

# Prof. İbrahim Alpay OZCAN

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## Education Information

Doctorate, Washington University in St. Louis, Mühendislik, Sistemler Bilimi ve Matematik, United States Of America  
1994 - 2000

Post Graduate, Washington University in St. Louis, Mühendislik, Sistemler Bilimi ve Matematik , United States Of  
America 1994 - 1996

Undergraduate Double Major, Bogazici University, Faculty Of Science And Letters, Department Of Mathematics, Turkey  
1988 - 1994

Post Graduate, Imperial College of Science, Technology and Medicine, Mühendislik, Elektrik-Elektronik Müh., United  
Kingdom 1992 - 1993

Under Graduate, Bogazici University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering,  
Turkey 1988 - 1992

## Research Areas

Analysis and Synthesis Methods, Simulation, Modelling and Identification, Distributed Control Systems, Controllers,  
Nonlinear Systems, Status Observers and Estimation, General System Theory, Checker, Communication Control  
Systems, Stability, Discrete Time Systems and Computer Control, Mathematical Techniques, Optimal Control, System  
Diagnostics, Adaptive Systems, Time Varying Systems, Computer Vision, Computer Vision, Artificial Intelligence,  
Computer Learning and Pattern Recognition, Biomedical Image Processing, Electric Power Transmission, Distribution  
and Protection, Biological Modelling, Neurosystems, Differential Equations, Dynamic Systems and Ergodic Theory,  
Probability Theory, Stochastic Processes, Optimization, System Theory: Control

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- **Identification of IDH and TERTp mutation status using  $\mu$ -MRS in 112 hemispheric diffuse gliomas.**  
Ozturk-Isik E., Cengiz S., Ozcan A., Yakicier C., Ersen D., Pamir M. N. , Özduman K., Dincer A.  
Journal of magnetic resonance imaging : JMRI, 2019 (Journal Indexed in SCI)
- **On using signal magnitude in diffusion magnetic resonance measurements of restricted motion.**  
Özcan A.  
Magnetic resonance imaging, vol.62, pp.209-213, 2019 (Journal Indexed in SCI)
- **A Platform Integrating Acquisition, Reconstruction, Visualization, and Manipulator Control Modules for MRI-Guided Interventions.**  
Velazco G., Navkar N., Gui D., Morales C., Christoforou E., Ozcan A., Abinahed J., Al-Ansari A., Webb A.,  
Seimenis I., et al.  
Journal of digital imaging, vol.32, pp.420-432, 2019 (Journal Indexed in SCI)
- **Interactive Feature Space Explorer(C) for multi-modal magnetic resonance imaging**  
Oezcan A., Tuerkbey B., Choyke P. L. , Akin O., Aras O., Mun S. K.  
MAGNETIC RESONANCE IMAGING, vol.33, pp.804-815, 2015 (Journal Indexed in SCI)
- **Quantifying the CDK inhibitor VMY-1-103's activity and tissue levels in an in vivo tumor model by LC-MS/MS and by MRI.**  
Sirajuddin P., Das S., Ringer L., Rodriguez O., Sivakumar A., Lee Y., Üren A., Fricke S., Rood B., Ozcan A., et al.  
Cell cycle (Georgetown, Tex.), vol.11, pp.3801-9, 2012 (Journal Indexed in SCI)

- **A system for endoscopic mechanically scanned localized proton MR and light-induced fluorescence emission spectroscopies.**  
Sonmez A., Webb A., Spees W., Ozcan A., Tsekos N.  
Journal of magnetic resonance (San Diego, Calif. : 1997), vol.222, pp.16-25, 2012 (Journal Indexed in SCI)
- **Background and Mathematical Analysis of Diffusion MRI Methods.**  
Ozcan A., Wong K., Larson-Prior L., Cho Z., Mun S.  
International journal of imaging systems and technology, vol.22, pp.44-52, 2012 (Journal Indexed in SCI)
- **Minimization of imaging gradient effects in diffusion tensor imaging.**  
Özcan A.  
IEEE transactions on medical imaging, vol.30, pp.642-54, 2011 (Journal Indexed in SCI)
- **Characterization of imaging gradients in diffusion tensor imaging.**  
Özcan A.  
Journal of magnetic resonance (San Diego, Calif. : 1997), vol.207, pp.24-33, 2010 (Journal Indexed in SCI)
- **Noise and nonlinear estimation with optimal schemes in DTI.**  
Özcan A.  
Magnetic resonance imaging, vol.28, pp.1335-43, 2010 (Journal Indexed in SCI)
- **The Interconnection of MRI Scanner and MR-Compatible Robotic Device: Synergistic Graphical User Interface to Form a Mechatronic System.**  
Ozcan A., Tsekos N.  
IEEE/ASME transactions on mechatronics : a joint publication of the IEEE Industrial Electronics Society and the ASME Dynamic Systems and Control Division, vol.13, pp.362-369, 2008 (Journal Indexed in SCI)
- **A general-purpose MR-compatible robotic system: implementation and image guidance for performing minimally invasive interventions..**  
Tsekos N., Christoforou E., Ozcan A.  
IEEE engineering in medicine and biology magazine : the quarterly magazine of the Engineering in Medicine & Biology Society, vol.27, pp.51-8, 2008 (Journal Indexed in SCI)
- **Postmortem delay does not change regional diffusion anisotropy characteristics in mouse spinal cord white matter.**  
Kim J., Trinkaus K., Ozcan A., Budde M., Song S.  
NMR in biomedicine, vol.20, pp.352-9, 2007 (Journal Indexed in SCI)
- **Performance of interventions with manipulator-driven real-time MR guidance: implementation and initial in vitro tests.**  
Christoforou E., Akbudak E., Ozcan A., Karanikolas M., Tsekos N.  
Magnetic resonance imaging, vol.25, pp.69-77, 2007 (Journal Indexed in SCI)
- **Design and testing of a Robotic system for MR image-guided interventions**  
Christoforou E. G. , Tsekos N. Y. , Özcan A.  
Journal of Intelligent and Robotic Systems: Theory and Applications, vol.47, pp.175-196, 2006 (Journal Indexed in SCI)
- **A prototype manipulator for magnetic resonance-guided interventions inside standard cylindrical magnetic resonance imaging scanners.**  
Tsekos N., Ozcan A., Christoforou E.  
Journal of biomechanical engineering, vol.127, pp.972-80, 2005 (Journal Indexed in SCI)
- **A computational method for the calculation of the feasibility boundary and clustering in differential-algebraic systems**  
Özcan A., Schättler H.  
IEEE Transactions on Circuits and Systems I: Regular Papers, vol.52, pp.1940-1952, 2005 (Journal Indexed in SCI)
- **Parallel processing of spatial and serial order information before moving to a remembered target.**  
Smyrnis N., d'Avossa G., Theleritis C., Mantas A., Ozcan A., Evdokimidis I.  
Journal of neurophysiology, vol.93, pp.3703-8, 2005 (Journal Indexed in SCI)
- **(Mathematical) Necessary conditions for the selection of gradient vectors in DTI.**  
Ozcan A.  
Journal of magnetic resonance (San Diego, Calif. : 1997), vol.172, pp.238-41, 2005 (Journal Indexed in SCI)
- **Sequential linear-quadratic method for differential games with air combat applications**

Mukai H., Tanikawa A., Tunay I., Ozcan İ. A. , Katz I., Schättler H., Rinaldi P., Wang G., Yang L., Sawada Y. Computational Optimization and Applications, vol.25, pp.193-222, 2003 (Journal Indexed in SCI)

- **Radial organization of developing preterm human cerebral cortex revealed by non-invasive water diffusion anisotropy MRI.**

McKinstry R., Mathur A., Miller J., Ozcan A., Snyder A., Schefft G., Almlı C., Shiran S., Conturo T., Neil J. Cerebral cortex (New York, N.Y. : 1991), vol.12, pp.1237-43, 2002 (Journal Indexed in SCI)

## Articles Published in Other Journals

- **Complete fourier direct magnetic resonance imaging (CFD-MRI) for diffusion MRI.**

Ozcan A.

Frontiers in integrative neuroscience, vol.7, pp.18, 2013 (Refereed Journals of Other Institutions)

- **COMPARISON OF THE COMPLETE FOURIER DIRECT MRI WITH EXISTING DIFFUSION WEIGHTED MRI METHODS.**

Ozcan A.

Proceedings. IEEE International Symposium on Biomedical Imaging, vol.2011, pp.931-934, 2011 (Refereed Journals of Other Institutions)

- **The validation of complete Fourier direct MR method for diffusion MRI via biological and numerical phantoms.**

Özcan A., Quirk J., Wang Y., Wang Q., Sun P., Spees W., Song S.

Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual Conference, vol.2011, pp.3756-9, 2011 (Refereed Journals of Other Institutions)

- **Simulations and experimental demonstration of coupling molecular and macroscopic level modalities with a robotic manipulator.**

Sonmez A., Hedayati Y., Özcan A., Spees W., Tsekos N.

Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual Conference, vol.2011, pp.7446-9, 2011 (Refereed Journals of Other Institutions)

- **A new model for diffusion weighted MRI: complete Fourier direct MRI.**

Ozcan A.

Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual Conference, vol.2010, pp.2710-3, 2010 (Refereed Journals of Other Institutions)

- **Theoretical and experimental analysis of imaging gradients in DTI.**

Ozcan A.

Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual Conference, vol.2009, pp.2703-6, 2009 (Refereed Journals of Other Institutions)

- **Decoupling of imaging and diffusion gradients in DTI.**

Ozcan A.

Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual Conference, vol.2009, pp.2707-10, 2009 (Refereed Journals of Other Institutions)

- **Fast and efficient radiological interventions via a graphical user interface commanded magnetic resonance compatible robotic device.**

Ozcan A., Christoforou E., Brown D., Tsekos N.

Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual Conference, vol.1, pp.1762-7, 2006 (Refereed Journals of Other Institutions)

## Refereed Congress / Symposium Publications in Proceedings

- **Changes in Prefrontal Cortex's EEG Based Functional Connectivity During Laparoscopic Simulation Training**  
Keskin S., Aksoy M. E. , Ucrak F., Bayram M. S. B. , Ozcan İ. A.  
2019 41st Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC), Berlin, Germany, 23 - 27 July 2019
- **Distribution of ADC-Ki67 with molecular subtypes labels**  
Aksoy Özcan Ü., Ulus S., Ekemen S., Oyan Uluç B., Ozcan İ. A.  
25th European Congress of Radiology (ECR) 2019, Vienna, Austria, 27 February - 03 March 2019, pp.1
- **Testing machine learning algorithms' performance for non-invasively identifying breast cancer molecular subtypes using BI-RADS evaluations**  
Özcan İ. A. , Aksoy Özcan Ü., Ekemen S., Ulus S., Oyan Uluç B.  
San Antonio Breast Cancer Symposium, Texas, United States Of America, 4 - 10 December 2018, vol.79, no.4, pp.5
- **Correlation of proliferation index markers (Ki-76 and PHH3) with breast MRI apparent diffusion coefficient values**  
Ekemen S., Ozcan İ. A. , Aksoy Özcan Ü., Ulus S., Oyan Uluç B.  
San Antonio Breast Cancer Symposium, Texas, United States Of America, 4 - 08 December 2018, vol.79, no.4, pp.6
- **Robot-assisted mechanical scanning and co-registration of Magnetic Resonance Imaging and light-induced fluorescence**  
Sonmez A. E. , Spees W. M. , Ozcan A., Deng Z., Webb A. G. , Tsekos N. V.  
2012 4th IEEE RAS and EMBS International Conference on Biomedical Robotics and Biomechanics, BioRob 2012, Rome, Italy, 24 - 27 June 2012, pp.775-780
- **Robot-facilitated scanning and co-registration of multi-modal and multi-level sensing: Demonstration with magnetic resonance imaging and spectroscopy**  
Sonmez A. E. , Özcan A., Spees W. M. , Tsekos N. V.  
2011 IEEE International Conference on Robotics and Automation, ICRA 2011, Shanghai, China, 9 - 13 May 2011, pp.1133-1138
- **Manipulator for magnetic resonance imaging guided interventions: Design, prototype and feasibility**  
Christoforou E. G. , Özcan A., Tsekos N. V.  
2006 IEEE International Conference on Robotics and Automation, ICRA 2006, Orlando, FL, United States Of America, 15 - 19 May 2006, vol.2006, pp.3838-3843
- **Robotic arm for magnetic resonance imaging guided interventions**  
Christoforou E. G. , Ozcan A., Tsekos N. V.  
1st IEEE/RAS-EMBS International Conference on Biomedical Robotics and Biomechanics, 2006, BioRob 2006, Pisa, Italy, 20 - 22 February 2006, vol.2006, pp.911-916
- **Game-theoretic linear-quadratic method for air mission control**  
Mukai H., Tanikawa A., Tunay I., Ozcan İ. A. , Katz I., Schättler H., Rinaldi P., Wang G., Yang L., Sawada Y.  
39th IEEE Conference on Decision and Control, Sydney, Australia, 12 - 15 December 2000, vol.3, pp.2574-2580
- **On the calculation of the feasibility boundary for differential-algebraic systems**  
Ozcan İ. A. , Schattler H.  
The 38th IEEE Conference on Decision and Control (CDC), Phoenix, AZ, USA, 7 - 10 December 1999, vol.3, pp.2580-2586

## Citations

Total Citations (WOS):472

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