

CURRICULUM VITAE

1. Name Surname : Ömer Cihan Kivanc
Address : Istanbul Okan University, Engineering Faculty, Electrical & Electronics Engineering, Akfırat/Istanbul
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Mail : cihan.kivanc@okan.edu.tr
2. Date of Birth : 1988
3. Academic Title : Assistant Professor
4. Education : Ph.D.

| Degree | Department | University | Year |
|----------|--------------------------|-------------------------------|------|
| Bachelor | Electrical Engineering | Istanbul Technical University | 2011 |
| Ph.D. | Mechatronics Engineering | Istanbul Okan University | 2016 |

5. Academic Titles

| Title | Discipline | University | Year |
|---------------------|--------------------------|--------------------------|-----------|
| Assistant Professor | Mechatronics Engineering | Istanbul Okan University | 2016 |
| Research Assistant | Mechatronics Engineering | Istanbul Okan University | 2011-2015 |

6. Supervised Master and Ph.D. Thesis

6.1. Title of Master Thesis

- Cemre Kavvasoğlu, “Developing De-noising Algorithm Improved with Least Mean Squares Filter for Autonomous-Vehicles Lidar in Snowfall”, *Institute of Sciences and Engineering, Power Electronics & Clean Energy Systems*, Master Thesis, August, 2019.

6.2. Dissertation Title

7. Publications

7.1. International Refereed Journal Publications

- [1] S. B. Ozturk and O. C. Kivanc, “On-line dead time compensator for PMSM drive based on current observer,” *Engineering Science and Technology, an International Journal*, 2020. (*submitted*)
- [2] C. Kavvasoglu and O. C. Kivanc, “Developing de-noising algorithm improved with least mean square method for unmanned ground vehicle in snowfall,” *Engineering Review*, 2020. (*submitted*)

- [3] S. B. Ozturk, **O. C. Kivanc**, A. Aksoz and O. Hegazy, "Rotor position alignment of FSTPI based PMSM drive using low frequency signal injection," *Applied Sciences*, vol. 10, no. 21, 7397, 2020. (*SCI-E*)
- [4] Y. Wang, A. Aksoz, T. Geury, S. B. Ozturk, **O. C. Kivanc**, and O. Hegazy, "A review of modular multilevel converters for stationary applications," *Applied Sciences*, vol. 10, no. 21, 7719, 2020. (*SCI-E*)
- [5] O. Ustun, **O. C. Kivanc**, and M. S. Mokukcu, "A linear brushless direct current motor design approach for seismic shake tables," *Applied Sciences*, vol. 10, no. 21, 7618, 2020. (*SCI-E*)
- [6] **O. C. Kivanc** and S. B. Ozturk, "Low-cost position sensorless speed control of PMSM drive using four-switch inverter," *Energies*, vol. 12, no. 4, 741, 2019. (*SCI*)
- [7] **O. C. Kivanc** and O. Ustun, "Dynamic control of electronic differential in the field weakening region," *International Journal of Electronics*, vol. 106, no. 10, pp. 1583–1601, 2019. (*SCI-Expanded*)
- [8] **O. C. Kivanc**, T. E. Mungan, B. Atila and G. Tosun, "An integrated approach to development of unmanned ground vehicle: design, analysis, implementation and suggestions," *Journal of The Faculty of Engineering and Architecture of Gazi University*, vol. 34, no. 4, pp. 1957–1973, 2019. (*SCI-Expanded*)
- [9] **O. C. Kivanc**, "An approach to improve the performance of cooperative unmanned vehicle team," *Turkish Journal of Electrical Engineering & Computer Sciences*, vol. 27, pp. 1428–1444, 2019. (*SCI-Expanded*)
- [10] O. Ustun, **O. C. Kivanc**, S. Senol and B. Fincan, "On field weakening performance of a brushless direct current motor with higher winding inductance: why does design matter?," *Energies*, vol. 11, no. 11, 3119, 2018. (*SCI*)
- [11] **O. C. Kivanc** and S. B. Ozturk, "Sensorless PMSM drive based on stator feedforward voltage estimation improved with MRAS multi-parameter estimation," *IEEE/ASME Transactions on Mechatronics*, vol. 23, no. 3, pp. 1326–1337, 2018. (*SCI*)
- [12] O. Ustun, R. N. Tuncay, M. S. Mokukcu, **O. C. Kivanc**, G. Tosun, C. Gokce and M. Cakan, "An integrated approach to development of electric vehicle powertrain: design, analysis and implementation," *Turkish Journal of Electrical Engineering & Computer Sciences*, vol. 26, pp. 1541–1554, 2018. (*SCI-Expanded*)
- [13] **O. C. Kivanc** and S. B. Ozturk, "Sector determination for SVPWM based four-switch three phase voltage source inverter," *IET Journal of Electronics Letters*, vol. 53, no. 5, pp. 343–345, 2017. (*SCI*)
- [14] P. Ali Zada, R. N. Tuncay, S. B. Ozturk, **O. C. Kivanc**, H. A. Mamedov and S. A. Abdullaev, "Parametrical method of low-frequency harmonics suppression in rectifier's output voltage under supply voltage unbalances," *Scientific Journal of Mathematical & Computer Modelling*, vol. 13, 2017.
- [15] **O. C. Kivanc** and S. B. Ozturk, "MATLAB function-based approach to FOC of PMSM drive," *International Journal of Simulation Systems, Science & Technology (IJSSST)*, vol. 17, no. 33, 2016.

6.2. International Conference Presentation & Proceedings

- [1] I. H. Hayirli, B. Kelleci, **O. C. Kivanc**, S. B. Ozturk, R. N. Tuncay and O. Citci, "Design and analysis of 240-Watt SEPIC converter for LED applications," in *Proc. IEEE ISIE*, Vancouver, Canada, Jun. 12-14, 2019.

- [2] Y. R. Sen, **O. C. Kivanc** and R. N. Tuncay, "Optimal positioning of electric vehicle charging stations for a pilot region," in *Proc. International Symposium on Engineering Natural Sciences and Architecture*, pp. 113–119, Kocaeli, Turkey, 2019.
- [3] P. Norouzi, O. Ustun and **O. C. Kivanc**, " High performance position control of double-sided air core linear brushless DC motor," in *Proc. 10th International Conference on Electrical and Electronics Engineering (ELECO)*, Bursa, Turkey, 2017.
- [4] O. Ustun, D. Bayram & **O. C. Kivanc**, " Study on development of line start IPM synchronous motor for super premium efficiency class," in *Proc. 18th International Symposium on Applied Electromagnetics and Mechanics (ISEM)*, Chamonix, France, September, 2017.
- [5] O. Ustun, D. Bayram and **O. C. Kivanc**, " Comparison of different line start interior permanent magnet synchronous motor types with respect to IE4 efficiency class," in *Proc. Electromagnetic Fields in Mechatronics, Electrical and Electronic Engineering (ISEF) Book of Abstracts*, Lodz, Poland, 2017.
- [6] S. B. Ozturk, **O. C. Kivanc**, B. Atila, S. U. Rehman, B. Akin and H. A. Toliyat, "A simple least squares approach for low speed performance analysis of indirect FOC induction motor drive using low-resolution position sensor," in *Proc. IEEE International Electric Machines and Drives Conference (IEMDC)*, pp. 1–8, Miami, USA, 2016.
- [7] **O. C. Kivanc**, S. B. Ozturk, R. N. Tuncay, E. Kesici and C. Yazici, "Electro-hydraulic power steering system modelling for parameter fault detection based on model reference adaptive frame," in *Proc. Annual Conference of IEEE Industrial Electronics Society*, pp. 1808–1814, Florence, Italy, 2016.
- [8] **O. C. Kivanc**, O. Ustun, G. Tosun and R. N. Tuncay, "On regenerative braking capability of BLDC motor," *Annual Conference of IEEE Industrial Electronics Society*, pp. 1710–1715, Florence, Italy, 2016.
- [9] O. Ustun, G. Tanc, **O. C. Kivanc** and G. Tosun, "In pursuit of proper BLDC motor design for electric bicycles," in *Proc. IEEE International Conference on Electrical Machines*, pp. 1808–1815, 2016, Switzerland.
- [10] G. Tosun, **O. C. Kivanc**, O. Ustun, E. Oguz and Y. Mutlu, "Design of a position controlled electric actuator used in fluid control valves," in *Proc. IEEE International Conference on Power Electronics and Motion Control*, pp. 551–556, Varna, Bulgaria, 2016.
- [11] **O. C. Kivanc** and S. B. Ozturk, "MATLAB function-based approach to FOC of PMSM drive," in *Proc. IEEE European Modeling Symposium (EMS)*, pp. 96–102, Madrid, Spain, 2015.
- [12] G. Tosun, O. Ustun, **O. C. Kivanc**, E. Oguz, O. Ustun and R. N. Tuncay, "Development of high efficiency multi-output flyback converter for industrial applications," in *Proc. 9th International Conference on Electrical and Electronics Engineering (ELECO)*, pp. 1102–1108, 2015.
- [13] O. Ustun, M. Cakan, R. N. Tuncay, M. S. Mokukcu, **O. C. Kivanc**, Y. Mutlu and G. Tosun, "Design and manufacture of electric vehicle powertrain and its cooling system for ITU EV project," in *Proc. International Conference on Electrical Machines (ICEM)*, pp. 730–735, 2014.
- [14] P. G. Ali-Zade, R. N. Tuncay, S. B. Ozturk and **O. C. Kivanc**, "Quasi-smart construction synchronous machine working with extensive cycling load," in *Proc. International Conference on Application of*

Information and Communication Technology and Statistics in Economy and Education (ICAICTSEE), pp. 93–101, Sofia, Bulgaria, Oct, 2012.

[15] O. Ustun, S. B. Ozturk, **O. C. Kivanc**, P. G. Ali Zade and R. N. Tuncay, "Exciting system selection for brushless synchronous machine," in *Proc. 8th Mediterranean Conference on Transmission, Distribution and Energy Conversion (MEDPOWER)*, pp. 1–6, Cagliari, Italy, 2012.

7.3. International Books/Chapters of Books

7.4. National Refereed Journal Publications

[1] **O. C. Kivanc**, "High efficiency brushless direct current motor design for an unmanned ground vehicle," *Suleyman Demirel University Journal of Natural and Applied Sciences*, vol. 24, no. 2, pp. 494–501, 2020. (**ULAKBİM**)

[2] **O. C. Kivanc**, "Investigation of the effects of physical changes on li-ion battery," *European Journal of Science and Technology*, vol. 16, no. 2, pp. 235–241, 2019. (**ULAKBİM**)

[3] **O. C. Kivanc**, O. Ustun, G. Tosun, E. Oguz and Y. Mutlu, "Design and implementation of an electric actuated valve for precise fluid control," *Gazi University Journal of Science*, vol. 32, no. 2, pp. 483–492, 2019. (**ULAKBİM**)

[4] **O. C. Kivanc** and S. B. Ozturk, "Sensorless control of PMSG drive using reduced switch inverter," *Pamukkale University Journal of Engineering Sciences*, vol. 25, no. 2, pp. 132–142, 2019. (**ULAKBİM**)

[5] **O. C. Kivanc** and S. B. Ozturk, "Stator feedforward voltage estimation based sensorless permanent magnet synchronous generator drive using multi-parameter estimation based on MRAS," *Çukurova University Journal of the Faculty of Engineering and Architecture*, vol. 32, no. 3, pp. 227–242, 2017. (**ULAKBİM**)

7.5. National Conference Presentations & Proceedings

[1] B. Atila, T. E. Mungan and **O. C. Kivanc**, "Different filter approaches and performance analysis of fundamental sensors in autonomous ground vehicles," in *Proc. 24th Signal Processing and Communication Application Conference (SIU)*, pp. 1605–1608, Zonguldak, Turkey, 2016.

[2] O. Ustun, R. N. Tuncay, M. S. Mokukcu, **O. C. Kivanc** and G. Tosun, "Istanbul Technical University full electric battery vehicle Project-ITU EV," in *Proc. 7th Automotive Technologies Congress (OTEKON)*, Bursa, Turkey, 2014.

[3] O. Ustun, R. N. Tuncay, **O. C. Kivanc**, B. Fincan and G. Tosun, "Development and implementation of field weakening algorithm for brushless DC motors," in *Proc. Conference on Electrical and Electronics Engineering (ELECO)*, Bursa, Turkey, 2014.

7.6. Other Publications

- [1] Parviz Ali Zada Hasanoglu, Ramazan Nejat Tuncay, Salih Baris Ozturk, **Omer Cihan Kivanc**, “Internal resistance measurement method for power supplies like batteries or supercapacitors,” *WO2017111751 A1*, June 29, 2017
- [2] Parviz Ali Zada Hasanoglu, **Omer Cihan Kivanc**, Salih Baris Ozturk, Ramazan Nejat Tuncay, “Cok Kanatli Yelken Tipi Dairesel Bir Ruzgar Turbini,” *Turkish Patent Institute (TPE) Pub. No: 2013-G-456408*, July 21, 2015.
- [3] Parviz Ali Zada Hasanoglu, **Omer Cihan Kivanc**, Salih Baris Ozturk, Ramazan Nejat Tuncay, “Süper Kapasitörler İçin İç Direnç Ölçme Yöntemi,” *Turkish Patent Institute (TPE) Pub. No: 2015-GE-472052*, Aralık 21, 2015.

7. Projects

- [1] **TUBITAK-1501**- Development of an Electric Vehicle Charge Connector (*Consultant*)
- [2] **TUBITAK-1505**- Design and Implementation of Output Voltage Variable Highly Efficient SEPIC LED Driver (controlled by TMS320F28012) with Two Different Power (150 W & 240 W) (*Researcher*)
- [3] **TUBITAK-1505**- Intelligent Renewable Energy Management System (*Researcher*)
- [4] **TUBITAK-1505**- Development of an Advanced Autonomous Bus System (controlled by Nvidia Drive PX2) (*Researcher*)
- [5] **TUBITAK-1002**- Design and Implementation of High Manoeuvrability Autonomous Robot Platform for Industrial and Military Purposes (*Principle Investigator*)
- [6] **TUBITAK-3501**- Implementation of Position Sensorless Direct-Drive Permanent Magnet Generator-based Small-Scale Wind Power Generating System for Wide Speed Ranges (*Researcher*)
- [7] **TUBITAK-1002**- Very Low Speed Control of Three Phase AC Motor Using Least Mean Square (LMS) Method with Low Resolution Encoder (*Researcher*)
- [8] **ISTKA-TR10/14/YEN/0088**- Innovative & Sustainable Electric & Hybrid Electric Vehicle Technology Development & Clustering Centre (*Researcher*)
- [9] **ISTKA-TR10/15/YNK/0022**- Intelligent & Connected Vehicle Technologies Development & Clustering Centre (*Researcher*)
- [10] **KOSGEB**- Development of an E-Bike Power Train System (BLDC Machine, Driver controlled by DSpic30F6010A & Lin Bus Communication Protocol) (*Researcher*)
- [11] **KOSGEB**- Development of a Light Electric Vehicle Driver System (4 kW & 15 kW controlled by DSpic30F6010A) (*Researcher*)
- [12] **MEKATRO R&D**- Development of an Industrial Driver for Induction & Synchronous Reluctance Motors (*Researcher*)
- [13] **MEKATRO R&D**- Linear BLDC Motor (200 kN) & Driver (controlled by DSpic30F6010A) Design for a Ramp System (*Researcher*)

[14] **MEKATRO R&D**- Design & Development of Electric Power Train (Outer Rotor BLDC Machine (1.5 kW x 2) & Inverter (controlled by TMS320F28335) & HMI & Can Bus Communication) for a Solar Car (*Researcher*)

[15] **MEKATRO R&D**- Development of an Electric Power Train (Inverter controlled by TMS320F28335) for Outer Rotor BLDC Machine (15 kW x 2) Electric Vehicle Project (*Researcher*)

[16] **MEKATRO R&D**- High Efficiency (IE4) Line Start Interior Permanent Magnet Synchronous Motor Design (*Researcher*)

[17] **MEKATRO R&D**- Development of a Position Controlled (controlled by DSPic30F6010A) Electric Actuator Used in Fluid Control Valves (*Researcher*)

[18] **MEKATRO R&D**- Development of a Smart Pump Selection Algorithm & Database System (*Researcher*)

[19] **MEKATRO R&D**- Development of a Three-Level & Parallel UPS Control (controlled by TMS320F28335) Software (*Researcher*)

9. Administrative Tasks

- Electrical and Electronics Engineering Department Head (2018-)
- Intelligent & Connected Vehicle Technologies Development & Clustering Centre (ISTKA)-TR10/15/YNK/0022 (Istanbul Okan University, Electrical Engineer)

10.Academic/Professional Membership

- IEEE, The Institute of Electrical and Electronics Engineers
- UCTEA, The Chamber of Electrical Engineers