



**Yildiz Technical University  
College of Arts and Sciences  
Mathematics Department**



**Florida State University  
College of Arts and Sciences  
Mathematics Department**



**Tallahassee Community College  
Mathematics Department**



**Texas A&M University-Commerce  
College of Arts and Sciences  
Mathematics Department**

**Mutlu Akar, Ph.D  
Assistant Professor of Mathematics**

**Date of Birth** March 19, 1984  
**Place of Birth** Malatya, Turkey (Permanent Resident Card: Green Card Holder)  
**Department** Mathematics  
**Cell Phone** (682) 408-4803



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## Home Address

9701 Terra Lago Ct. Apt 216 Rowlett, TX, 75089

## Research Interests

- Numerical Solutions of Differential-Algebraic Equations
- Maple Programming
- Kinematics
- Non-Euclidean Geometry (Galilean Geometry, Lorentz Geometry, etc)
- Dual Numbers
- Differential Geometry
- Clifford Algebra
- Computer Sciences
- Matlab Programming

## EDUCATION

- **Postdoctoral Assoc. Courtesy (2013-2014):** Title: Clifford Algebra, Clifford Analysis  
Florida State University, College of Arts and Sciences, Mathematics Department,  
Tallahassee, FL, USA
- **Ph.D (2007-2012):** Title: Holditch-Type Theorems for the Polar Moment of Inertia of  
the Closed Orbit Curve Under Planar Homothetic Motions  
GPA: 3.67 / 4.00  
Yildiz Technical University, College of Arts and Sciences, Mathematics Department,  
Istanbul, TURKEY
- **Master of Science (2005-2007):** Title: The Numerical Solution of Differential-  
Algebraic Equations by Least Squares Approximation.  
GPA: 4.00 / 4.00  
Yildiz Technical University, College of Arts and Sciences, Mathematics Department,  
Istanbul, TURKEY
- **Bachelor of Science (2001-2005):**  
Score: 78.91 / 100  
Inonu University, College of Arts and Sciences, Mathematics Department,  
Malatya, TURKEY

## WORK EXPERIENCE

- **2018-Current:** Visiting Professor, at the Texas A&M University, Mathematics Department  
(TAMUC)
- **2016-2016:** Adjunct Instructor, at the Tallahassee Community College, Mathematics  
Department (TCC)
- **2015-Current:** Assistant Professor, at the Yildiz Technical University, Mathematics  
Department (YTU)
- **2013-2014:** Postdoctoral Assoc. Courtesy, at the Florida State University, Mathematics  
Department (FSU)
- **2012-2015:** Faculty, at the Yildiz Technical University, Mathematics Department (YTU)
- **2005-2012:** Research Assistant, at the Yildiz Technical University, Mathematics Department  
(YTU)

## Publications

- 1- Akar M., Yüce S., Şahin S., "On the Dual Hyperbolic Numbers and the Complex Hyperbolic Numbers", *Journal of Computer Science & Computational Mathematics*, Vol.8, Issue 1, pp.1-6, (2018)
- 2- Yüce S., Akar M., "Dual Plane and Kinematics", *Chiang Mai Journal of Science*, Vol. 41, Issue 2, pp. 463-469, (2014) (SCI-Expanded)
- 3- Akar M., Yüce S., Kuruoğlu N., "One-Parameter Planar Motion on the Galilean Plane", *International Electronic Journal of Geometry (IEJG)*, Vol. 6, Issue 1, pp. 79-88, (2013)
- 4- Çevikel A.C., Bekir A., Akar M., San S., "A Procedure to Construct Exact Solutions of Nonlinear Evolution Equations", *Pramana Journal of Physics*, Vol. 79, Issue 3, pp. 337-344, (2012) (SCI)
- 5- Çelik E., Akar M., "Least-Squares Approximations for Solving Differential-Algebraic Equations (DAEs)", *World Applied Sciences Journal (WASJ)*, Vol. 11, Issue 8, pp. 994-998, (2010)
- 6- Guzel, N., Unal H., Akar M., "A Visual Proof to Inverse Trigonometric Function", *Mathematics and Computer Education*, Vol. 42, Issue 2, pp. 146, (2008)

## Presentations

### International Presentations

- 1- Mutlu Akar and Nikolay Metodiev Sirakov, Skin Lesion Features Vectors Projection into Clifford Algebra Sub-Spaces, International Conference on Applied Analysis and Mathematical Modeling (ICAAMM18), Istanbul, Turkey, June 20-24, (2018)
- 2- Mutlu Akar and Adem Cengiz Çevikel, Bright and Dark Soliton Solutions for the KP Equation, 2018 AMS Spring Eastern Sectional Meeting, Northeastern University, Boston, Massachusetts, USA, April 21-22, (2018)
- 3- Adem Cengiz Çevikel and Mutlu Akar, Periodic and Solitary Wave Solutions for the Nonlinear Evolution Equations, 2018 AMS Spring Eastern Sectional Meeting, Northeastern University, Boston, Massachusetts, USA, April 21-22, (2018)
- 4- Mutlu Akar and Nikolay Metodiev Sirakov, Basics of Skin Lesion Classification in Clifford Algebra, AMS Fall Western Sectional Meeting, University of California, Riverside, Riverside, California, USA, November 4-5, (2017)
- 5- Erdoğan Mehmet Özkan, Mutlu Akar and Adem Cengiz Çevikel, Periodic and Solitary Wave Solutions of Some Physical Models, AMS Fall Western Sectional Meeting, University of California, Riverside, Riverside, California, USA, November 4-5, (2017)
- 6- Mutlu Akar, On the Vahlen Matrices, 13th Algebraic Hyperstructures and its Applications Conference, Istanbul, Turkey, (as a Session Chair) July 24-27, (2017)
- 7- Mutlu Akar, Serdal Sahin and Salim Yüce, Higher-Order Poles under the One-Parameter Planar Dual Motion, Seventh International Conference on Dynamic Systems and Applications & Fifth International Conference on Neural, Paralel, and Scientific Computations, Atlanta, Georgia, USA, (as a Session Chair) May 27-30, (2015)
- 8- Serdal Sahin, Mutlu Akar and Salim Yüce, A Formula for Higher-Order Accelerations under the One-Parameter Planar Dual Inverse Motion, Seventh International Conference on Dynamic Systems and Applications & Fifth International Conference on Neural, Paralel, and Scientific Computations, Atlanta, Georgia, USA, May 27-30, (2015)
- 9- Mutlu Akar, Serdal Sahin and Salim Yüce, Higher-Order Velocities and Accelerations under the One-Parameter Planar Dual Motions, 2015 Joint Mathematics Meetings, San Antonio, Texas, USA, January 10-13, (2015)
- 10- Serdal Sahin, Mutlu Akar and Salim Yüce, On the Hyperbolic Complex Numbers, 38th Annual SIAM Southeastern Atlantic Section Conference, Florida Institute of Technology, Melbourne, Florida, USA, March 29-30, (2014)
- 11- Adem Cengiz Çevikel, Özkan Güner, Ahmet Bekir and Mutlu Akar, Exact Solutions of Nonlinear Fractional Partial Differential Equation, SIAM Conference on Analysis of Partial Differential Equations (PD13), Lake Buena Vista, Florida, USA, pp. 65, December 7-10, (2013)
- 12- Mutlu Akar, Serdal Şahin and Salim Yüce, Some Properties on the Dual Hyperbolic Numbers, 2013 Lehigh University Geometry and Topology Conference, Bethlehem, Pennsylvania, USA, pp.1, May 24-26, (2013)
- 13- Mutlu Akar and Salim Yüce, A Holditch-Type Theorem for the Polar Moment of Inertia under the 1-Parameter Closed Planar Homothetic Motion, International Conference on Applied Analysis and Algebra, Istanbul, Turkey, pp.194, June 20-24, (2012)
- 14- Mutlu Akar, Adem Cengiz Çevikel, Ahmet Bekir and Sait San, An Algebraic Procedure to Construct Exact Solutions of Nonlinear Evolution Equations, SIAM Conference on Analysis of Partial Differential Equations (PD11), San Diego, California, USA, pp.69, (as a Session Chair) November 14-17, (2011)

- 15- Mutlu Akar, Salim Yüce and Nuri Kuruoğlu, One-Parameter Planar Motion in the Galilean Plane, International Conference on Applied Analysis and Algebra, Istanbul, Turkey, pp.274, June 29-July 02, (2011)
- 16- Mutlu Akar and Salim Yüce, A Generalization of the Polar Moment of Inertia under the 1- Parameter Closed Planar Homothetic Motion and Maple Examples, Sixth International Conference on Dynamic Systems and Applications, Atlanta, Georgia, USA, pp.28, May 25-28, (2011) (Full Text was published in the proceedings book, Vol. 6, 14–17, 2012)
- 17- Mutlu Akar and Salim Yüce, On the Generalizations of the Polar Moments of Inertia under the Homothetic Motions, 2011 Joint Mathematics Meetings (JMM), New Orleans, Louisiana, USA, 32-204, January 6-9, (2011)
- 18- Mutlu Akar and Mustafa Bayram, Laguerre Polynomials Approximation For Numerical Solution Of Differential-Algebraic Equations (DAEs), 8th Joint AMS-SMM International Meeting, Berkeley, California, USA, pp.60, June 2-4, (2010)
- 19- Mutlu Akar and Ercan Çelik, On the Numerical Solution of Differential-Algebraic Equations (DAEs) by using Legendre Polynomials Approximation, SIAM Conference on Analysis of Partial Differential Equations (PD09), Miami, Florida, USA, pp.32, December 07-10, (2009)
- 20- Mutlu Akar, Mustafa Bayram and Hasan Unal, Graphical Differentiation with ClassPad300Plus, 12th Asian Technology Conference in Mathematics, Taipei, Taiwan, December 16-20, (2007)

### National Presentations

- 1- Mutlu Akar and Ercan Çelik, Numerical Solutions of Differential-Algebraic Equations (DAEs) by using Least-Squares Approximations, XX. National Mathematics Symposium, Erzurum, Turkey, pp.98, September 3-6, (2007)

### Conference Participation

- 1- 4th International Conference on Pure and Applied Sciences: Renewable Energy, November 23-25, 2017, Istanbul, Turkey (as a Session Chair)
- 2- VI. Geometry Symposium, July 1-4, 2008, Bursa/Turkey
- 3- Mathematics Workshop Days (Summability, Sequence Spaces and Applications), May 15-16, 2008, Istanbul Commerce University, Istanbul/Turkey
- 4- Mathematical Days, June 9-10, 2007, B.A.I.B. University, Bolu/Turkey
- 5- II. National Cryptology Symposium, December 15-17, 2006, METU, Ankara/Turkey

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### Projects

**Position:** Researcher

**Project Name:** Holditch-Type Theorems for the Polar Moment of Inertia of the Closed Orbit Curve Under Planar Homothetic Motions

**Project Number:** 2010-01-03-DOP01 (5000 Turkish Liras)

**Date:** May 15, 2010- December 15, 2012,

**Supporting Institution:** YTU Scientific Research Projects, Ph.D Thesis

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## Refereeing

### International Journals

- 1- Istanbul Journal of Mathematics (2017)
  - 2- Open Physics (2016) (SCI-Expanded)
  - 3- Advances in Applied Clifford Algebras (2015) (SCI-Expanded)
  - 4- Iranian Journal of Science and Technology Transaction A: Science (2012) (SCI-Expanded)
  - 5- Batman University Journal of Life Science (2012)
  - 6- International Journal of Nonlinear Science (2012)
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## Academic Organizations

### National Academic Organizations

- 1- **Member of Organization:** 13. Geometry Symposium, July 27-30, 2015, Istanbul/Turkey
- 2- **Member of Organization:** TUBITAK (The Scientific and Technological Research Council of Turkey), Research Project Contest for High School Students, Istanbul - Europe ( Istanbul European Side, Kırklareli, Tekirdag and Edirne) March 29-31, 2011, YTU
- 3- **Member of Organization:** TUBITAK (The Scientific and Technological Research Council of Turkey), Research Project Contest for High School Students, Istanbul - Europe ( Istanbul European Side, Kırklareli, Tekirdag and Edirne) March 22-26, 2010, YTU
- 4- **Member of Organization:** TUBITAK (The Scientific and Technological Research Council of Turkey), Research Project Contest for High School Students, Istanbul - Europe ( Istanbul European Side, Kırklareli, Tekirdag and Edirne) April 7-9, 2009, YTU

### International Academic Organizations

- 1-**Local Committee Member and Session Chair:** 13th Algebraic Hyperstructures and its Applications Conference (AHA2017), July 24-27, 2017, Istanbul/Turkey
  - 2-**Local Committee Member and Session Chair:** International Conference on Applied Analysis and Mathematical Modeling (ICAAMM2013), June 2-5, 2013, Istanbul/Turkey
  - 3- **Local Committee Member and Session Chair:** International Conference on Applied Analysis and Algebra (ICAAA2012), June 20-24, 2012, Istanbul/Turkey
  - 4- **Local Committee Member:** International Conference on Applied Analysis and Algebra (ICAAA2011), June 29-July 02, 2011, Istanbul/Turkey
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## Skills

- 1- Advanced Use of Microsoft Office (Word, Excel, Power Point,...)
  - 2- Working with MAPLE, Mathematica, Matlab, ClassPad300 Plus, Fortran, Basic, Java.
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## Courses Taught

- 1- Differential Geometry, YTU
- 2- Analytic Geometry, YTU
- 3- Dual Number and Quaternions Theory, YTU
- 4- Surface Theory, YTU
- 5- Linear Algebra, YTU
- 6- Differential Equations, YTU

- 7- Calculus I-II, YTU
- 8- Fundamental Computer Sciences, YTU
- 9- Calculations of Computer Based Mathematical- Maple, YTU
- 10- Advanced Computer Programming (Graduate School), YTU
- 11- Intermediate Algebra, TCC

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## **ACHIEVEMENTS/AWARDS**

- **2005- 2009:** MSc and Ph.D Student's Representative in the Mathematics Department, Institute of Science & Technology (YTU)
  - **2009- 2013:** Research Assistant Representative in both the Mathematics Department and College of Arts and Sciences (YTU)
  - **2011- 2013:** Research Assistant Representative in all of University (YTU)
  - **2009- 2011:** Member of Board of Directors in Association with Yildiz Protection and Sustentation (YTU)
  - **2009- 2011:** Member of Board of Directors on the Research Assistants Council of YTU
  - **2009- 2013:** Member of Board of Directors in the College of Arts and Sciences (YTU)
  - **2009- 2013:** Member of Board in the College of Arts and Sciences (YTU)
  - **2011- 2013:** President of Board of Directors on the Research Assistants Council of YTU
  - **2011- 2013:** Member of Board of Directors at YTU
  - **2011- 2013:** Member of Senate at YTU
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- **2013- 2014:** TUBITAK (The Scientific and Technological Research Council of Turkey) International Post Doctoral Research Fellowship at Florida State University
  - **2018- 2019:** TUBITAK (The Scientific and Technological Research Council of Turkey) Scholarship for Research at Texas A&M University-Commerce