

**Ton Duc Do, Ph.D**

***Curriculum Vitae***



**Personal Information**

Nationality: Vietnam  
Date of Birth: August 9<sup>th</sup>, 1984  
Gender: Male  
Marriage Status: Married

**Contact**

- Ton Duc Do, PhD., Assistant Professor, Department of Robotics and Mechatronics, School of Science and Technology (SST), Nazarbayev University, 53 Kabanbay Batyr Ave, Astana, Republic of Kazakhstan, 010000
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**Research Interests**

- Advanced control (fuzzy control, sliding-mode control, nonlinear optimal control, adaptive control, neural-network control, etc.) of electric machine drives (PMSM/IM) based on microprocessor.
- Control of distributed generation systems (DGS) using renewable

	<p>energy source (wind turbine, solar cell, biomass ...) and/or uninterruptible power supplies (UPS).</p> <ul style="list-style-type: none"> <li>• Direct torque control, fault-tolerant control of electric machine drives.</li> <li>• Control of magnetic nanoparticles in blood vessels for targeted drug delivery system.</li> <li>• Control of treadmill for patient rehabilitation.</li> </ul>
<b>Current Occupation</b>	
	<p><b><i>Assistant Professor</i></b>  Department of Robotics and Mechatronics,  School of Science and Technology (SST),  Nazarbayev University,  53 Kabanbay Batyr Ave,  Astana, Republic of Kazakhstan, 010000  Office - Room 7228  Tel: +7 (7172) 70 5905</p>
<b>Education</b>	
<b>02/2014</b>	<p><b><i>Ph.D., Power Systems and Energy Conversion – Electrical Engineering, February 2014</i></b></p> <p>Dissertation title: “Direct torque control of IPMSM drives based on a nonlinear optimal control technique for electric vehicle applications.”  Adviser: Prof. Jin-Woo Jung, Div. Electronics and Electrical Engineering, College of Engineering, Dongguk University, Seoul, Korea.</p>

<b>11/2009</b>	<p><b><i>M.S., Electric Power Systems – Electrical Engineering, November 2009</i></b></p> <p>Thesis title: “A study on applying wide area protection to Electric Power Grid of Vietnam.”</p> <p>Adviser: Dr. Nguyen Xuan Hoang Viet, Dean of Electrical Engineering School, Hanoi University of Science and Technology (HUST) (formerly, Hanoi University of Technology, HUT), Hanoi, Vietnam.</p>
<b>07/2007</b>	<p><b><i>B.S., Electric Power Systems – Electrical Engineering, June 2007</i></b></p> <p>Thesis title: “Design Electric Part for a 200-MW thermoelectric power plant.”</p> <p>Advisor: Dr. Dao Quang Thach, Dept. Electric Power Systems, Electrical Engineering School, HUST, Hanoi, Vietnam.</p>
<b>Awards &amp; Achievements</b>	
<b>1</b>	<p>1998-2002</p> <p>Consolation prize in Mathematics contest of Bac-Giang Province in 1998;          Second Prize in Mathematics contest of Bac-Giang Province in 1999;          Third Prize in Mathematics contest of Bac-Giang Province in 2000;  <b>First Prize</b> in Mathematics contest of Bac-Giang Province in 2001;          Third Prize in Physics contest of Bac-Giang Province in 2001;  <b>First Prize</b> in Physics contest of Bac-Giang Province in 2002;          Second Prize in Mathematics contest of Bac-Giang Province in 2002.</p>
<b>2</b>	<p>2002</p> <p>Award for <b>the only-one excellent high-school student</b> graduated in 2002 in Viet-Yen district.</p>
<b>3</b>	<p>2002-2007</p> <p>Bi-annual scholarships from HUST for excellent students.</p>
<b>4</b>	<p>2005</p> <p><b>First Prize</b> of Annual Electric Circuit Theory Contest, Electrical</p>

	Engineering School, HUST.
<b>5</b>	2007 Award from President of HUST for the excellent students graduated in 2007.
<b>6</b>	2010-2014 Scholarship supported via “SRD program” by Dongguk University during Ph.D Degree.
<b>7</b>	2014 “ <b>Best Research Award</b> ” in annual anniversary of Dongguk University
<b>Technical Skills</b>	
	<ul style="list-style-type: none"> <li>• Fluent in using MATLAB/Simulink software.</li> <li>• Fluent in using C language for coding.</li> <li>• Fluent in COMSOL multiphysics software.</li> </ul>
<b>Languages Skills</b>	
	<p><b>English</b></p> <p>Fluent</p> <ul style="list-style-type: none"> <li>• TOEFL IBT 73/120 in October 2009 (the first time)</li> <li>• TOEIC 745/990 in March 2013 (the first time)</li> </ul> <p><b>Korean</b></p> <p>Intermediate</p>
<b>Academic Employment Experience</b>	
4/2008-2/2010	<b>Lecturer</b> Dept. of Electrical Engineering, Thuy Loi University, Hanoi, Vietnam
3/2014-5/2014	<b>Postdoctoral Researcher</b> Division of Electronics and Electrical Engineering, College of Engineering, Dongguk University, Seoul, Korea
5/2014-8/2015	<b>Senior Researcher</b> Dementia by Converging Technology/school of Mechanical and Aerospace Engineering, Gyeongsang National University, Jinju 660-701, Gyeongsang Nam-do, Republic of Korea.

## Publications

### *International Journal Papers*

<b>1</b>	<b>Ton Duc Do</b> , Han Ho Choi, and Jin-Woo Jung, "SDRE-Based Near Optimal Control System Design for PM Synchronous Motor," <i>IEEE Transactions on Industrial Electronics</i> , vol. 59, no. 11, pp. 4063-4074, Nov. 2012. <b>(SCI, JCR 2011 Edition = IF 5.160 /Top 1.6%, JCR 2010 Edition = IF 3.481 /Top 3.2%)</b> ( <a href="http://dx.doi.org/10.1109/TIE.2011.2174540">http://dx.doi.org/10.1109/TIE.2011.2174540</a> )
<b>2</b>	<b>Ton Duc Do</b> , Viet Quoc Leu, Young-Sik Choi, Han Ho Choi, and Jin-Woo Jung, "An Adaptive Voltage Control Strategy of Three-Phase Inverter for Stand-Alone Distributed Generation Systems," <i>IEEE Transactions on Industrial Electronics</i> , vol. 60, no. 12, pp. 5660-5672, Dec. 2013. <b>(SCI, JCR 2012 Edition = IF 5.165 /Top 1.6%, JCR 2011 Edition = IF 5.160 /Top 1.6%)</b> ( <a href="http://dx.doi.org/10.1109/TIE.2012.2230603">http://dx.doi.org/10.1109/TIE.2012.2230603</a> )
<b>3</b>	Jin-Woo Jung , Nga Thi-Thuy Vu, Dong Quang Dang, <b>Ton Duc Do</b> , Young-Sik Choi, and Han Ho Choi, "Three-phase inverter for a stand-alone distributed generation system: adaptive voltage control design and stability analysis," <i>IEEE Transactions on Energy Conversion</i> , vol. 29, no. 1, pp. 46-56, Mar. 2014. <b>(SCI, JCR 2013 Edition = IF 3.353 /Top 8.9%, JCR 2012 Edition = IF 2.427 /Top 14.1%)</b> ( <a href="http://dx.doi.org/10.1109/TEC.2013.2288774">http://dx.doi.org/10.1109/TEC.2013.2288774</a> )
<b>4</b>	<b>Ton Duc Do</b> , Sangshin Kwak, Han Ho Choi, and Jin-Woo Jung, "Suboptimal Control Scheme Design for Interior Permanent Magnet Synchronous Motors: An SDRE-Based Approach," <i>IEEE Transactions on Power Electronics</i> , vol. 29, no. 6, pp. 3020-3031, Jun. 2014. <b>(SCI, JCR 2013 Edition = IF 5.726 /Top 1.6%, JCR 2012 Edition = IF 4.080 /Top 2.4%)</b> ( <a href="http://dx.doi.org/10.1109/TPEL.2013.2272582">http://dx.doi.org/10.1109/TPEL.2013.2272582</a> )
<b>5</b>	Francis Mwasilu, Jackson John Justo, Eun-Kyung Kim, <b>Ton Duc Do</b> , and Jin-Woo Jung, "Electric Vehicles and Smart Grid Interaction: A Review on Vehicle to Grid and Renewable Energy Sources Integration," <i>Renewable and Sustainable Energy Reviews</i> , vol. 34, pp. 501-516, Jun. 2014. <b>(SCI, JCR 2013 Edition = IF 5.510 /Top 7.3%, JCR 2012 Edition = IF 5.627 /Top 6.1%)</b> ( <a href="http://dx.doi.org/10.1016/j.rser.2014.03.031">http://dx.doi.org/10.1016/j.rser.2014.03.031</a> )
<b>6</b>	Jin-Woo Jung , Viet Quoc Leu, <b>Ton Duc Do</b> , Eun-Kyung Kim, Han Ho Choi, "Adaptive PID control Design for permanent magnet synchronous motor drives," <i>IEEE Transactions on Power Electronics</i> , vol. 30, no. 2, pp. 900-908, Feb. 2015. <b>(SCI, JCR 2013 Edition = IF 5.726 /Top 1.6%, JCR 2012 Edition = IF 4.080 /Top 2.4%)</b> ( <a href="http://dx.doi.org/10.1109/TPEL.2014.2311462">http://dx.doi.org/10.1109/TPEL.2014.2311462</a> )
<b>7</b>	Jin-Woo Jung, Dong Quang Dang, Nga Thi-Thuy Vu, Justo Jackson John, <b>Ton Duc Do</b> , Han Ho Choi, and Tae Heoung Kim, "A Nonlinear sliding mode controller for IPMSM drives with an adaptive gain tuning rule," <i>Journal of Power Electronics</i> , vol. 15, no. 3, pp. 753-762, May 2015. <b>(SCIE, JCR 2013 Edition = IF 0.746)</b>

	<a href="http://www.dbpia.co.kr/Journal/ArticleDetail/3672177">http://www.dbpia.co.kr/Journal/ArticleDetail/3672177</a>
<b>8</b>	Jin-Woo Jung, Viet Quoc Leu, Dong Quang Dang, <b>Ton Duc Do</b> , Francis Mwasilu, and Han Ho Choi, "Intelligent voltage control strategy for three-phase UPS inverters with output LC filter," <i>International Journal of Electronics</i> , vol. 102, no. 8, pp. 1267-1288, Aug. 2015. <b>(SCI, JCR 2013 Edition = IF 0.751)</b> ( <a href="http://dx.doi.org/10.1080/00207217.2014.966781">http://dx.doi.org/10.1080/00207217.2014.966781</a> )
<b>9</b>	<b>Ton Duc Do</b> , Han Ho Choi, and Jin-Woo Jung, " $\theta$ -D Approximation Technique for Nonlinear Optimal Speed Control Design of Surface-Mounted PMSM Drives," <i>IEEE/ASME Transactions on Mechatronics</i> , vol. 20, no. 4, pp. 1822-1831, Aug. 2015. <b>(SCI, JCR 2013 Edition = IF 3.652 /Top 2.5%, JCR 2012 Edition = IF 3.135 /Top 2.5%)</b> ( <a href="http://dx.doi.org/10.1109/TMECH.2014.2356138">http://dx.doi.org/10.1109/TMECH.2014.2356138</a> )
<b>10</b>	<b>Ton Duc Do</b> , Faiz Ul Amin, Yeongil Noh, Myeong Ok Kim, and Jungwon Yoon, "Guidance Results of Magnetic Nanocontainers for Alzheimer's disease Based on an Electromagnetic Targeted Drug Delivery Actuator", <i>Journal of Biomedical Nanotechnology</i> , In press <b>(SCI, JCR 2013 Edition = IF 7.578/Top 6.25%, JCR 2013 Edition = IF 5.388/Top 12.12%)</b> ( <a href="http://dx.doi.org/10.1166/jbn.2016.2193">http://dx.doi.org/10.1166/jbn.2016.2193</a> )
<b>11</b>	<b>Ton Duc Do</b> , Yeongil Noh, Myeong Ok Kim, and Jungwon Yoon, "In Silico Magnetic Nanocontainers Navigation in Blood Vessels: A Feedback Control Approach", <i>Journal of Nanoscience and Nanotechnology</i> , In press <b>(SCI, JCR 2013 Edition = IF 1.339, JCR 2013 Edition = IF 1.556/Top 47.13%)</b> ( <a href="http://dx.doi.org/10.1166/jnn.2016.12118">http://dx.doi.org/10.1166/jnn.2016.12118</a> )
<b>12</b>	<b>Ton Duc Do</b> , Han Ho Choi, and Jin-Woo Jung, "Nonlinear Optimal DTC Design and Stability Analysis for Interior Permanent Magnet Synchronous Motor Drives," <i>IEEE/ASME Transactions on Mechatronics</i> , In press <b>(SCI, JCR 2013 Edition = IF 3.652 /Top 2.5%, JCR 2012 Edition = IF 3.135 /Top 2.5%)</b> ( <a href="http://dx.doi.org/10.1109/TMECH.2015.2426725">http://dx.doi.org/10.1109/TMECH.2015.2426725</a> )
<b>13</b>	Tuan-Anh Le, Hamed Jabbari Asl , <b>Ton Duc Do</b> , Yeongil Noh, Myeong Ok Kim, and Jungwon Yoon, "Band-Stop Filter Analysis and Design for 1D Magnetic Particle Imaging Hybrid System", <i>Journal of Nanoscience and Nanotechnology</i> , Accepted with minor revisions <b>(SCI, JCR 2013 Edition = IF 1.339, JCR 2013 Edition = IF 1.556/Top 47.13%)</b>
<b>14</b>	Hamed Jabbari Asl and <b>Ton Duc Do</b> , , "Asymptotic Vision-Based Tracking Control of the Quadrotor Aerial Vehicle", <i>Mathematical Problems in Engineering</i> , In press <b>(SCIE, JCR 2014 Edition = IF 0.762)</b>
<b>15</b>	Faiz Ul Amin, <b>Ton Duc Do</b> , Yeongil Noh, Myeong Ok Kim, and Jungwon Yoon, "Magnetic nanoparticles steering to the mice brain by pulsed magnetic force using a novel electromagnetic actuator", <i>ACS Nano</i> , In preparation <b>(SCI, JCR 2013 Edition = IF 12.033/Top 3.59%)</b>
<b>16</b>	<b>Ton Duc Do</b> , Yeongil Noh, Myeong Ok Kim, and Jungwon Yoon, "An intuitive approach for magnetic nanoparticles guidance in multi-branch vessels", <i>Journal of Magnetism and Magnetic Materials</i> , In preparation <b>(SCI, JCR 2013 Edition = IF 2.002/Top 31.08%)</b>

<b><i>International Conference Paper</i></b>	
<b>1</b>	<b>Ton Duc Do</b> , Yeongil Noh, Myeong Ok Kim, and Jungwon Yoon, “An Optimized Field Function Scheme for Nanoparticle Guidance in Magnetic Drug Targeting systems”, <i>2015 IEEE/RSJ International Conference on Intelligent Robots and Systems</i> , Congress Center Hamburg, Hamburg, Germany, Sep.28-Oct. 03, 2015.
<b>2</b>	<b>Ton Duc Do</b> , Yeongil Noh, Myeong Ok Kim, and Jungwon Yoon, “An Electromagnetic Steering System for Magnetic Nanoparticle Drug Delivery”, <i>The 12th International Conference on Ubiquitous Robots and Ambient Intelligence (URAI 2015)</i> , KINTEX, Goyang city, Korea, Oct. 28-30, 2015.
<b><i>Oral Presentation – International Conference</i></b>	
<b>1</b>	<b>Ton Duc Do</b> , Yeongil Noh, Mohammad Dadkhah Tehrani, Myeong Ok Kim, and Jungwon Yoon, “An Electromagnetic Guidance System of Magnetic Nanoparticles for Targeted Drug Delivery”, <i>59<sup>th</sup> Annual Magnetism and Magnetic Materials (MMM) Conference</i> , Honolulu, Hawaii, USA, November 3-7, 2014.
<b>2</b>	Tuan-Anh Le, <b>Ton Duc Do</b> , Yeongil Noh, Ammar Mamood, Myeong Ok Kim, and Jungwon Yoon, “Hardware Implementation of a 1D MPI Hybrid System for Targeted Drug Delivery”, <i>5<sup>th</sup> International Workshop on Magnetic Particle Imaging (IWMPI 2015)</i> , , Istanbul, Turkey, March 26-28, 2015. ( <a href="http://dx.doi.org/10.1109/IWMPI.2015.7107010">http://dx.doi.org/10.1109/IWMPI.2015.7107010</a> )
<b><i>Oral Presentation – Domestic Conference</i></b>	
<b>1</b>	<b>Ton Duc Do</b> , Yeongil Noh, Meong Ok Kim, and Jungwon Yoon, “Multiphysics Simulation Studies of Magnetic Nanoparticle Navigation in Blood Vessels: An Adaptive Sliding-Mode Control Approach”, <i>2014 Conference of Korean Society of Mechanical Engineers in Gyeongnam Province</i> , Muju, Korea, December 15-16, 2014.
<b>2</b>	Yeongil Noh, <b>Ton Duc Do</b> , Meong Ok Kim, and Jungwon Yoon, “Magnetic drug delivery systems with an Experimental verification”, <i>2014 Conference of Korean Society of Mechanical Engineers in Gyeongnam Province</i> , Muju, Korea, December 15-16, 2014.
<b><i>Invited Talks</i></b>	
<b>1</b>	<b>Ton Duc Do</b> and Jungwon Yoon, “Advanced control methods for some industrial applications – permanent magnet synchronous motors, distributed generation systems/uninterruptible power supplies,” <i>2014 International Conference on Advanced Aircraft Technologies – ICAAT 2014</i> , Gyeongsang National University, Jinju, Republic of Korea.

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