Erdenetuya Dorj

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WORK EXPERIENCE

January 2021 – present

Treasurer

IEEE Mongolia Subsection

- Responsible for financial liaison
- Managing the Subsection bank accounts and investment accounts
- Providing the Chair with advice and information about expense and spending commitments throughout the year and the financial implications on Section planning and the motion to adopt the annual budget.
- Maintaining accurate and up-to-date financial records for the Section.
- Managing the Subsection bank accounts and investment accounts

May 2016 – present

National CDIO Master Trainer of Mongolia

First CDIO (Engineering education initiative by MIT, USA) Academy in Mongolia, initiated by master Trainer's

- Responsible for teaching and disseminating CDIO approach to Mongolian Higher education institutions
- Conducted five component training of CDIO approach to about 80 teachers of 4 Mongolian universities between 2016 and 2017

September 2016 – present

Trainer of project named "implementing CDIO standards in curricula at MUST"

Mongolian University of Science and Technology (MUST)

- Attending meetings as scheduled
- Serving as a contact point for their constituents in terms of curriculum questions or providing guidance
- Reviewing all curriculum proposals and minutes of the prior meeting before each meeting
- Reporting back to their constituent group on approved curricular items
- Responsible for developing MUST programs aligned with CDIO standards
- Developing curricula and its course syllabus and preparing the documents

October 2009 – present

Cisco Certified Associate Instructor

Mongolian Cisco Network Academy

- Delivers theoretical and practical contents of Cisco CCNA, CCNP, and CCNA security trainings to engineers and students
- Instructs engineers to solve their real world networking issues
- Instructs engineers to newly design their network topology alligned with Enterprise Information Network Architecture of Cisco Systems
- Consultant for companies in Information and communication technology to design and maintain their network topology
- Instructs students to configure and maintain Cisco routers, switches and firewalls
- Since 2009, about 800 students and 300 engineers have been involved in my Cisco Academy Trainings.

September 2010 – Present	**Professor**
	Mongolian University of Science and Technology

- Deliver lectures, seminars and tutorials design, prepare and develop courses and teaching materials regarding Network and Security technology discipline
- Develop and implement new methods of teaching to reflect changes in research
- Assess students' coursework
- Set and mark examinations
- Supervise students' research activities, including final year undergraduate projects, Masters dissertations
- Supervise your own research group, which typically includes research assistants (postdocs), PhD and Master and PhD students
- Support students through a pastoral or advisory role
- Undertake personal research projects and actively contribute to your institution's research profile
- Write up research and prepare it for publication
- Prepare bids to attract funding to your department for a range of research projects
- Carry out administrative tasks related to the department, such as student admissions, induction programs and involvement in committees and boards
- Contribute to professional conferences and seminars in your field of expertise
- Establish collaborative links with other institutions, as well as with industrial, commercial and public organisations
- Participate and organise in staff training activities.

September 2007 – August 2010	**Professional**
	Information and Communication Technology Training Center (ICTTC), School of Information and Communication Technology (SICT), MUST, Ulaanbaatar, Mongolia

- worked as a technical engineer for The SOI Asia Project as a platform for inter-university education programs among universities throughout Asia
- responsible for configuring and maintaining Internet network via satellite technologies for SOI
- organizing meetings for professors and students to take scheduled lectures and seminars of SOI
- worked as a network engineer at SICT, MUST
- responsible for configuring and maintaining Internet connection of SICT and solving technical issues of SICT staffs

EXPERIENCE IN EDUCATION

National Accreditation for programs **National Accreditation for programs**

2019	Management team member of "Network Technology" the second phase higher education program for National Accreditation at Mongolian University of Science and Technology, Mongolia
2019	Management team member of "Systems Security" the second phase higher education program for National Accreditation at Mongolian University of Science and Technology, Mongolia
2013	Management team member of "Information network" the first phase higher education program for National Accreditation at Mongolian University of Science and Technology, Mongolia

International Accreditation for programs **International Accreditation for programs**

2017	Team member of management team for ABET ETAC of Telecommunication Engineering Technology program
2017	Team member of management team for ABET ETAC of Wireless Communication Engineering Technology program

Dual degree program in Systems security

September 2013 – June 2014   Worked on developing dual degree program for bachelor students in Systems security of MUST, Mongolia cooperated with SOON CHUNG HYANG University, Korea
- Responsible for creating the dual degree program
- Developed curricula and its course syllabus and preparing the documents
- Participated in the first signature meeting for launching the dual degree program at SOON CHUNG HYANG University, Korea
- Presented introduction of the dual degree program to professors at SOON CHUNG HYANG University, Korea

EDUCATION

2017 – 2020   ### Doctor of Engineering (Ph.D) in System Innovation
Department of Information Science and Innovation Systems, Tokushima University, Japan
- Research topic: Self-Reconstruction of Wireless Mesh Networks in Disaster situation
- GPA:4/4

2007 – 2008   ### Master of Information technology in Information network
School of Information and Communication Technology (SICT), MUST, Ulaanbaatar, Mongolia
- Research topic: The research for Mongolian speech recognition system
- GPA:3.75/4

2003 – 2007   ### Bachelor of Information technology in Information network
School of Information and Communication Technology (SICT), MUST, Ulaanbaatar, Mongolia
- Research topic: The use of NS-2 simulation software in training
- GPA:3.66/4

1993 – 2003   ### Secondary education
Secondary school No.1, Govi-Altai province, Mongolia
- Specialized in mathematics
- Score:97.3/100

CERTIFICATES

May 2021   PLAYBACK - Convene 2018 - Meeting in the 4th Dimension Digital/Virtual Events - IEEE David Stankiewicz, DES

April 26 – 30, 2021   «SMARTCITY Innovative Approach Towards a Master Program on Smart Cities Technologies SMARCITY» in the Summer School in the frame of Activity 3, 4 Summer School under the Erasmus SmartCity Project

November 2020   IoT Fundamentals: IoT Security, Cisco Networking Academy

June 2016   Training on CDIO Master Trainer, Temasek Foundation, Singapore Polytechnic, Singapore

May 10 – 12, 2016   CDIO Component 5: Evaluating Programs for Continuous Improvement, MUST, Mongolia

April 4 – 7, 2016   CDIO Component 4: Designing Active Experimental Learning Experiences, MUST, Mongolia

March 1 – 28, 2016   CDIO Component 3: Conceiving and Designing Innovative Products and System, MUST, Mongolia

November 9 – 13, 2015   CDIO Component 2: Designing and Integrated Curriculum, MUST, Mongolia

October 20 – 21, 2015	CDIO Component 1: CDIO Teaching and Learning Framework, MUST, Mongolia
January –- April 2013	CCNP instructor course, India
September -– October 2011	Cloud computing and Network security, Ulaanbaatar, Mongolia
September -– October 2010	Network Security Training, System Solution LLC, Ulaanbaatar, Mongolia
June 2010 – November 2011	JM century English Training Center, Ulaanbaatar, Mongolia
December 2008 –- March 2009	CCNA instructor course, Computer Science Management School, MUST, Ulaanbaatar, Mongolia
March - June 2008	Cisco Certificate network Association Course 3 and 4, MUST, Ulaanbaatar, Mongolia
December 2006 – Febuary 2007	Cisco Certificate network Association Course 1 and 2, MUST, Ulaanbaatar, Mongolia
March 31 – April 4 2008	SOI Asia Operator Training Course, KEIO university, Shonan Fujisawa Campus, Tokyo, Japan

PROJECTS

September 2020 – present

Master plan development 2030 of School of Information and Communication Technology

The project is funded by KOICA, Korea International Cooperation Agency, Ministry of Education, Culture and Science, Ministry of Finance, Ministry of Finance of the Republic of Korea

- Worked as a team member for Strengthening Education Competence of SICT
- Responsible for presenting Korean side about process and results of the project
- Prepared master plan document for SICT 2030 in Strengthening Education Competence.

September 2017 – June 2019

An Experimental Study on Disaster Usage of LDM server based on WiFi

The research project is funded by Tokushima University and Kobe University, Japan

- Worked as a member of the joint Research Project
- responsible for elaborating new method for defining an adequate locations for spare APs to design self-recontructable wireless mesh network topology in disaster situation
- Did the first experimental test near Yoshina river, Tokushima city, Japan for testing multi-hop wireless mesh network topology
- Deployed the system in-field in a small area near Hiwasa Station in Tokushima Prefecture, Japan

September 2015 – June 2016

A study of radio resource management and sensing network topology for railway sensing network

The research project is funded by Electronics and Telecommunications Research Institute of Korea (ETRI), Mongolian Railway and MUST, Ulaanbaatar, Mongolia

- Worked as a member of International and Cooperative Research Project
- responsible for designing wireless sensing network topology for freight traing in Mongolia.

2015 – 2017

Higher Education Reform Project of the Ministry of Education, Culture and Science

Ministry of Education, Culture and Science

- Work in a program reform team in MUST
- Introduce new international methodologies in training
- Disseminate methodological advice and training throughout the country
- Prepare selected programs for international accreditation
- prepare self-assessment reports
- Conduct research necessary to create an innovative learning environment

September 2015 – June 2016   **Development of a train monitoring system based on an advanced wireless sensor network**

The research project is funded by Electronics and Telecommunications Research Institute of Korea (ETRI), Mongolian Railway and MUST, Ulaanbaatar, Mongolia
- Worked as a member of joint Research Project
- Responsible for designing wireless sensing network topology for freight train in Mongolia.
- Contribute to overall project objectives
- Complete individual deliverables
- Document the project process

March 2015 – March 2016   **LTE based IoT development**

The Research Project is funded by MUST, Ulaanbaatar, Mongolia
- Worked as a member.
- responsible for studying IoT services and the opportunity of their application in Mongolia.
- prepared "IoT technology" guidance in Mongolian language.
- Contribute to overall project objectives
- Complete individual deliverables
- Document the project process

March – September 2013   **Improvement of Local and Wireless Network Infrastructure at Mongolian National University of Education**

The Research Project is funded by The ministry of Education, Culture and Science, Ulaanbaatar, Mongolia
- Worked as a member.
- responsible for configuring network devices newly installed for wired and wireless network infrastructure of MNUM.
- Contribute to overall project objectives
- Complete individual deliverables
- Document the project process

March – September 2013   **Implementing Network design of Mongolian university of Education**

The Research Project is funded by The ministry of Education, Culture and Science, Ulaanbaatar, Mongolia
- Worked as a member.
- responsible for configuring network devices newly installed for wired and wireless network infrastructure of MNUM.
- Contribute to overall project objectives
- Complete individual deliverables
- Document the project process

January – March 2013   **Study on Implementing Network design of Mongolian university of Education**

The Research Project is funded by The ministry of Education, Culture and Science, Ulaanbaatar, Mongolia
- Worked as a member.
- responsible for planned and designed newly network topology for wired and wireless network infrastructure of MNUM.
- Contribute to overall project objectives
- Complete individual deliverables
- Document the project process

January – February 2012	## Improvement of Local and Wireless Network Infrastructure at SICT
	The Research Project is funded by SICT, MUST, Ulaanbaatar, Mongolia
	• I successfully managed this project. There was 10 members at this project.
	• responsible for planned and designed newly network topology for wired and wireless network infrastructure of SICT.
	• Contribute to overall project objectives
	• Complete individual deliverables
	• Document the project process

May 2010 – March 2012	## The development of mobile IPTV core technology
	The Research Project is funded by Electronics and Telecommunications Research Institute of Korea (ETRI), MobiCom and MUST, Ulaanbaatar, Mongolia
	• worked as a member of International and Cooperative Research Project.
	• responsible for designing MCBCS server for transmitting broadcasting services.
	• prepared the report of Chapter 3 of the project.
	• Contribute to overall project objectives
	• Complete individual deliverables
	• Document the project process

April 2008 – September 2007	## Mongolian speech recognition system
	The Research Project is funded by MUST, Ulaanbaatar, Mongolia.
	• I worked as a master student member.
	• responsible for building database and designing machine learning algorithm for Mongolian speech recognition system
	• Contribute to overall project objectives
	• Complete individual deliverables
	• Document the project process

AWARDS

2018	Best Student Paper Awards, ISoCC, Las Vegas, USA
2017	2nd Place by "Smart Ulaanbaatar" project, "New Idea-Best Innovation", Ulaanbaatar, Mongolia
2016	1st Place, Best of Best Young Teacher of the Year 2016, MUST, Mongolia 5,000,000MNT/1800USD
2015	Dean awards of MUST, Mongolia
2014	Dean awards of SICT, MUST, Mongolia
2014	3rd Place, Best of Best Young Teacher of the Year 2014, MUST, Mongolia
2013	1st place of Academic forum of MUST, Mongolia

MEMBERSHIP

June 2021 – present	Co-Founder of Mongolian Systems Security Association (MSSA)
January 2021 – present	Member of Institution of Electrical and Electronics Engineers (IEEE)
April 2017 – present	Member of Mongolia and Japan Engineering Education Development (MJEED)

PUBLICATIONS

Doctoral Thesis

March 2020	"Self-Reconstruction of Wireless Mesh Networks in Disaster Situation" Erdenetuya Dorj, Tokushima University, Japan.

Academic Paper

November 2020   "Interface Mode Assignment Method for Self-Reconstruction of Wireless Mesh Networks based on IEEE 802.11 Infrastructure-Mode", **Erdenetuya Dorj**, Kazuhiko Kinoshita, IEEJ Transactions on Electrical and Electronic Engineering, Volume 15, Issue11, Pages 1663-1671.

June 2019   "A Practical Route Reconstruction Method for Wi-Fi Mesh Networks in Disaster Situation with Spare AP", **Erdenetuya Dorj**, Jovilyn Therese B. Fajardo, and Kazuhiko Kinoshita, International Journal of Wireless & Mobile Networks (IJWMN) Vol. 11, No.3.

Proceeding of International conference

August 2018   "A Route Recontsraction method with Spare AP for Wireless Mesh Networks in Disaster Situation", **Erdenetuya Dorj**, Kazuhiko Kinohishita; 2018 International Symphonisum on Computers and Communications, University of Neveda, Las Vegas, USA.

March 2018   "A routing method for IEEE 802.11 infrastructure based multi-hop wireless network in disaster situation",**Erdenetuya Dorj**, Kazuhiko Kinohishita; IEICE general Conference 2018, Tokyo Denki University, Japan.

October 2015   IEEE indexed "Compared analysis of Wireless networks for developing IoT" Khishigjargal.G, Javzansuren.J, **Erdenetuya.D**, Erdenetuya.E ICISS-2015, Soul, Korea.

October 2015   "The developing Internet of Things for Smart Transportation System using Municipal Wi-Fi" Khishigjargal.G, Javzansuren.J, **Erdenetuya.D**, Erdenetuya.E; 11th international conference of Khuraltogoot; Ulaanbaatar, Mongolia.

August 2015   "The Performance Analysis of LTE based IoT for Bus Transportation of Smart city" Khishigjargal.G, **Erdenetuya.D**; 6th International conference of MUSTAK-2015, pp156-159, Ulaanbaatar, Mongolia.

May 2015   "Implementation of Introduction to Engineering course with CDIO methodology" Erdenekhuu.N, Khishigjargal.G, Uranchimeng.T, **Erdenetuya.D**; ICCIT2012 proceeding, pp55–58, Finland.

Febuary 2015   "Engineering education development: CDIO methodology" Erdenekhuu.N, Khishigjargal.G, Uranchimeng.T, **Erdenetuya.D** ; University of Defence in Mongolia; Perspective of Information technology, pp125– 130.

June 2013   "Research on Designing IP PBX based on Embedded System" Magsarjav.T, **Erdenetuya.D**, Manlaibaatar.Ts, Erdenesaikhan.Ts, Enkhtur.Ts The 8th International Forum on Strategies Technology, Russia, pp356.

February 2012   IEEE indexed "Novel design of eMBMS based on femtocell" Young- il Kim, Otgonbayar.B, Khishigjargal.G, **Erdenetuya.D**, Oyu.ch The Proceedings of The 14th International conference on advanced communication technology ICACT 2012; Advanced Communication Technology (ICACT), pp377– 382.

June 2011   "Mapping Identifiers for MCBCS services" **Erdenetuya.D** Magsarjav.T, ICKI 2011 Proceeding of international conference on knowledge based industry.

Workshop

October 2018   "Wireless Mesh Networks in Disaster Situation", 11th Workshop on the Future Networks, Awajishima, Japan.

September 2018   "A Novel routing Algorithm for Wireless Mesh Networks in Disaster Situation", Engineering Festival 2018, Tokushima University, Tokushima, Japan.

Proceeding of Domestic conference

June 2021 "Study on Quality of Service for LTE 4G and Influence Factor Model", Enkh-Amgalan.E, Dashdorj.Ya, Manlaibaatar.Ts, **Erdenetuya.D**, eNation 100 proceeding, Ulaanbaatar, Mongolia.

June 2021 "SDN Ttechnology based IoT Horizontal Architecture", Enkhmunkh.M, **Erdenetuya.D**, Khishigjargal.Kh, Dashdorj.Ya, eNation 100 proceeding, Ulaanbaatar, Mongolia.

October 2020 "Network Fronsics in Mongolia" Odmagnai.S, **Erdenetuya.D**, Dashdorj.Ya, MMT proceeding, pp56-62, Ulaanbaatar, Mongolia.

June 2014 "Study on the current situation of IPv6 migration techniques in Mongolia", **Erdenetuya.D**, Enkhtur.Ts, Manlaibaatar.Ts, Gereltsetseg.A, Nyamlham.B, ICCIT2014 proceeding, pp12, Ulaanbaatar, Mongolia.

May 2014 "Study on LTE mobile IPTV transmission system and technique", Otgonbayar.B, Oyu.Ch, **Erdenetuya.D**, Chuluunbandi.N, Khishigjargal.G, Purevtseren.B, Erdenetuya.E, Bayarmaa.R, Erdenebayar.L, ICCIT2014 proceeding, pp194-206, Ulaanbaatar, Mongolia.

October 2013 "Study on the methods of risk management for Enterprise Information Network" **Erdenetuya.D**, Enkhtur.Ts, Khurel togoot, pp199, Ulaanbaatar, Mongolia.

October 2012 "Study on LTE mobile IPTV transmission system and technique", Otgonbayar.B, Oyu.Ch, **Erdenetuya.D**, ICCIT2012 proceeding, pp100, Ulaanbaatar, Mongolia.

Book and Guidance

2015 "IoT technology" G.Khishigjargal and **Erdenetuya Dorj**, MUST

2015 "Laboratory Guidance of Information Security Course" **Erdenetuya Dorj**, SICT, MUST

2014 "Laboratory Guidance of Advanced Networking Topics Course" **Erdenetuya Dorj**, SICT, MUST

2013 "Laboratory Guidance of Unix/Linux Operating Systems Course" **Erdenetuya Dorj**, SICT, MUST

LANGUAGE SKILLS

Mongolian | Native

English | Advanced

Japanese | Basic

KEY TECHNICAL SKILLS

A strong background in information security and networking, and engineering education. Over fourteen years of experiences including all aspects of the information security and networking.

System Administrator
- Windows
- Cisco Systems
- UNIX, Linux

Information Network
- Enterprise and Campus Network Design
- Networking devices installation
- Networking devices configuration
- Protocols (LAN, WAN, TCP/IP, DNS, UDP, Latency, VoIP, QoS, EIGRP, BGP, OSPF)
- Emerging technologies (SDN, IoT, Smart technologies)

Information Security	• Enterprise Information Security Archtecture
	• ISO 27000 standards
	• Cryptography algorithms (symmetric, asymmetric, hash, PKI)
	• Protocols (IPsec, WAP, WEP, SSL, TLS, PGP, HTTPS, GRE)
	• Emerging technologies (SDN security, IoT security, Security related to Smart technologies)

ADDITIONAL INFORMATION

Driving licence	Full/Clean
Health	Excellent
Interest	Hiking, Biking, Reading a fiction novel