Presentation of the R&M laboratories and projects during VIP guest visits to NU including visits of President of the Republic of Kazakhstan N. Nazarbayev (2018, 2012), Prime Minister of the Russian Federation D. Medvedev (2013), groups of top Kazakhstan government officials (2019, 2018, 2012, 2013), senior Kazakhstan army officers (2013), guest international academics, high school and college students etc.*
- ❖ **Service within the R&M Department:**
  - *Member of Departmental Curriculum Committee (2011- 2020);*
  - *Member of Departmental Recruitment Committee (2011- present);*
  - *Education/research equipment and consumables selection and procurement facilitating (2011- present) including work on compiling and translating tender technical specification and documentation to Russian language;*
  - *Facilitating visits to the department and presentation of research projects to NU visitors (2011-present);*
  - *Facilitating visits to the department of and delivering introductory talks to Nazarbayev Intellectual School students (2011-present);*
  - *Organizing and supervising field trip visits for Robotics students to local industrial enterprises (2012-2013);*
  - *Assisting senior faculty members in research and organization work;*
  - *Responding to various requests from the School and the University administration.*

#### **External service activities (in English and Russian)**

- ❖ **Representative of Nazarbayev University in:**
  - *Annual Forums of the Association of the Kazakhstan Manufacturing Industry (2017, 2019)*
  - *Round tables on Kazakhstan Industry 4.0 program development (2017)*
  - *Working tables of Smart Astana concept development (2017)*
  - *Supervisory Board of NURIS (2016 – present)*
  - *External member of the PhD dissertation council at the Faculty of Information Technologies, the L. Gumilyov Eurasian National University (2020, 2019, 2015)*
  - *External member of the PhD dissertation council at the Faculty of Power Engineering, S. Toraihyrov Pavlodar State University (2016)*
  - *Chair of the State Examination Committee for «Computer Engineering» bachelor program’s state exams and graduation project evaluations at Eurasian National University (2015)*
  - *Chair of the State Examination Committee for «Radiotechnics, Electronics and Telecommunications» master program’s state exams and thesis project evaluation at S. Seifullin Kazakh Agro-Technical University (2016-2017)*
  - *NU Equipment Committee (2014-2016);*
  - *The University Senate (2012-2013 academic year);*
  - *The University Academic Council (nominated by the University Senate as the SST faculty representative in the AC for 2012-2013 academic year);*

#### **At the University of Liverpool, U.K.:**

- ❖ **Assistance and co-supervision of undergraduate students during computer and electrical laboratory sessions:**
  - *Introduction to Java programming; Electronic and Electric Circuit Design; Electric Machines; Feedback Control Systems; Power Transmission Systems;*
  - *Year 1 and 2 course projects.*

## STUDENT SUPERVISION

### PhD Student Supervision (Nazarbayev University, Kazakshtan)

1. **Ilyas Tursynbek**, PhD in Science, Engineering and Technology, January 2023, **lead supervisor**, thesis title: *Design, Motion Planning, and Control of a Spherical Parallel Manipulator with Coaxial Input Shafts*. Current placement: Instructor, Department of Computer Science, NU, Kazakhstan.
2. **Aigerim Nurbayeva**, PhD in Robotics Engineering, August 2024, **co-supervisor**. Thesis title: *Model Predictive Control and Imitation Learning Algorithms for Robot Motion Planning in Physical Human-Robot Interaction*. Current placement: post-doctoral researcher, KAUST, Saudi Arabia.
3. **Shyrailym Shaldambayeva**, PhD in Robotics Engineering, **lead supervisor**, in progress - expected graduation: Spring 2027, thesis title (tentative): *Development of Shared Autonomy Human-Machine Control Interfaces for Robot Assistive Systems*.
4. **Shyngyskhan Abilkassov**, PhD in Robotics Engineering, **lead supervisor**, in progress - expected graduation: Fall 2027, thesis title (tentative): *Episodic Egocentric Memory for Context-Aware Robotic Intelligence*.

### Master Student Supervision (Nazarbayev University, Kazakhstan)

Since 2015 when NU started master programs, I have successfully **supervised 16 master students** to timely completion **as a lead supervisor**. Selected project abstracts and video demonstrations are available at [http://www.alaris.kz/teaching/master\\_theses/](http://www.alaris.kz/teaching/master_theses/)

1. **Aimedet Taufik**, MSc in Robotics, ongoing – expected completion Summer 2026, lead supervisor. Master thesis: *Autonomous Urban Drone Delivery with Moving Platform Landing*
2. **Aiym Issatayeva**, MSc in Robotics, Spring 2026, thesis title: *Learning Manipulation Skills for the Franka FR3 Using Behaviour Cloning: From Simulation to Real-Robot Deployment*
3. **Dalel Abekenov**, MSc in Robotics, Spring 2026, thesis title: *Deep Reinforcement Learning with Dense Reward Shaping and Domain Randomization for Sim-to-Real Transfer in Robotic Push Manipulation*
4. **Ualikhan Tukenov**, MSc in Robotics, Spring 2026, thesis title: *Dynamic Scene Graph with Human Robot Interaction*
5. **Yerdaulet Seidzhappar**, MSc in Robotics, Spring 2026, thesis title: *Scene Graph-Augmented Soft Prompting for Vision Language-Action Models: Comparing Textual and Graph Neural Network Encodings for Robotic Manipulation*
6. **Amantay Kapyshev**, MSc in Robotics, Spring 2026, thesis title: *Error-Aware Path Planning for DXF-Based Robotic Layout Marking*
7. **Meruyert Zhuvandykova**, MSc in Electrical and Computer Engineering, 2022, thesis title: *Intelligent Control of Mobile Robot-Manipulators using Behavior Trees*.
8. **Aldiyar Dabarov**, MSc in Electrical and Computer Engineering, 2022, thesis title: *Object Grasping Planning using Partially Observable Markov Decision Processes*
9. **Madiyar Sharipov**, MSc in Electrical and Computer Engineering, 2022, thesis title: *Indoor Mobile Robot Localization*.
10. **Shyrailym Shaldambayeva**, MSc in Computer Science, 2021, thesis title: *High Level Robot Motion Planning using POMDP*
11. **Anton Kim**, MSc in Robotics, 2021, thesis title: *Shared Autonomy Control of an Assistive Robotic Arm Using Model Predictive Control*
12. **Alikhan Zhilisbayev**, MSc in Robotics, 2019, thesis title: *Development of a Low-Cost Reconfigurable Adaptive Robotic Gripper with Detachable Fingers*

13. **Roman Kruchinin**, MSc in Robotics, 2019, thesis title: *Design, Motion Planning and Control of a Skid-Steering Mobile Robot*
14. **Sergey Soltan**, MSc in Computer Science, 2019, thesis title: *Recognition of 3D Objects for a Robot Arm Using Deep Learning*
15. **Tasbolat Taunyazov**, MSc in Robotics, 2017, thesis title: *Intuitive Teleoperation of 6-DOF Universal Robots Manipulators in Constrained Workspace using Nonlinear Model Predictive Control*
16. **Iliyas Tursynbek**, MSc in Robotics, 2017, thesis title: *Mechanical Design and Kinematic Analysis of a Spherical Parallel Manipulator with Coaxial Input Shafts*
17. **Bukeikhan Omarali**, MSc in Mechanical Engineering, 2017, thesis title: *Real-Time Predictive Control of UR5 Robotic Arm Through Human Upper Limb Motion Tracking*

### Master Student Supervision (Finland)

During my work at **Aalto University** in 2022-2025 I served as a **lead advisor of 4 master students** to timely completion:

1. **Runzhao Zhao**, MSc in Automation and Electrical Engineering, Aalto University, Spring 2026, thesis title: *Enhancing the Robustness of Vision Language Action Models to Viewpoint Changes via Perspective Transformation*
2. **Md Iftekher Hossain**, MSc in Cognitive Computing and Collective Intelligence, University of Jyväskylä, 2025, thesis title: *Large Language Model Driven Context-Aware Robotic Manipulation via Human Demonstration*
3. **Benjamin Piironen**, MSc in Automation and Electrical Engineering, Aalto University, 2024, thesis title: *Cloth Manipulation through Online Simulation*
4. **Harsha Vardhan Guda**, MSc in Automation and Electrical Engineering, 2024, thesis title: *Simulation Environments for Learning Manipulation of Cloth-like 3D Bags*

### Undergraduate Student Supervision (Nazarbayev University, Kazakhstan)

Since 2011 when NU started undergraduate programs, I have successfully **supervised 17 student groups (39 students in total)** to timely completion **as a lead supervisor**. Selected project slide presentations and video demonstrations are available at <http://www.alaris.kz/teaching/graduation-project/>

1. **Nazerke Turtayeva, Yersultan Baimukhan**, BENG in Electrical and Computer Engineering, 2021, capstone project: *Non-GPS based mobile robot localization and terrain recognition using Extended Kalman Filtering*
2. **Alimzhan Murzabulatov, Zhan Dorbetkhany** BENG in Electrical and Computer Engineering, 2021, capstone project: *Mobile robot motion planning and control with obstacle avoidance using Model Predictive Control*
3. **Anuar Nurlybayev, Shyngyskhan Abilkassov**, BSc in Robotics and Mechatronics, 2021, graduation project: *Learning-based Adaptive Control of a Skid-Steering Mobile Robot in Unknown Environment*
4. **Arman Kuzembayev, Nikita Zaikin, Azamat Kaibaldiyev**, BSc in Robotics and Mechatronics, 2020, graduation project: *Autonomous Navigation of a Skid-Steering Mobile Robot in Human Present Environment*
5. **Manshuk Abdikarimova, Nazerke Sandibay, Rassul Shaimerdenov**, BSc in Robotics and Mechatronics, 2020, graduation project: *Robotized Pick-and-Place Operations for Automating Warehouse Operations*

6. **Anton Kim, Sanzhar Rakimkul, Askarbek Pazyzbekov**, BSc in Robotics and Mechatronics, 2019, graduation project: *Autonomous Object Recognition System for Shared Autonomy Control of an Assistive Robotic Arm*
7. **Bota Duisenbay, Talgat Tursynbek**, BSc in Robotics and Mechatronics, 2018, graduation project: *Development of an Autonomous Robotic Pick and Place Laboratory Setup for Intelligent Industrial Automation*
8. **Yesset Raziyeu, Ramil Garifulin**, BSc in Robotics and Mechatronics, 2017, graduation project: *Feedback Control System Design for a Power Assist Lifting Device*
9. **Arman Tailakov, Ayan Zhansultanov**, BSc in Robotics and Mechatronics, 2017, graduation project: *Hand Based Control of a 3-Finger Gripper*
10. **Almaz Zinollayev, Issa Kuchikov**, BSc in Robotics and Mechatronics, 2017, graduation project: *Sign Language Interpreting Glove*
11. **Daulet Baimukashev, Baglan Kuturbayev**, BSc in Robotics and Mechatronics, 2017, graduation project: *Self-Balancing Wheelchair with DC Motor Control*
12. **Yerlik Agzhanov, Alibek Igambergenov, Ulan Ysmaiyl**, BSc in Robotics and Mechatronics, 2017, graduation project: *Design of a Self-Balancing Segway-Like Two-Wheel System*
13. **Angelina Gerbolt, Temirlan Mussagaliyev**, BSc in Robotics and Mechatronics, 2016, graduation project: *KUKA YouBot Gravity Compensation and Trajectory Teaching*
14. **Vladislav Ostankovich, Aktore Barlybayev**, BSc in Robotics and Mechatronics, 2016, graduation project: *KUKA YouBot Obstacle Avoidance*
15. **Nigina Baymuhamedova, Dias Alimbay**, BSc in Robotics and Mechatronics, 2016, graduation project: *A Human Arm Motion Tracking System Design Using an IMU and a Camera Sensor*
16. **Abzal Serekov, Damir Nurseitov**, BSc in Robotics and Mechatronics, 2016, graduation project: *Brain Actuated Mobile Robot Using Neural Signals as an Assistive Home Technology*
17. **Tasbolat Taunyazov, Saltanat Karazhigitova**, BSc in Robotics and Mechatronics, 2015, graduation project: *Orientation Control (Inertial Stabilization) of a Spherical Parallel Manipulator.*

## **ADMINISTRATIVE EXPERIENCE**

### **At Nazarbayev University (NU), Astana, Kazakhstan in 2009 – 2010 (English and Russian):**

- ❖ Project management on establishing Nazarbayev University, including projects of establishing the Center for Energy Research (CER) (currently – Nazarbayev University Research and Innovation System (NURIS) and the School of Engineering (first development phase) at NU.
- ❖ Establishment of physics, chemistry and biology teaching laboratories as part of the new Foundation Program in cooperation with University College London, U.K.
- ❖ Business negotiation and correspondence with international universities (Lawrence Berkeley National Laboratory (LBNL) at UC Berkeley, USA, and University College London, U.K.), organizations and industry – partners of NU for establishing CER and NU School of Engineering, preparation of strategic, analytical, budget and legal documentation, etc.
- ❖ Other technical projects coordination, participation and representing NU at conferences and seminars on renewable energy policy, ministry working groups on draft legislation development, international cooperation in power engineering, etc.
- ❖ Other technical projects coordination, including a project of establishing a 1 MW solar station in the NU campus sponsored by the Government of Japan within the “Cool Earth” programme grant.

## LIST OF PUBLICATIONS

Google Scholar citation report of research publications

<https://scholar.google.com/citations?user=D7WWMgEAAA&hl>

### ❖ PEER-REVIEWED JOURNALS

1. S. Shaldambayeva, K. Zhumakhanova, A. Sandygulova, M. Rubagotti, **A. Shintemirov**, Partially Observable Markov Decision Processes in Shared Autonomy Applications: A Survey, *IEEE Access*, vol. 13, pp. 186937-186951, 2025
2. S. Abilkassov, M. Gentner, **A. Shintemirov**, E. Steinbach, M. Popa, Proactive robot task sequencing through real-time hand motion prediction in human–robot collaboration, *Image and Vision Computing*, vol. 155: 105443, 2025
3. M. Rubagotti, B. Sangiovanni, A. Nurbayeva, G. P. Incremona, A. Ferrara, and **A. Shintemirov**, Shared Control of Robot Manipulators With Obstacle Avoidance: A Deep Reinforcement Learning Approach, *IEEE Control Systems Magazine*, vol. 43(1): 44-63, 2023
4. A. Nurbayeva, **A. Shintemirov**, M. Rubagotti, Deep Imitation Learning of Nonlinear Model Predictive Control Laws for Safe Physical Human-Robot Interaction, *IEEE Transactions on Industrial Informatics*, vol. 19(7): 8384-8395, 2022
5. I. Tursynbek and **A. Shintemirov**, Infinite Rotational Motion Generation and Analysis of a Spherical Parallel Manipulator with Coaxial Input Axes, *Mechatronics*, vol. 78: 102625, 2021.
6. A. Oleinikov, S. KUSDAVLETOV, **A. Shintemirov**, and M. Rubagotti, Safety-Aware Nonlinear Model Predictive Control for Physical Human-Robot Interaction, *IEEE Robotics and Automation Letters*, 2021, vol. 6(3): 5665 – 5672, 2021
7. **A. Shintemirov**, T. Taunyazov, B. Omarali, A. Kim, A. Nurbayeva, A. Bukeyev, M. Rubagotti, An Open-Source 7-DOF Wireless Human Arm Motion Tracking System for Use in Robotics Research, *Sensors (MDPI)*, 20(11), 3082, 2020
8. S. Soltan, A. Oleinikov, M. F. Demirci and **A. Shintemirov**, Deep Learning-Based Object Classification and Position Estimation Pipeline for Potential Use in Robotized Pick-and-Place Operations, *Robotics (MDPI)*, 9(3), 63, 2020
9. M. Rubagotti, T. Taunyazov, B. Omarali and **A. Shintemirov**, Semi-Autonomous Robot Teleoperation with Obstacle Avoidance via Model Predictive Control, *IEEE Robotics and Automation Letters*, vol. 4(3): 2746 – 2753, 2019
10. Y. RaziyeV, R. Garifulin, **A. Shintemirov**, T.D. Do, Development of a Power Assist Lifting Device with a Fuzzy PID Speed Regulator, *IEEE Access*, vol. 7: 30724 – 30731, 2019
11. T. Taunyazov, M. Rubagotti and **A. Shintemirov**, Constrained Orientation Control of a Spherical Parallel Manipulator via Online Convex Optimization, *IEEE/ASME Transactions on Mechatronics*, Vol. 23 (1): 252-261, 2018
12. A. Khakimova, A. Kusatayeva, A. Shamshimova, D. Sharipova, A. Bemporad, Y. Familiant, **A. Shintemirov**, V. Ten, M. Rubagotti, Optimal Energy Management of a Small-Size Building via Hybrid Model Predictive Control, *Energy and Buildings*, vol. 140: 1 – 8, 2017
13. **A. Shintemirov**, A. Niyetkaliyev, M. Rubagotti, Numerical Optimal Control of a Spherical Parallel Manipulator Based on Unique Kinematic Solutions, *IEEE/ASME Transactions on Mechatronics*, Vol 21 (1): 98-109, 2016
14. K. Telegenov, Y. Tlegenov, S. Hussain and **A. Shintemirov**, Preliminary Design and Analysis of a Three Finger Underactuated Adaptive End Effector with a Breakaway Clutch Mechanism, *Journal of Robotics and Mechatronics*, vol. 27(5): 496 – 503, 2015

15. K. Telegenov, Y. Tlegenov and **A. Shintemirov**, A Low-Cost Open-Source 3-D Printed Three-Finger Gripper Platform for Research and Educational Purposes, *IEEE Access*, vol. 3: 638 – 647, 2015
16. **A. Shintemirov**, Mathematical Morphology Based Reference Signals Generation for Active Power Filters, *Electronics Letters*, IET, 2013, vol. 49 (10), May 2013
17. **A. Shintemirov**, W.H. Tang, Q.H. Wu, Transformer Core Parameter Identification Using Frequency Response Analysis, *IEEE Transactions on Magnetics*, vol. 46 (1): 141-149, 2010
18. **A. Shintemirov**, W.H. Tang, Q.H. Wu, Transformer Winding Condition Assessment Using Frequency Response Analysis and Evidential Reasoning, *IET Electric Power Application*, vol. 4(3): 198 – 212, 2010
19. **A. Shintemirov**, W.J. Tang, W.H. Tang, Q.H. Wu, Improved Modeling of Power Transformer Winding Using Bacterial Swarming Algorithm and Frequency Response Analysis, *Electric Power Systems Research*, Elsevier, vol 80 (9): 1111-1120, 2010
20. **A. Shintemirov**, W.H. Tang, Q.H. Wu, A Hybrid Winding Model of Disc-Type Power Transformers for Frequency Response Analysis, *IEEE Transactions on Power Delivery*, vol. 24 (2): 730–739, 2009
21. **A. Shintemirov**, W.H. Tang, Q.H. Wu, Power Transformer Fault Classification Based on Dissolved Gas Analysis by Implementing Bootstrap and Genetic Programming, *IEEE Transactions on Systems, Man, and Cybernetics-Part C*, vol. 39 (1): 69 – 79, 2009
22. Z. Yang, W.H. Tang, **A. Shintemirov**, Q.H. Wu, An Association Rule Mining-based Dissolved Gas Analysis for Fault Classification of Power Transformers, *IEEE Transactions on Systems, Man, and Cybernetics-Part C*, vol. 39 (6):597 – 610, 2009

#### ❖ PEER-REVIEWED CONFERENCE PAPERS

1. K. Nguyen, O. Keurulainen, **A. Shintemirov**, V. Kyrki, Intention-Aware Autonomous Driving in Interactive Traffic Scenarios Through Amortized Active Inference, *The 2025 IEEE International Conference on Intelligent Transportation Systems (IEEE ITSC 2025)*, Gold Coast, Australia, 2025.
2. Zh. Dorbetkhany, A. Murbabulatov, M. Rubagotti, and **A. Shintemirov**, Spatial-Based Model Predictive Path Following Control for Skid Steering Mobile Robots, *The 18th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications*, Taiwan, November, 2022.
3. Nurpeissova, A. Malik, S. Kabitkanov, A. Zhilisbayev, and **A. Shintemirov**, An Open-Source Reconfigurable Robotic Gripper with Detachable Fingers, *The 18th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications*, Taiwan, November, 2022.
4. A. Nurpeissova, T. Tursynbekov and **A. Shintemirov**, An Open-Source Mechanical Design of ALARIS Hand: A 6-DOF Anthropomorphic Robotic Hand, *2021 IEEE International Conference on Robotics and Automation (IEEE ICRA 2021)*, China, 2021
5. S. Abilkassov, A. Nurlybayev, S. Soltan, A. Kim, N. Yesmagambet, E. Shpieva, Z. Yessenbayev and **A. Shintemirov**, Facilitating Autonomous Vehicle Research and Development Using Robot Simulators on the Example of a KAMAZ NEO Truck, *The 23<sup>rd</sup> IEEE International Conference on Intelligent Transportation Systems (IEEE ITSC 2020)*, Greece, 2020
6. A. Sarsenov, A. Yessenbayeva, **A. Shintemirov**, A. Yazici, Detection of Objects and Trajectories in Real-time using Deep Learning by a Controlled Robot, *The International Conference on Robotics, Computer Vision and Intelligent Systems (ROBOVIS)*, vol. 1, p. 131-140, 2020
7. I. Tursynbek and **A. Shintemirov**, Infinite Torsional Motion Generation of a Spherical Parallel Manipulator with Coaxial Input Axes, *IEEE/ASME International Conference on Advanced Intelligent Mechatronics (IEEE/ASME AIM 2020)*, USA, 2020

8. I. Tursynbek and **A. Shintemirov**, Modeling and Simulation of Spherical Parallel Manipulators in CoppeliaSim (V-REP) Robot Simulator Software, *The International Conference "Nonlinearity, Information and Robotics"*, Russia, 2020
9. S. Rakhimkul, A. Kim, A. Pazylybekov and **A. Shintemirov**, Autonomous Object Detection and Grasping Using Deep Learning for Design of an Intelligent Assistive Robot Manipulation System, *IEEE International Conference on Systems, Man and Cybernetics (IEEE SMC2019)*, Italy, 2019
10. M. Rubagotti, T. Taunyazov, B. Omarali and **A. Shintemirov**, Semi-Autonomous Robot Teleoperation with Obstacle Avoidance via Model Predictive Control, *Robotics: Science and Systems (RSS2019)*, Germany, 2019
11. A. Oleinikov, B. Abibullaev, **A. Shintemirov**, M. Folgheraiter, Feature Extraction and Real-Time Recognition of Hand Motion Intentions from EMGs via Artificial Neural Networks, *The 6<sup>th</sup> International Winter Conference on Brain-Computer Interface (BRAIN)*, South Korea, 2018.
12. B. Omarali, T. Taunyazov, A. Bukeyev and **A. Shintemirov**, Real-Time Predictive Control of an UR5 Robotic Arm Through Human Upper Limb Motion Tracking, *The 2017 ACM/IEEE International Conference on Human-Robot Interaction (HRI2017)*, Austria, 2017.
13. D. Nurseitov, A. Serekov, **A. Shintemirov**, B. Abibullaev, Design and Evaluation of a P300-ERP based BCI System for Real-Time Control of a Mobile Robot, *The 5<sup>th</sup> International Winter Conference on Brain-Computer Interface*, South Korea, 2017.
14. **A. Shintemirov**, B. Omarali, F. Muratov, M. Issa, Sh. Salakchinov, T. Alizadeh, Y. Familiant, A Sensorless MPPT-based Solar Tracking Control Approach for Mobile Autonomous Systems, *42<sup>nd</sup> IEEE Industrial Electronics Conference (IEEE IECON2016)*, Italy, 2016.
15. T. Taunyazov, B. Omarali and **A. Shintemirov**, A Novel Low Cost 4-DOF Wireless Human Arm Motion Tracker System, *6th IEEE RAS&EMBC International Conference on Biomedical Robotics and Biomechatronics (BioRob2016)*, Singapore, 2016.
16. N. Omarkulov, K. Telegenov, M. Zeinullin, I. Tursynbek and **A. Shintemirov**, Preliminary Mechanical Design of NU-Wrist: a 3-DOF Self-Aligning Wrist Rehabilitation Robot, *6th IEEE RAS & EMBC International Conference on Biomedical Robotics and Biomechatronics (BioRob2016)*, Singapore, 2016.
17. B. Omarali, T. Taunyazov, A. Nyetkaliyev and **A. Shintemirov**, System Integration of a Solar Sensor and a Spherical Parallel Manipulator for a 3-Axis Solar Tracker Platform Design, *2015 IEEE/SICE International Symposium on System Integration*, Nagoya, Japan, 2015.
18. N. Omarkulov, K. Telegenov, M. Zeinullin and **A. Shintemirov**, Underactuated Anthropomorphic Finger Design and Analysis for Hand Prosthetics, *37<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS)*, Milano, Italy, 2015.
19. A. Khakimova, A. Shamshimova, D. Sharipova, A. Kusatayeva, V. Ten, A. Bemporad, Y. Familiant, **A. Shintemirov**, M. Rubagotti, Modeling and Hybrid Model Predictive Control of a Smart House, *2015 IEEE 15<sup>th</sup> International Conference on Environment and Electrical Engineering (EEEIC)*, Rome. Italy, 2015.
20. A. Niyetkaliyev and **A. Shintemirov**, An Approach for Obtaining Unique Kinematic Solutions of a Spherical Parallel Manipulator, *The IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM2014)*, Besancon, France, July 2014.
21. Y. Tlegenov, K. Telegenov and **A. Shintemirov**, An Open Source 3D Printed Underactuated Robotic Gripper, *The 10<sup>th</sup> IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications (MESA'14)*, Senigallia, Italy, September 2014.
22. A. Begalinova and **A. Shintemirov**, Design of Embedded Gesture Recognition System for Robotic Applications, *2014 IEEE 8<sup>th</sup> International Conference on Application of Information and Communication Technologies (AICT2014)*, Astana, Kazakhstan, 2014.

23. K. Telegenov, Y. Tlegenov and **A. Shintemirov**, An Underactuated Adaptive 3D Printed Robotic Gripper, *10<sup>th</sup> France – Japan Congress, 8<sup>th</sup> Europe – Asia Congress on Mechatronics*, Japan, November, 2014.
24. Y. Ponomarenko, B. Aubakir, Sh. Hussain and **A. Shintemirov**, An End-Effector Based Upper-Limb Rehabilitation Robot: Preliminary Mechanism Design, *10<sup>th</sup> France – Japan Congress, 8<sup>th</sup> Europe – Asia Congress on Mechatronics*, Japan, November, 2014.
25. Zh. Kappassov, Y. Khassanov, A. Saudabayev, **A. Shintemirov**, H.A. Varol, Semi-Anthropomorphic 3D Printed Multigrasp Hand for Industrial and Service Robots, *The IEEE International Conference on Mechatronics and Automation (ICMA2013)*, Takamatsu, Kagawa, Japan, August 2013.
26. A. Saudabayev, Y. Khassanov, **A. Shintemirov**, H.A. Varol, An Intelligent Object Manipulation Framework for Industrial Tasks, *The IEEE International Conference on Mechatronics and Automation (ICMA2013)*, Takamatsu, Kagawa, Japan, August 2013.
27. **A. Shintemirov**, Reference Signals Generation for Active Power Filter Compensation Using Mathematical Morphology. *2013 Fourth International Conference on Power Engineering, Energy and Electrical Drives (POWERENG)*, Istanbul, Turkey, May 2013.
28. **A. Shintemirov**, Modeling of Power Transformer Winding Faults for Interpretation of Frequency Response Analysis (FRA) Measurements. *2013 Fourth International Conference on Power Engineering, Energy and Electrical Drives (POWERENG)*, Istanbul, Turkey, May 2013.
29. W.H Tang, **A. Shintemirov**, Q.H. Wu, Detection of Minor Winding Deformation Fault in High Frequency Range for Power Transformer, in: *Proceedings of the 2010 IEEE Power & Energy Society General Meeting*, 2010, 6 c.
30. **A. Shintemirov**, W.H. Tang, Q.H. Wu, Construction of Transformer Core Model for Frequency Response Analysis with Genetic Algorithm, in: *Proceedings of the 2009 IEEE Power & Energy Society General Meeting*, Calgary, Alberta, Canada, 2009, 5 p.
31. **A. Shintemirov**, W.H. Tang, Q.H. Wu, Genetic Programming Feature Extraction with Bootstrap for Dissolved Gas Analysis of Power Transformers, in: *Proceedings of the 2009 IEEE Power & Energy Society General Meeting*, Calgary, Alberta, Canada, 2009, 6 p.
32. **A. Shintemirov**, W.H. Tang, Q.H. Wu, Modeling of a Power Transformer Winding for Deformation Detection Based on Frequency Response Analysis, in: *Proceedings of the 26<sup>th</sup> Chinese Control Conference (CCC2007)*, Zhangjiajie, Hunan, China, pp. 5-506 – 5-510, 2007.
33. W.H. Tang, **A. Shintemirov**, Q.H. Wu, Transformer Dissolved Gas Analysis Using Least Square Support Vector Machine and Bootstrap, in: *Proceedings of the 26<sup>th</sup> Chinese Control Conference (CCC2007)*, Zhangjiajie, Hunan, China, pp. 5-482 – 5-486, 2007.
34. **A. Shintemirov**, Q.H. Wu, Transfer Function of Transformer Winding For Frequency Response Analysis Based on Traveling Wave Theory, in: *Proceedings of the International Control Conference (ICC2006)*, Glasgow, Scotland, 2006, p.54.

#### ❖ BOOKS AND BOOK CONTRIBUTIONS

1. **A. Shintemirov**, *Intelligent Modelling and Condition Assessment of Power Transformers*, LAP LAMBERT Academic Publishing, ISBN: 978-3659357862, 2013.  
[http://www.amazon.com/Intelligent-Modelling-Condition-Assessment-Transformers/dp/3659357863/ref=sr\\_1\\_1?s=books&ie=UTF8&qid=1366913057&sr=1-1&keywords=shintemirov](http://www.amazon.com/Intelligent-Modelling-Condition-Assessment-Transformers/dp/3659357863/ref=sr_1_1?s=books&ie=UTF8&qid=1366913057&sr=1-1&keywords=shintemirov)

#### ❖ THESES

1. **A. Shintemirov**, *Modelling and Condition Assessment of Power Transformers Using Computational Intelligence*, Ph.D thesis, The University of Liverpool, UK, 2009.
2. **A. Shintemirov**, *Development of Measurement Microprocessor Devices and Balancing Methods of Single-Phase Ground Fault Current in the 6 – 10 kV Electrical Networks*. Candidate's (Ph.D) Degree in Technical Sciences Thesis, Pavlodar State University, Kazakhstan, 2003 (in Russian).
3. **A. Shintemirov**, *Design of an Electric Drive System for a Passenger Elevator*, Engineer's Diploma Thesis, Pavlodar State University, Kazakhstan, 2001 (in Russian).