

## Prof. HAYRULLAH AYIK

### Personal Information

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### International Researcher IDs

ORCID: 0000-0001-7569-5597

Publons / Web Of Science ResearcherID: B-6940-2018

ScopusID: 6506649415

Yoksis Researcher ID: 10659

### Education Information

Doctorate, University of St. Andrews, Mathematical Institute, United Kingdom 1995 - 1998

Undergraduate, Cukurova University, Fen Edebiyat Fakültesi, Matematik, Turkey 1989 - 1993

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Presentations and Efficiency of Semigroups, University of St. Andrews, Mathematical Institute, Mathematics, 1998

### Research Areas

Mathematics, Group Theory and Generalizations, Natural Sciences

### Academic Titles / Tasks

Professor, Cukurova University, Fen Edebiyat Fakültesi , Matematik, 2011 - Continues

Professor, Adiyaman University, Fen Edebiyat Fakültesi , Matematik, 2010 - 2011

Associate Professor, Cukurova University, Fen Edebiyat Fakültesi , Matematik, 2005 - 2010

Assistant Professor, Cukurova University, Fen Edebiyat Fakültesi , Matematik, 1998 - 2005

Research Assistant, Cukurova University, Fen Edebiyat Fakültesi , Matematik, 1993 - 1998

### Academic and Administrative Experience

Cukurova University, 2013 - 2016

Cukurova University, 2007 - 2010

Cukurova University, 2007 - 2008

Cukurova University, 2004 - 2007

## Advising Theses

AYIK H., BAZI DÖNÜŞÜM YARIGRUPLARININ DOĞURAYLARI ve RANKLARI, Doctorate, L.Bugay(Student), 2015

AYIK H., Bazı dönüşüm yarıgruplarının doğurayları ve rankı, Doctorate, F.Çınar(Student), 2011

AYIK H., Yarıgrupların Bruck-Reilly Genişlemelerinin Sonlu Takdim edilebilirliği, Postgraduate, L.Bugay(Student), 2010

AYIK H., Sonlu Sıra Koruyan Dönüşümlerin Orbitleri, Doctorate, M.Koç(Student), 2010

AYIK H., Bazı Yarıgrup Aileleri ve Yapıları İçin Sonluluk Koşulları ve Etkinlik, Doctorate, B.Çalışkan(Student), 2008

AYIK H., Bazı Yarıgrup Yapılarının Sonlu Takdim Edilebilirliği, Postgraduate, K.Toker(Student), 2008

AYIK H., Transformasyon Yarıgruplarının Doğurayları ve Rankı, Postgraduate, M.Koç(Student), 2005

AYIK H., Otomatik Gruplar ve Yarıgruplar, Postgraduate, H.İbrahim(Student), 2004

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Ranks of certain semigroups of transformations with idempotent complement whose restrictions belong to a given semigroup**  
BUGAY L., Sönmez R., AYIK H.  
Turkish Journal of Mathematics, vol.48, no.3, pp.414-422, 2024 (SCI-Expanded)
- II. **Combinatorial results for semigroups of orientation-preserving and order-decreasing transformations**  
DAĞDEVİREN A., AYIK G., AYIK H.  
Semigroup Forum, 2024 (SCI-Expanded)
- III. **A presentation for the semigroup of order-preserving full contraction mappings of a finite chain**  
TOKER K., AYIK H.  
Communications in Algebra, 2024 (SCI-Expanded)
- IV. **Isolated Subsemigroups of Order-Preserving and Decreasing Transformation Semigroups**  
KORKMAZ E., AYIK H.  
BULLETIN OF THE MALAYSIAN MATHEMATICAL SCIENCES SOCIETY, vol.45, no.2, pp.663-675, 2022 (SCI-Expanded)
- V. **Ranks of nilpotent subsemigroups of order-preserving and decreasing transformation semigroups**  
KORKMAZ E., AYIK H.  
TURKISH JOURNAL OF MATHEMATICS, vol.45, no.4, pp.1626-1634, 2021 (SCI-Expanded)
- VI. **Combinatorial Results for Semigroups of Order-Preserving and A-Decreasing Finite Transformations**  
BUGAY L., YAĞCI M., AYIK H.  
BULLETIN OF THE MALAYSIAN MATHEMATICAL SCIENCES SOCIETY, vol.42, no.3, pp.921-932, 2019 (SCI-Expanded)
- VII. **Relative ranks of some partial transformation semigroups**  
Yigit E., AYIK G., AYIK H.  
TURKISH JOURNAL OF MATHEMATICS, vol.43, no.5, pp.2218-2225, 2019 (SCI-Expanded)
- VIII. **The ranks of certain semigroups of partial isometries**  
Bugay L., YAĞCI M., AYIK H.  
SEMIGROUP FORUM, vol.97, no.2, pp.214-222, 2018 (SCI-Expanded)
- IX. **Generating sets of certain finite subsemigroups of monotone partial bijections**  
Bugay L., AYIK H.  
TURKISH JOURNAL OF MATHEMATICS, vol.42, no.5, pp.2270-2278, 2018 (SCI-Expanded)
- X. **On the rank of transformation semigroup  $T-(n, T-m)$**

Token K., AYIK H.

TURKISH JOURNAL OF MATHEMATICS, vol.42, no.4, pp.1970-1977, 2018 (SCI-Expanded)

- XI. **Minimal relative generating sets of some partial transformation semigroups**  
YİĞİT E., AYIK G., AYIK H.  
Communications in Algebra, vol.45, no.3, pp.1239-1245, 2017 (SCI-Expanded)
- XII. **Minimal relative generating sets of some partial transformation semigroups**  
YİĞİT E., AYIK G., AYIK H.  
COMMUNICATIONS IN ALGEBRA, vol.45, no.3, pp.1239-1245, 2016 (SCI-Expanded)
- XIII. **GENERATING SETS OF FINITE TRANSFORMATION SEMIGROUPS  $PK(n, r)$  AND  $K(n, r)$**   
AYIK H., BUGAY L.  
COMMUNICATIONS IN ALGEBRA, vol.43, no.2, pp.412-422, 2015 (SCI-Expanded)
- XIV. **On the second homology of the Schutzenberger product of monoids**  
YAĞCI M., BUGAY L., AYIK H.  
TURKISH JOURNAL OF MATHEMATICS, vol.39, no.5, pp.763-772, 2015 (SCI-Expanded)
- XV. **GENERATING SETS OF STRICTLY ORDER-PRESERVING TRANSFORMATION SEMIGROUPS ON A FINITE SET**  
AYIK H., BUGAY L.  
BULLETIN OF THE KOREAN MATHEMATICAL SOCIETY, vol.51, no.4, pp.1055-1062, 2014 (SCI-Expanded)
- XVI. **Generating sets of finite singular transformation semigroups**  
AYIK G., AYIK H., BUGAY L., KELEKCI O.  
SEMIGROUP FORUM, vol.86, no.1, pp.59-66, 2013 (SCI-Expanded)
- XVII. **Rank properties of the semigroup of singular transformations on a finite set**  
AYIK G., AYIK H., UENLUE Y., HOWIE J. M.  
COMMUNICATIONS IN ALGEBRA, vol.36, no.7, pp.2581-2587, 2008 (SCI-Expanded)
- XVIII. **On semigroup presentations and adian graphs**  
AYIK G., AYIK H., UNLU Y.  
DISCRETE MATHEMATICS, vol.308, no.11, pp.2288-2291, 2008 (SCI-Expanded)
- XIX. **On the efficiency of the direct products of monogenic monoids**  
Ayik H., CAMPBELL C. M., O'CONNOR J. J.  
ALGEBRA COLLOQUIUM, vol.14, no.2, pp.279-284, 2007 (SCI-Expanded)
- XX. **On factorisations and generators in transformation semigroups**  
AYIK G., Ayik H., HOWIE J.  
SEMIGROUP FORUM, vol.70, no.2, pp.225-237, 2005 (SCI-Expanded)
- XXI. **Minimal presentations and embedding into inefficient semigroups**  
Ayik H., MINISKER M., VATANSEVER B.  
ALGEBRA COLLOQUIUM, vol.12, no.1, pp.59-65, 2005 (SCI-Expanded)
- XXII. **The structure of elements in finite full transformation semigroups**  
AYIK G., Ayik H., UNLU Y., HOWIE J.  
BULLETIN OF THE AUSTRALIAN MATHEMATICAL SOCIETY, vol.71, no.1, pp.69-74, 2005 (SCI-Expanded)
- XXIII. **Presentations for  $S$  and  $S/p$  from a given presentation for  $p$**   
AYIK G., Ayik H., UNLU Y.  
SEMIGROUP FORUM, vol.70, no.1, pp.146-149, 2005 (SCI-Expanded)
- XXIV. **On finiteness conditions for Rees matrix semigroups**  
Ayik H.  
CZECHOSLOVAK MATHEMATICAL JOURNAL, vol.55, no.2, pp.455-463, 2005 (SCI-Expanded)
- XXV. **On semigroup presentations and efficiency**  
Ayik H., KUYUCU F., VATANSEVER B.  
SEMIGROUP FORUM, vol.65, no.3, pp.329-335, 2002 (SCI-Expanded)
- XXVI. **Minimal presentations and efficiency of semigroups**  
Ayik H., CAMPBELL C., O'CONNOR J., RUSKUC N.  
SEMIGROUP FORUM, vol.60, no.2, pp.231-242, 2000 (SCI-Expanded)

## XXVII. Generators and relations of Rees matrix semigroups

Ayik H., RUSKUC N.

PROCEEDINGS OF THE EDINBURGH MATHEMATICAL SOCIETY, vol.42, pp.481-495, 1999 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Generating Sets in Some Semigroups of Order-Preserving Transformations on a Finite Set**  
AYIK H., BUGAY L.  
SOUTHEAST ASIAN BULLETIN OF MATHEMATICS, vol.38, pp.163-172, 2014 (ESCI)
- II. **Presentations and word problems for strong semilattices of semigroups**  
AYIK G., AYIK H., UNLU Y.  
Algebra and Discrete Mathematics, vol.4, pp.28-35, 2005 (ESCI)
- III. **The Semigroup Efficiency of Groups and Monoids**  
AYIK H., Ruskuc N., Campbell C. M., O'Connor J. J.  
Proceedings of the Royal Irish Academy A, vol.100, pp.171-176, 2000 (Peer-Reviewed Journal)
- IV. **On the Efficiency of Finite Simple Semigroups**  
AYIK H., CAMPBELL C. M., O'Connor J., RUSKUC N.  
TURKISH JOURNAL OF MATHEMATICS, vol.24, pp.129-146, 2000 (Scopus)
- V. **On the efficiency of wreath products of groups**  
AYIK H., CAMPBELL C., OCONNOR J., RUSKUC N.  
Groups—Korea '98, pp.39-51, 2000 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Presentations and Efficiency of Semigroups**  
AYIK H.  
University of St Anderws, UK, 1998

## Refereed Congress / Symposium Publications in Proceedings

- I. **Bazı Sonlu Sıra-Koruyan Dönüşüm Yarıgruplarının Doğuray Kümeleri**  
BUGAY L., AYIK H.  
XXVI. Ulusal Matematik Sempozyumu, Diyarbakır, Turkey, 4 - 07 September 2013, pp.12
- II. **Sonlu Tekil Dönüşüm Yarıgruplarının Doğuray Kümeleri**  
BUGAY L., AYIK G., AYIK H., KELEKCI O.  
XXV. Ulusal Matematik Sempozyumu, Niğde, Turkey, 5 - 07 September 2012, pp.12
- III. **(m,r)-rank of finite full transformation semigroups**  
AYIK G., AYIK H., HOWIE J. M., UNLU Y.  
Antalya Algebra Days VIII, Antalya, Turkey, 17 - 21 May 2006, pp.52
- IV. **On factorisations and generators in transformation semigroups**  
AYIK G., AYIK H., HOWIE J. M.  
Antalya Algebra Days VII, Antalya, Turkey, 18 - 22 August 2005, pp.1
- V. **On factorisations and generators in transformation semigroups**  
AYIK G., AYIK H., HOWIE J. M.  
Antalya Algebra Days VII, Antalya, Turkey, 18 - 22 May 2005, pp.45
- VI. **The Structure of Elements in Finite Full Transformation Semigroups**  
AYIK H., AYIK G., HOWIE J. M., UNLU Y.  
Antalya Algebra Days VII, Antalya, Turkey, 18 - 22 May 2005, pp.32

- VII. **Bazı Yarıgrup Ailelerinin Sonlu Takdimedilebilirliği**  
AYIK G., AYIK H., UNLU Y.  
XVII. Ulusal Matematik Sempozyumu, Bolu, Turkey, 23 - 26 August 2004, pp.15
- VIII. **On Semigroup Presentations**  
AYIK H.  
Antalya Algebra Days III, Antalya, Turkey, 28 May - 01 June 2003, pp.15
- IX. **The Semigroup Efficiency of Direct Products of Groups**  
Campbell C. M., AYIK H., O'Connor J. J., Ruskuc N.  
Proc. Internat. Conf. Semigroups, Praga, Portugal, 18 - 23 June 1999, pp.19-25
- X. **Generators and Relations of Rees Matrix Semigroups**  
AYIK H., Ruskuc N.  
International Conference On Algorithmic Problems In Groups And Semigroups, Nebraska, United States Of America, 11 - 15 May 1999, pp.10
- XI. **On the Efficiency of Wreath Products of Groups**  
Campbell C. M., AYIK H., O'Connor J. J., Ruskuc N.  
Groups Korea 98, Pusan, South Korea, 10 - 16 August 1998, pp.39-51
- XII. **The Semigroup Efficiency of Groups**  
CAMPBELL C. M., AYIK H., O'Connor J., RUSKUC N.  
International Conference On Algorithmic Problems In Groups And Semigroups, Nebraska, United States Of America, 10 - 16 August 1998, pp.45
- XIII. **Efficiency of Semigroups**  
AYIK H.  
Conference On Semigroups And Applications, Edinburg, United Kingdom, 2 - 09 July 1997, pp.68

## Supported Projects

BUGAY L., AYIK H., Project Supported by Higher Education Institutions, Generating sets of finite transformation semigroups PKnr and Knr, 2017 - 2018

AYIK H., ŞENOL M., Project Supported by Higher Education Institutions, Yarıgrupların İkinci Homolojisi ve Etkinlik, 2015 - 2018

## Metrics

Publication: 46

Citation (WoS): 88

Citation (Scopus): 88

H-Index (WoS): 6

H-Index (Scopus): 6

## Congress and Symposium Activities

XXVI. Ulusal Matematik Sempozyumu, Attendee, Diyarbakır, Turkey, 2013

XXV. Ulusal Matematik Sempozyumu, Attendee, Niğde, Turkey, 2012

Antalya Algebra Days VIII, Attendee, Antalya, Turkey, 2006

Antalya Algebra Days VII, Attendee, Turkey, 2005

XVII. Ulusal Matematik Sempozyumu, Attendee, Bolu, Turkey, 2004

Seminar, Attendee, Edinburgh, United Kingdom, 2003

Antalya Algebra Days III, Attendee, Antalya, Turkey, 2003

International Conference on Semigroups, Attendee, Braga, Portugal, 1999

International Conference On Algorithmic Problems In Groups And Semigroups, Attendee, Nebraska, United States Of America, 1999

Groups Korea 98, Attendee, Pusan, South Korea, 1998

International Conference On Algorithmic Problems In Groups And Semigroups, Attendee, Nebraska, United States Of America, 1998

Conference On Semigroups And Applications, Attendee, Edinburgh, United Kingdom, 1997

## **Scholarships**

TÜBİTAK BAYG Matematik Çalışma Grubu, TÜBİTAK, 2003 - Continues

University of St Andrews Doktora Bursu, YOK, 1995 - Continues

## **Non Academic Experience**

Çukurova Üniversitesi

Adıyaman Üniversitesi

Çukurova Üniversitesi

Çukurov Üniversitesi