

## Assoc. Prof. Eyüp KIZIL

### Personal Information

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### Biography

Lisans eğitimini 1990-94 yılları arasında Yıldız Teknik Üniversitesi (YTÜ) Fen-Edebiyat Fakültesi Matematik Bölümü'nde, Yüksek Lisansın ilkini YTÜ Matematik Bölümü'nde 1996 tarihinde diğerini ise Şili'nin Antofagasta şehrindeki Universidad Catolica del Norte Üniversitesi Matematik Departmanında (Professor Victor Ayala danışmanlığında) Ocak-1999 tarihinde tamamlamıştır. Matematik Kontrol Teori ve Lie grupları üzerine ilk çalışmaları bu tarihlerde başlamış olup akabinde Brezilya'nın Campinas şehrindeki Universidade Estadual de Campinas (UNICAMP) Üniversitesinde Professor Luiz San Martin danışmanlığında başladığı Doktora eğitimini Nisan-2003 tarihinde bitirmiştir. Doktora tezi literatürde oldukça yeni sayılan Homotopi Teorinin Geometrik Kontrol Sistemlerine uyarlaması üzerinedir. 2006-2007 ve 2013-2014 tarihlerinde sırasıyla İtalya'daki SISSA (International School for Advanced Studies) adlı prestijli araştırma enstitüsünde Professor A. Agrachev ve Amerika'nın Louisiana State Üniversitesi'nde Professor Jimmie Lawson gözetiminde iki adet doktora sonrası araştırmalarda bulunmuştur. Doçentliğini Mart-2017 tarihinde Topoloji Bilim Dalında almıştır. Brezilya'nın güzide üniversitelerinden olan Universidade de Sao Paulo da assistant professor olarak uzun yıllar çalıştıktan sonra, daha önce araştırma görevlisi olarak da hizmet verdiği Yıldız Teknik Üniversitesi Matematik Bölümü'ne Mayıs-2017 tarihinden itibaren öğretim üyesi olarak geri dönmüştür. Akademik kariyeri boyunca bulunduğu ülkelerde bütçe tahsisli bir çok araştırma projesi yürütmüştür. Yakın zamanda TÜBİTAK tarafından nitelikli bilim insanlarının yurda dönüşünü teşvik maksadıyla verilen bilimsel araştırma desteğine hak kazanmış olup, söz konusu projesini İstanbul Teknik Üniversitesi Matematik Bölümü'nde başlatmış, peşinden mensubu bulunduğu Yıldız Teknik Üniversitesine transfer etmiş olup yürütmesini bu üniversitede tamamlamıştır. Geometrik Kontrol Teori, Lie grupları ve Lie cebirlerinin teorisi, Lie semigrupları ve Homotopi Teorinin Kontrol Teoriye uygulamaları üzerine çalışmalar yürütmektedir.

### Education Information

Post Doctorate, Louisiana State University and Agricultural and Mechanical College, Department Of Mathematics, Mathematics, United States Of America 2013 - 2014

Post Doctorate, Scuola Internazionale Superiore di Studi Avanzati, SISSA, Mathematics, Italy 2006 - 2007

Doctorate, Universidade Estadual de Campinas (UNICAMP), Instituto De Matematica, Estatística E De Computação Científica, Brazil 1999 - 2003

Post Graduate, Universidad Catolica del Norte, Facultad de Ciencias, Departamento de Matematica, Chile 1997 - 1999

Post Graduate, Yıldız Teknik Üniversitesi, Faculty of Arts & Science, Matematik, Turkey 1994 - 1996

Under Graduate, Yıldız Teknik Üniversitesi, Faculty of Arts & Science, Matematik, Turkey 1990 - 1994

### Foreign Languages

Portuguese, C1 Advanced

English, B2 Upper Intermediate

Spanish, B2 Upper Intermediate

Italian, B1 Intermediate

### Dissertations

Doctorate, Causal homotopy of trajectories of control systems, Universidade Estadual de Campinas (UNICAMP), Institute of Computer and Mathematical Sciences, Department of Mathematics, 2003

Post Graduate, Linear Control Systems on Nilpotent Lie groups, North Catholic University, Faculty of Sciences, Department of Mathematics, 1999

## Research Areas

Mathematics, Dynamic Systems and Ergodic Theory, System Theory: Control, Topological Groups, Lie Groups, Natural Sciences

## Academic Titles / Tasks

Associate Professor, Yıldız Teknik Üniversitesi, Faculty of Arts & Science, Department of Mathematics, 2017 - Continues

Assistant Professor, Universidade De Sao Paulo (Usp), Instituto De Ciencias Matematicas E De Computação, Departamento De Matematica, 2004 - 2017

Research Assistant, Yıldız Teknik Üniversitesi, Faculty of Arts & Science, Department of Mathematics, 1995 - 2003

## Professional Experience

Mevlana Exchange Program Coordinator, Yıldız Technical University, Faculty of Arts & Science, Department of Mathematics, 2019 - Continues

Erasmus Coordinator, Yıldız Technical University, Faculty of Arts & Science, Department of Mathematics, 2019 - Continues

## Courses

Kontrol Theory, Post Graduate, 2019 - 2020

Topoloji, Post Graduate, 2018 - 2019

TOPOLOGY, Post Graduate, 2018 - 2019

TOPOLOJİYE GİRİŞ, Under Graduate, 2017 - 2018

MATEMATİK 2, Under Graduate, 2017 - 2018

TOPOLOJİ, Post Graduate, 2017 - 2018

MATEMATİK 1, Under Graduate, 2016 - 2017

ALGEBRA LINEAR, Under Graduate, 2014 - 2015

CALCULO 2, Under Graduate, 2004 - 2005

EQUAÇÕES DIFERENCIAIS, Under Graduate, 2004 - 2005

## Advising Theses

KIZIL E., Monotonik homotopi ve uygulamaları, Post Graduate, S.Yazar(Student), Continues

KIZIL E., Universal covering group of a Lie group, Post Graduate, M.Ersoy(Student), Continues

Kızıl E., Linear control systems on homogeneous spaces, Doctorate, O.DUMAN(Student), Continues

KIZIL E., Lie grupları üzerindeki bazı kontrol sistemlerinin kontrol edilebilirliği, Doctorate, M.Kudeyt(Student), 2017

KIZIL E., Sistemas de controle linear em grupos de Lie, Post Graduate, A.Carolina(Student), 2013

KIZIL E., Recobrimento monotónico de sistemas de controle, Post Graduate, R.Ribeiro(Student), 2012

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

- **Characterizations of automorphic and anti-automorphic involutions of the quaternions**  
Lawson J., KIZIL E.  
Linear and Multilinear Algebra, 2020 (Journal Indexed in SCI)
- **Derivations of generalized quaternion algebra**  
Kizil E., Alagöz Y.  
TURKISH JOURNAL OF MATHEMATICS, vol.43, pp.2649-2657, 2019 (Journal Indexed in SCI)
- **Homotopy Path Spaces for Families of Admissible Paths**  
Lawson J., Kizil E.  
JOURNAL OF DYNAMICAL AND CONTROL SYSTEMS, vol.23, pp.635-654, 2017 (Journal Indexed in SCI)
- **THE COVERING SEMIGROUP OF INVARIANT CONTROL SYSTEMS ON LIE GROUPS**  
Ayala V., KIZIL E.  
KYBERNETIKA, vol.52, pp.837-847, 2016 (Journal Indexed in SCI)
- **Regular Trajectories of Young Systems**  
Vieira M. G. O. , Kizil E., Catuogno P. J.  
JOURNAL OF DYNAMICAL AND CONTROL SYSTEMS, vol.21, pp.539-558, 2015 (Journal Indexed in SCI)
- **Lie Semigroups, Homotopy, and Global Extensions of Local Homomorphisms**  
KIZIL E., Lawson J.  
JOURNAL OF LIE THEORY, vol.25, pp.753-774, 2015 (Journal Indexed in SCI)
- **On a subsemigroup of the universal covering of Lie semigroups**  
Kizil E., Lawson J.  
SEMIGROUP FORUM, vol.89, pp.627-638, 2014 (Journal Indexed in SCI)
- **Monotonic homotopy for trajectories of young systems**  
Vieira M. G. O. , Kizil E., Catuogno P. J.  
JOURNAL OF DYNAMICAL AND CONTROL SYSTEMS, vol.19, pp.405-420, 2013 (Journal Indexed in SCI)
- **Addendum to "universal covering of driftless control systems"**  
Kizil E.  
Journal of Dynamical and Control Systems, vol.15, pp.445-448, 2009 (Journal Indexed in SCI)
- **UNIVERSAL COVERING OF DRIFTLESS CONTROL SYSTEMS**  
Kizil E.  
JOURNAL OF DYNAMICAL AND CONTROL SYSTEMS, vol.14, pp.453-464, 2008 (Journal Indexed in SCI)
- **Covering space for monotonic homotopy of trajectories of control systems**  
Colonius F., Kizil E., San Martin L.  
JOURNAL OF DIFFERENTIAL EQUATIONS, vol.216, pp.324-353, 2005 (Journal Indexed in SCI)
- **Observability of general linear pairs**  
Ayala V., Hacibekiroglu A., KIZIL E.  
COMPUTERS & MATHEMATICS WITH APPLICATIONS, vol.39, pp.35-43, 2000 (Journal Indexed in SCI)
- **Transitivity of linear control systems on Lie groups**  
Ayala V., Hacibekiroglu A. K. , KIZIL E., Zegarra L. R. , Zegarra R.  
COMPUTATIONAL & APPLIED MATHEMATICS, vol.18, pp.247-255, 1999 (Journal Indexed in SCI)

## Articles Published in Other Journals

- **About the solutions of linear control systems on Lie groups**  
AYALA V., DA SILVA A., Kizil E.  
Proyecciones, vol.35, pp.491-503, 2016 (Refereed Journals of Other Institutions)
- **Null controllability on Lie groups**  
AYALA V., Kizil E.  
Proyecciones, vol.32, pp.61-72, 2013 (Refereed Journals of Other Institutions)
- **On an algorithm for finding derivations of lie algebras**  
Ayala V., Kizil E., TRIBUZY I. D. A.  
Proyecciones, vol.31, pp.81-90, 2012 (Refereed Journals of Other Institutions)

## Supported Projects

KIZIL E., Other Supported Projects, TÜBİTAK - Monotonik Homotopi ve Lie Semi-grupları, 2016 - 2018  
KIZIL E., Other Supported Projects, FAPESP/BRASIL - Universal Covering Semigroups of Lie Semigroups, 2013 - 2014  
KIZIL E., Other Supported Projects, FAPESP/BRASIL - Covering Semigroup for Invariant Control Systems on Lie groups, 2012 - 2013  
KIZIL E., Other Supported Projects, FAPESP/BRASIL - Linear Control Systems on Lie Groups : Null Controllability, 2009 - 2011  
Kızıl E., Agratchev A., Boscain U., Altafini C., Zelenko I., Project Supported by Public Organizations in Other Countries, Mathematical control theory Controllability optimization stability MIUR Ministero dell Università e della Ricerca Università ve araştırma bakanlığı Local International School of Advanced Studies Trieste ITALYA, 2006 - 2008  
KIZIL E., Other Supported Projects, CNPq/BRASIL - Coverings of Control Systems on Lie groups, 2006 - 2007  
KIZIL E., Other Supported Projects, CNPq/BRASIL - Desenvolvimento Científico e Tecnológico Regional, 2003 - 2004  
KIZIL E., Other Supported Projects, CONICYT/CHILE - Fondecyt Project, 1997 - 1999

## Scientific Refereeing

ZENTRALBLATT, Other Indexed Journal, April 2015  
AMS MATHEMATICAL REVIEWS, Other Indexed Journal, July 2014  
JOURNAL OF DYNAMICAL AND CONTROL SYSTEMS, SCI Journal, December 2006

## Scientific Consultations

FAPESP-Sao Paulo Research Foundation, Project Consultancy, 2015 - Continues

## Tasks In Event Organizations

Kızıl E., CONTROL, OPTIMIZATION AND STABILITY OF NON-LINEAR SYSTEMS: GEOMETRIC AND ANALYTIC METHODS, Workshop Organization, Trieste, Italy, Haziran 2007

## Invited Congress and Symposium Activities

School on mixing and control, Italy, Working Group, Trieste, Italy, 2019  
School on Algebraic, Geometric and Probabilistic Aspect of Dynamical Systems and Control Theory, Italy, Working Group, Trieste, Italy, 2016  
IV School and Workshop on Lie Theory, Brazil, Working Group, Campinas, Brazil, 2015  
School and Workshop on Lie Theory, Brazil, Working Group, Campinas, Brazil, 2010  
International Conference on Topological Methods, Differential Equations, and Dynamical Systems, Invited Speaker, Florence, Italy, 2007  
Workshop on Control, Optimization and Stability of Nonlinear Systems: Geometric and Analytic Methods, Working Group, Trieste, Italy, 2007  
Workshop on Geometry of vector distributions, differential equations and variational problems, Working Group, Trieste, Italy, 2006  
School on Nonlinear Differential Equations, Working Group, Trieste, Italy, 2006  
International Congress of Mathematicians, Spain, Working Group, Madrid, Spain, 2006  
Geometric Control and Nonsmooth Analysis, Italy, Working Group, Rome, Italy, 2006  
SISSA:Functional Analysis and Applications Seminars , Working Group, Trieste, Italy, 2006  
XV Congreso de Matemática Capricornio, Chile, Working Group, Antofagasta, Chile, 2005  
CIMPA Workshop on Geometric Nonlinear Control,, Working Group, Campinas, Brazil, 2003

## Citations

Total Citations (WOS):19

h-index (WOS):2

## Invited Talks

International Conference on Topological Methods, Differential Equations and Dynamical Systems, Conference, Università Degli Studi di Firenze, Italy, June 2007

XV Congreso de Matematicas Capricornio, Conference, Universidad Catolica del Norte, Chile, August 2005

Coverings of control systems, Seminar, Diğer KurumlaInternational School for Advanced Studies, Italy, March 2005

CIMPA Workshop on Geometric Non-linear Control, Workshop, Universidade Estadual de Campinas (UNICAMP), Brazil, July 2003

## Awards

Kızıl E., Tübitak Uluslararası Bilimsel Yayınları Teşvik, Tübitak Ubyt, February 2020

Kızıl E., Projeto 1, Pro-Reitoria De Pesquisa, Universidade De Sao Paulo, July 2009