

# Ahmet Çevik

a.cevik@hotmail.com

<http://www.ahmetcevik.com>

## Education

- 2014 | Ph.D in Mathematics, University of Leeds, United Kingdom.  
Thesis: *Degrees of members of  $\Pi_1^0$  classes.*  
Advisor: S. Barry Cooper, Andrew E. M. Lewis.
- 2009 | M.Sc. in Computer Engineering, Atılım University, Ankara, Turkey.  
Thesis: *State Change Languages: Algebraic and Language Class Properties.*  
Advisor: Hürevren Kılıç.
- 2007 | B.Sc. in Computer Engineering, Atılım University, Ankara, Turkey.  
Thesis: *Collective Behavior Intelligence and Optimization.*  
Advisor: Nergiz Ercil Çağiltay.

## Interest Areas

mathematical logic, philosophy of mathematics, computability, theoretical computer science (quantum computing, formal language theory).

## Academic Experience

- Research visit July - Sep 2019  
**UCLA, Department of Mathematics, Los Angeles, CA, USA**
- Asst. Prof. January 2018 - Present  
**Gendarmerie and Coast Guard Academy, Ankara, Turkey**
- Adjunct Professor ; Spring 2019, Spring 2020  
**Middle East Technical University, Department of Computer Engineering, Turkey**
- Adjunct Professor Fall 2019  
**Middle East Technical University, Department of Mathematics, Ankara, Turkey**
- Adjunct Professor Spring 2015 to Fall 2019  
**Middle East Technical University, Department of Philosophy, Turkey**
- Postdoctoral research 2015 - 2016  
**UC Berkeley, Department of Mathematics, Berkeley, CA, USA**
- Research and Teaching Assistant 2007 - 2010  
**Atılım University, Department of Computer Engineering, Turkey**

## Teaching

### Middle East Technical University, Department of Mathematics

#### Lecturer

Teaching duties included preparing the syllabus and some lecture notes; lecturing, assigning and grading homework; writing and grading exams; and holding weekly office hours.

- *Courses:* Introduction to Mathematical Logic and Model Theory

## Middle East Technical University, Department of Computer Engineering

### Lecturer

Teaching duties included preparing the syllabus and lecture notes; lecturing, assigning and grading homework; writing and grading exams; and holding weekly office hours.

- *Courses:* Quantum Computing

## Middle East Technical University, Department of Philosophy

### Lecturer

Teaching duties included preparing the syllabus and lecture notes; lecturing, assigning and grading homework; writing and grading exams; and holding weekly office hours.

- *Courses:* Philosophy of Logic and Mathematics

Axiomatic Set Theory

## Atılım University, Department of Computer Engineering

### Teaching and Research Assistant

Teaching duties included holding weekly tutorials, writing and grading worksheets; holding office hours.

- *Courses:* Artificial Intelligence

Formal Language Theory

Algorithms

Computer Programming in C

Digital Logic

Computer Architecture

## Refereed Journal Publications

- (i) A. Çevik  
*Minimal bounds and members of effectively closed sets*, submitted.
- (ii) S. Topal, A. Çevik, F. Smarandache  
*A New Group Decision Making Method with Distributed Indeterminacy Form under Neutrosophic Environment: Neutrosophic Social Choice Theory*, submitted.
- (iii) A. Çevik  
*Classifying a priori propositions by analytic derivation*, submitted.
- 1 A. Çevik  
*Palindromic characteristic of committed graphs and some model theoretic properties*, International J. Foundations of Computer Science, *accepted*.
- 2 S. Topal, A. Çevik  
*Natural Density and the Quantifier “Most”*, Journal of Logic, Language and Information, DOI 10.1007/s10849-019-09312-4 (2020).
- 3 A. Çevik  
*Axiom of Neutrosophic Choice*, International Journal of Unconventional Computing, Vol. 14, p. 467-478 (2019).
- 4 A. Çevik  
 *$\omega$ -circularity of Yablo’s paradox*, Logic and Logical Philosophy, DOI: 10.12775/LLP.2019.032, Logic and Logical Philosophy (2019).
- 5 A. Çevik, S. Topal, F. Smarandache  
*Neutrosophic Logic Based Quantum Computing*, DOI: 10.3390/sym10110656, Symmetry, 10(11), 656 (2018).
- 6 A. Çevik, S. Topal, F. Smarandache  
*Neutrosophic Computability and Enumeration*, DOI: 10.3390/10110643, Symmetry, 10, 643 (2018).
- 7 A. Çevik  
*Hypercomputation and Non-Computable Functions*, Journal of Logic, Mathematics, and Linguistics in Applied Sciences, 2(1), p.1-14 (2017)
- 8 A. Çevik  
 $\Pi_1^0$  *choice classes*, DOI 10.1002/malq201500055, Mathematical Logic Quarterly, Vol. 62, No 6, pp. 563-574 (2016).
- 9 A. Çevik  
*Antibasis theorems for  $\Pi_1^0$  classes and the jump hierarchy*, DOI 10.1007/s00153-012-0310-y, Archive for Mathematical Logic, Vol. 52, Issue 1-2, pp. 137-142, Springer, (2013).
- 10 A. Çevik  
*On the possibility of supertasks*, Beytulhikme - An International Journal of Philosophy, Vol.5, pp.171-180 (2013).
- 11 A. Çevik  
*Philosophy of Hilbert’s Formalization Program*, Felsefe Dünyası, Vol. 60, pp. 265-280 (2014).
- 12 H. Koyuncu and A. Çevik  
*Indoor Localization by using Particle Filtering Approach with Wireless Sensor Nodes*, JCOMSS - Journal of Communications Software and Systems, Vol.9, No.1, pp. 74-83 (2013).

## Refereed Journal Publications (Turkish)

- 1 A. Çevik  
*Aksiyomlanabilir Teorilerin Tam Tutarlı Uzantılarının Hesaplanabilirlik Dereceleri*, DOI: 10.191113/sdufbed.18471, Süleyman Demirel University Journal of Natural and Applied Sciences, Volume 22, Special Issue, p. 270-276 (2018).
- 2 A. Çevik  
*Seçim Aksiyomu'nun doğallığının veya yapaylığının belirlenmesi üzerine*, Felsefe Tartışmaları, Boğaziçi Üniversitesi Yayınevi, No 53, pp. 1-23 (2017).
- 3 A. Çevik and Z. Ercan  
*Nedir Bu 'Modern' Matematik?*, Bilim ve Gelecek, No 154, pp. 71-81 (2016).
- 4 A. Çevik  
*Matematik Felsefesi: Mantıkçılık*, Matematik Dünyası, No 104, pp. 50-53 (2016).
- 5 A. Çevik  
*Matematik Felsefesi: Sezgicilik*, Matematik Dünyası, No 103, pp. 53-58 (2016).
- 6 A. Çevik  
*Matematik Felsefesi: Platonculuk*, Matematik Dünyası, No 102, pp. 51-55 (2015).
- 7 A. Çevik  
*19. ve 20. yüzyıl bilinebilirliğinin matematiğe yansımaları*, Bilim ve Ütopya, No 253, pp. 62-65 (2015).
- 8 A. Çevik  
*Kardinaller, Modeller ve Skolem Paradoksu*, Matematik Dünyası, No 101, pp. 81-84. (2014).
- 9 A. Çevik  
*Sonluötesi hesaplama*, Matematik Dünyası, No 95, pp. 69-72 (2013).
- 10 A. Çevik  
*Hesaplanabilirlik Kuramı ve Turing Derecelerine Giriş*, Gaziosmanpaşa Üniversitesi Bilimsel Araştırma Dergisi, Vol. 1, pp. 1-20 (2012).
- 11 A. Çevik  
*Sayılamaz sonsuzluk, karar verilemezlik, Gödel'in Eksiklik Teoremi*, Felsefe Dünyası, Vol. 53, pp. 253-270 (2011).

## Conference Publications

- 1 A. Çevik and H. Kılıç  
*An Infinite Proper Subset of Regular Languages as a State Change Based Coupling of Finite Automata*, International Conference on Computer Science and Applications 2015 (ICCSA 2015), San Francisco, USA, October 2015, Conference proceedings, Vol I, pp. 55-58 (2015).
- 2 A. Çevik  
*Is the Church-Turing thesis the new Pythagoreanism?*, 5th World Congress and School on Universal Logic, University of Istanbul, June 25-30 2015, Turkey, Conference proceedings, pp. 85-86 (2015).
- 3 A. Çevik  
*A Linear-time algorithm for the prediction of compression during multimedia transmissions*, International Conference on Theoretical and Mathematical Foundations of Computer Science (TMFCS 2009), Orlando, FL, USA, July 2009, Proc. of TMFCS-09, pp. 49-53 (2009)
- 4 A. Çevik  
*Cryptology in quantum computing*, International Conference on Theoretical and Mathematical Foundations of Computer Science (TMFCS 2009), Orlando, FL, USA, July 2009, Proc. of TMFCS-09, pp. 54-58 (2009)
- 5 İ. K. Öcal, A. Çevik, İ. Cereci and H. Kılıç  
*F-Actor: A multiagent gaming environment for controlling virtual flow networks*, The 13th International Games Conference, (CGAMES 2008), Wolverhampton, UK, Nov. 2008, Proc. of 13th International Games Conference, pp. 86-91 (2008).

## Books (Turkish)

- 1 A. Çevik  
*Matematik Felsefesi ve Matematiksel Mantık (Philosophy of Mathematics and Mathematical Logic)*, Nesin Yayınevi, 2019.
- (i) A. Çevik  
*Philosophy of Mathematics: Classic and Contemporary Studies*. In preparation.
- (ii) A. Çevik  
*Kuantum Hesaplama Kuramı*. In preparation.

## Conference Publications (Turkish)

- 1 A. Çevik  
*Seçim Aksiyomu Doğal mıdır Yapay mıdır?*, VII. Mantık Çalıştayı, Bildiriler Kitabı, s. 1652-175, On Dokuz Mayıs Üniversitesi, Samsun, 28-30 June 2017.
- 2 A. Çevik  
*Church-Turing Tezi'ndeki ifadesel tamlık ve hipotezin alternatifleri*, V. Mantık Çalıştayı, Bildiriler Kitabı, s. 241-244, Uludağ Üniversitesi, Bursa, 15-17 May 2015.
- 3 A. Çevik  
*Hesaplanabilirlik kuramı nedir?*, XXVI. Ulusal Matematik Sempozyumu 2013, Diyarbakır, Bildiri özetleri kitabı, pp. 50 (2013).
- 4 İ. K. Öcal, A. Çevik, İ. Cereci, H. Kılıç  
*Sanal Akış Ağı Ortamında Kontrol Amaçlı Çok Kullanıcılı Bir Prototip Oyun Yazılımı*, Otomatik Kontrol Ulusal Toplantısı - (TOK 2008), İstanbul, Nov. 2008, Otomatik Kontrol Ulusal Toplantısı Bildiriler Kitabı, pp. 692-698 (2008).
- 5 M. U. Öney, A. Çevik, N. E. Çağiltay, Ö. Kılıç  
*Topluluk Zekası Yönetimi ve Optimizasyonu*, Akademik Bilişim 2007, Dumlupınar University, Kütahya, Turkey, Jan. 2007, IX. Akademik Bilişim Konferansı Bildiriler Kitabı, pp. 333-340 (2007).

## Scholarships and Awards

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|------|--|
| 2015 | Merit award for the 2015 International Conference of Computer Science and Applications (ICCSA 2015), Berkeley, USA. Paper title: <i>An Infinite Proper Subset of Regular Languages as a State Change Based Coupling of Finite Automata</i> . |
| 2015 | Postdoctoral research scholarship, The Scientific and Technological Council of Turkey (TÜBİTAK).   |

## Referred Journals

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| 2018 | Annals of Pure and Applied Logic, Elsevier  |
| 2016 | Turkish Journal of Mathematics, Scientific and Technological Council of Turkey (TÜBİTAK). |

## Conference Presentations

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|--------------|---|
| October 2016 | <i>Mini-Workshop in Logic and its Applications</i> , Boğaziçi University, Istanbul, Turkey.                         |
| Feb 2016     | <i>ASL Southeastern Logic Symposium 2016</i> , University of Florida, Gainesville, FL, USA.                         |
| Jun 2015     | <i>5th World Congress and School on Universal Logic</i> , University of Istanbul, Turkey. (Invited keynote speaker) |
| Sep 2015     | <i>British Logic Colloquium</i> , Cambridge University, Cambridge, UK.  |
| July 2015    | <i>Computability in Europe 2015</i> , Bucherest, Romania, June 29-July 3 2015.                                      |

## Presented Lecture Series

The lectures given below have been taught in the award-winning Nesin Mathematics Village of Turkey also as a community service.

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|-------------------|---|
| 8-14 Sep 2014     | <i>A short introduction to recursion theory and <math>\Pi_1^0</math> classes</i> , Nesin Mathematics Village, Turkey. |
| 31 Jul-7 Aug 2017 | <i>Unsolvability</i> , Nesin Mathematics Village, Turkey.   |
| 5-12 August 2018  | <i>Introduction to Quantum Computing</i> , Nesin Mathematics Village, Turkey.   |
| 13-19 August 2018 | <i>Philosophy of Mathematics</i> , Nesin Mathematics Village, Turkey.   |
| 17-23 June 2019   | <i>Propositional and Predicate Logic</i> , Nesin Mathematics Village, Turkey.   |

## Invited Talks

- 2009 Atılım University, Dept. of computer engineering: Crisis in the foundation of mathematics.
- Oct 2009 Atılım University, Dept. of computer engineering: An infinite proper subset of regular languages and abstract power consumption.
- Dec 2009 Atılım University, Dept. of mathematics: Undecidable statements on a functional property of universal models of computation.
- Feb 2011 University of Leeds, School of Mathematics: Consistency strength and higher axioms of ZFC.
- Mar 2011 University of Leeds, School of Mathematics: Degrees of the members of  $\Pi_1^0$  classes.
- Mar 2011 Ankara University, Department of Mathematics: Introduction to recursion theory and  $\Pi_1^0$  classes.
- Oct 2011 University of Leeds, School of Mathematics: Formal languages.
- Dec 2011 Atılım University, Department of Mathematics: Degrees of Undecidability.
- Dec 2011 Ankara University, Department of Mathematics: Tutarlılık gücü ve ZFC'nin yüksek belitleri.
- Dec 2011 Middle East Technical University, Department of Mathematics: Degrees of Unsolvability.
- Mar 2012 University of Leeds, School of Mathematics: Infinite time Turing machines.
- May 2012 University of Leeds, School of Mathematics: Computational length of infinite time Turing machines.
- Nov 2012 University of Leeds, School of Mathematics: Antibasis theorems for  $\Pi_1^0$  classes.
- Apr 2013 Atılım University, Department of Computer Engineering: A concise introduction to recursion theory.
- Apr 2013 Ankara University, Department of Mathematics: Antibasis theorems for  $\Pi_1^0$  classes.
- Jan 2014 University of Leeds, School of Mathematics: Degree theoretic properties in effectively closed sets.
- Oct 2014 Ankara University, Department of Mathematics: Current trends in theory of unsolvability.
- Oct 2014 Middle East Technical University, Department of Mathematics: Study of unsolvability.
- Nov 2014 Atılım University, Department of Mathematics: Philosophical analysis of the formalization of mathematics.
- Nov 2014 Middle East Technical University, Department of Philosophy: On the formalization of mathematics.
- Mar 2015 Hacettepe University, Department of Mathematics: Algorithmic Unsolvability.
- Feb 2016 University of California at Berkeley, Department of Mathematics: Degree theoretic properties of  $\Pi_1^0$  classes.
- Mar 2017 Gazi University, Department of Mathematics: What is the Axiom of Choice?
- Mar 2017 Boğaziçi University, Department of Philosophy: On the naturality, or otherwise, of the Axiom of Choice.
- Mar 2017 Mimar Sinan Fine Arts University, Department of Mathematics: Effectively closed sets in recursion theory.
- Apr 2017 Abant İzzet Baysal University, Department of Mathematics: Understanding the Axiom of Choice.
- May 2017 Middle East Technical University, Department of Mathematics: What is computability?
- Nov 2017 Middle East Technical University, Department of Mathematics: Determining the axioms: The Choice Axiom example.
- May 2018 Atılım University, Department of Computer Engineering: Why strong A.I. is not likely to be achieved.
- July 2018 Middle East Technical University, Department of Computer Engineering: Quantum Computing - An Introduction for Computer Scientists.
- August 2018 Nesin Mathematics Village, What is Philosophy of Mathematics?
- November 2018 Hacettepe University, What is Modern Mathematics?
- Feb 2019 Doğuş University, Department of Computer Engineering, How Quantum Algorithms Work.