

## Assoc. Prof. SELDA ÇALKAVUR

### Personal Information

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### Education Information

Doctorate, Istanbul Kultur University, Institute Of Science, Matematik (Dr), Turkey 2006 - 2010

Postgraduate, Istanbul Kultur University, Institute Of Science, Matematik-Bilgisayar (YI) (Tezli), Turkey 2004 - 2006

Undergraduate, Dumlupınar Üniversitesi, Fen-Edebiyat Fakültesi, Matematik Bölümü, Turkey 1996 - 2000

### Dissertations

Doctorate, Simetrik dizaynlar, kodlar ve sır paylaşım şemaları üzerine bir çalışma, İstanbul Kültür Üniversitesi, Fen Bilimleri Enstitüsü, Matematik (Dr), 2010

Postgraduate, BCH kodları, İstanbul Kültür Üniversitesi, Fen Bilimleri Enstitüsü, Matematik-Bilgisayar (YI) (Tezli), 2006

### Research Areas

Mathematics, Engineering and Technology

### Academic Titles / Tasks

Associate Professor, Kocaeli University, Fen Edebiyat Fakültesi, Matematik, 2020 - Continues

Associate Professor, Kocaeli University, Köseköy Meslek Yüksekokulu, Bilgisayar Teknolojileri, 2018 - 2020

Assistant Professor, Kocaeli University, Köseköy Meslek Yüksekokulu, Bilgisayar Teknolojileri, 2011 - 2018

### Academic and Administrative Experience

Kocaeli Üniversitesi, Köseköy Meslek Yüksekokulu, 2019 - Continues

Head of Department, Kocaeli University, Köseköy Meslek Yüksekokulu, Bilgisayar Teknolojileri, 2012 - 2020

Kocaeli Üniversitesi, Köseköy Meslek Yüksekokulu, 2013 - 2019

### Courses

Matematik II, Undergraduate

Kriptolojiye Giriş, Undergraduate

Matematik I, Undergraduate

Diferansiyel Denklemler, Undergraduate

Kodlama Teorisi, Postgraduate

Yüksek Lisans Seminer, Postgraduate  
Matematik I, Undergraduate  
Diferansiyel Denklemler, Undergraduate  
Kodlama Teorisine Giriş, Undergraduate  
Uzmanlık Alan Dersi, Postgraduate  
Lineer Cebir, Undergraduate  
Matematik II, Undergraduate  
Lineer Cebir, Undergraduate  
Matematik I, Undergraduate  
Lineer Cebir, Undergraduate  
Diferensiyel Denklemler, Undergraduate  
Diferensiyel Denklemler, Undergraduate  
Diferensiyel Denklemler, Undergraduate  
Matematik I, Undergraduate  
Diferensiyel Denklemler, Undergraduate  
Diferensiyel Denklemler, Undergraduate  
Matematik I, Undergraduate  
Kesikli Matematik, Undergraduate  
Matematik I, Undergraduate  
Kodlama Teorisi, Postgraduate

## Advising Theses

Çalkavur S., Sır Görüntü Paylaşım Şemaları Üzerine Bir Çalışma, Postgraduate, F.Molla(Student), 2018

## Jury Memberships

Doctoral Examination, Doctoral Examination, Sakarya Üniversitesi, July, 2020  
Appointment Academic Staff, Appointment Academic Staff, Kocaeli Üniversitesi, June, 2020  
Appointment Academic Staff, Appointment Academic Staff, Kocaeli Üniversitesi, September, 2019  
Post Graduate, Post Graduate, Kocaeli Üniversitesi, May, 2018  
Doctoral Examination, Doctoral Examination, Sakarya Üniversitesi, April, 2018  
Post Graduate, Post Graduate, Sakarya Üniversitesi, January, 2018

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

- I. **Public-Key Cryptosystems and Bounded Distance Decoding of Linear Codes**  
Çalkavur S.  
Entropy, vol.24, no.4, pp.498-508, 2022 (Journal Indexed in SCI Expanded)
- II. **Secret Sharing, Zero Sum Sets, and Hamming Codes**  
Çalkavur S., Solé P.  
MATHEMATICS, vol.8, pp.1644-1651, 2020 (Journal Indexed in SCI)
- III. **A New Secret Sharing Scheme Based on Polynomials over Finite Fields**  
Çalkavur S., Solé P., Bonnecaze A.  
MATHEMATICS, vol.8, pp.1-5, 2020 (Journal Indexed in SCI)
- IV. **Some multiset-secret-sharing schemes over finite fields,**  
Çalkavur S., Solé P.  
MATHEMATICS, vol.8, pp.272-278, 2020 (Journal Indexed in SCI)

- V. **A Multisecret-Sharing Scheme Based on LCD Codes**  
Alahmadi A., Altassan A., AlKenani A., ÇALKAVUR S., Shoaib H., Sole P.  
MATHEMATICS, vol.8, no.2, 2020 (Journal Indexed in SCI)
- VI. **Self-dual codes and orthogonal matrices over large finite fields**  
Shi M., Sok L., Sole P., ÇALKAVUR S.  
FINITE FIELDS AND THEIR APPLICATIONS, vol.54, pp.297-314, 2018 (Journal Indexed in SCI)
- VII. **Multisecret-sharing schemes and bounded distance decoding of linear codes**  
ÇALKAVUR S., Sole P.  
INTERNATIONAL JOURNAL OF COMPUTER MATHEMATICS, vol.94, no.1, pp.107-114, 2017 (Journal Indexed in SCI)
- VIII. **A Study on Minimality of the Codewords in the Dual Code of the Code of a Symmetric  $(v, k, \lambda)$  – Design**  
Çalkavur S.  
Applied Mathematics & Information Sciences, vol.9, no.6, pp.1-4, 2015 (Journal Indexed in SCI Expanded)
- IX. **A Secret Sharing Scheme based on Residue Class Ring**  
Çalkavur S.  
Applied Mathematics & Information Sciences, vol.9, no.4, pp.1-3, 2015 (Journal Indexed in SCI Expanded)

### Articles Published in Other Journals

- I. **Secure encryption from cyclic codes**  
Çalkavur S., Güzeltepe M.  
Sigma Journal of Engineering and Natural Sciences, vol.40, no.2, pp.380-389, 2022 (Journal Indexed in ESCI)
- II. **Some public-key cryptosystems over finite fields**  
Çalkavur S.  
WSEAS Transactions on Information Science and Applications , vol.19, pp.99-104, 2022 (Refereed Journals of Other Institutions)
- III. **A New Public-Key Cryptosystem Based on LCD Codes**  
Çalkavur S.  
European Journal of Science and Technology, no.28, pp.320-324, 2021 (Refereed Journals of Other Institutions)
- IV. **The least-squares solutions in linear codes based multisecret-sharing approach**  
Çalkavur S., Nauman S. K. , Özel C., Zekraoui H.  
International Journal of Information and Coding Theory, vol.5, no.3, pp.290-302, 2020 (Refereed Journals of Other Institutions)
- V. **A study on multisecret-sharing schemes based on linear codes**  
ÇALKAVUR S.  
Emerging Science Journal, vol.4, no.4, pp.263-271, 2020 (Refereed Journals of Other Institutions)
- VI. **The Blakley based secret sharing approach**  
Çalkavur S., Molla F.  
Sigma Journal of Engineering and Natural Sciences, vol.37, no.2, pp.489-494, 2019 (Journal Indexed in ESCI)
- VII. **Linear Multisecret-Sharing Schemes**  
ÇALKAVUR S.  
The Online Journal of Science and Technology, vol.9, no.2, pp.209-214, 2019 (Journal Indexed in ESCI)
- VIII. **A New Approach to Construct Secret Sharing Schemes Based on Field Extensions**  
Molla F., Calkavur S.  
EUROPEAN JOURNAL OF PURE AND APPLIED MATHEMATICS, vol.11, no.2, pp.468-475, 2018 (Journal Indexed in ESCI)
- IX. **Secret sharing schemes based on extension fields**  
Çalkavur S.  
EUROPEAN JOURNAL OF PURE AND APPLIED MATHEMATICS, vol.11, no.2, pp.410-416, 2018 (Journal Indexed in ESCI)

- X. **Some Algebraic  $(n, n)$ -Secret Image Sharing Schemes**  
 Çalkavur S.  
 Applied Mathematical Sciences, vol.11, no.56, pp.2807-2815, 2017 (Refereed Journals of Other Institutions)
- XI. **Some Secret Sharing Schemes Based on the Finite Fields**  
 ÇALKAVUR S.  
 Computer Technology and Application, vol.7, pp.269-272, 2016 (Refereed Journals of Other Institutions)
- XII. **Secret Sharing Schemes and Syndrome Decoding**  
 ÇALKAVUR S.  
 Journal of Mathematics and Statistical Science, vol.2, no.12, pp.741-750, 2016 (Refereed Journals of Other Institutions)
- XIII. **A New Method to Construct Secret Sharing Schemes Based on Linear Codes**  
 ÇALKAVUR S.  
 Journal of Computer Technology and Application, vol.5, no.2, 2015 (Refereed Journals of Other Institutions)
- XIV. **Secret Sharing Schemes Based on the Dual Code of the Code of a Symmetric  $(v, k, \lambda)$  – Design and Minimal Access Sets**  
 Çalkavur S.  
 Journal of Computer Technology and Application, vol.2, no.5, pp.1-7, 2015 (Refereed Journals of Other Institutions)
- XV. **A Secret Sharing Scheme Based on a Symmetric  $v, k, \lambda$  Design**  
 ÇALKAVUR S.  
 International Journal of Engineering Science and Innovative Technology (IJESIT), vol.3, no.4, pp.512-514, 2014 (Refereed Journals of Other Institutions)
- XVI. **A Secret Sharing Scheme Based on the Cyclic Groups**  
 ÇALKAVUR S.  
 International Journal of Engineering Science and Innovative Technology (IJESIT), vol.3, no.3, pp.320-323, 2014 (Refereed Journals of Other Institutions)
- XVII. **The Relation Between the Secret Sharing Schemes Based on Linear Codes and Syndrome Decoding**  
 Çalkavur S.  
 Pensee Journal, vol.76, no.4, pp.292-295, 2014 (Refereed Journals of Other Institutions)
- XVIII. **Binary Cyclic Codes and Minimal Codewords**  
 Çalkavur S.  
 Computer Technology and Application, vol.4, no.9, pp.486-489, 2013 (Refereed Journals of Other Institutions)
- XIX. **A Relationship Between the Weight Enumerators and Minimal Codewords**  
 Çalkavur S.  
 Journal of Mathematics and System Science, vol.3, no.8, pp.409-411, 2013 (Refereed Journals of Other Institutions)
- XX. **A Study on Minimal Codewords in the Hamming Codes**  
 Çalkavur S.  
 Journal of Mathematics and System Science, vol.3, no.6, pp.279-281, 2013 (Refereed Journals of Other Institutions)

## Books & Book Chapters

- I. **Code Based Secret Sharing Schemes**  
 Çalkavur S., Bonnacaze A., Cruz R. D., Solé P.  
 World Scientific Publishing, Singapore, 2022
- II. **A Study on Multisecret-Sharing Schemes Based on Linear Codes**  
 Çalkavur S.  
 in: New Trends in Technical, Natural Sciences, Engineering and Health Sciences, Prof. Qurban QUASIMOV, Ph.D. Assoc. Prof. Mirvari AGAYEVA, Ph.D, Editor, Duval House Publishing / Les Éditions Duval, Inc., İzmir, pp.65-73, 2022

## Refereed Congress / Symposium Publications in Proceedings

- I. **The McEliece Based Public-key Cryptosystem Approach**  
Çalkavur S., Akıntürk M. K.  
5. International Conference on Life and Engineering Sciences, Antalya, Turkey, 19 - 22 May 2022, pp.98
- II. **The polynomials over finite fields based public-key encryption approach**  
Çalkavur S.  
1st International Conference on Engineering and Applied Natural Sciences , Konya, Turkey, 10 - 13 May 2022, pp.45-51
- III. **Secure Encryption over the Ring  $F_2+uF_2+vF_2+uvF_2$**   
Şolt N., Çalkavur S., Güzeltepe M.  
2nd International Conference on Applied Engineering and Natural Sciences, Konya, Turkey, 10 - 13 March 2022, pp.50-54
- IV. **A new public-key cryptosystem based on LCD codes**  
Çalkavur S.  
1st International Conference on Applied Engineering and Natural Sciences, Konya, Turkey, 1 - 03 November 2021, vol.1, no.1, pp.320-324
- V. **Multisecret-Sharing Schemes with Symmetric Designs**  
Çalkavur S., Özel C.  
International Science and Technology Conference, Praha, Czech Republic, 2 - 05 July 2019
- VI. **Linear Multisecret-Sharing Schemes**  
ÇALKAVUR S.  
International Science and Technology Conference, Paris, France, 18 - 21 July 2018
- VII. **A Study on Multisecret-Sharing Schemes**  
ÇALKAVUR S.  
5th International Conference on Pure and Applied, Sciences:Sustainable, Dubai, United Arab Emirates, 28 - 30 June 2018
- VIII. **Secret Sharing Schemes Based on Extension Fields**  
ÇALKAVUR S.  
IECMSA 2017 (International Eurasian Conference on Mathematical Sciences and Applications, Budapest, Hungary, 15 - 18 August 2017
- IX. **Secret Sharing Schemes and Syndrome Decoding**  
Çalkavur S.  
The 5th International Conference on Control and Optimization with Industrial Applications, Baku, Azerbaijan, 27 - 29 August 2015, vol.5, pp.400
- X. **Some algebraic  $n \times n$  threshold schemes**  
ÇALKAVUR S., PATRICK S.  
Sixth International Conference on Modeling, Simulation and Applied Optimization (ICMSAO'15), İstanbul, Turkey, 27 - 29 May 2015
- XI. **A New Method to Construct Secret Sharing Schemes Based on Linear Codes**  
ÇALKAVUR S.  
Third International Eurasian Conference on Mathematical Sciences and Applications (IECMSA 2014), VIYANA, Austria, 25 - 28 August 2014, vol.3, pp.297
- XII. **A Study on the Number of Minimal Access Set in the Secret Sharing Scheme Based on the Dual Code of the Code of a Symmetric  $(v, k, \lambda)$  – Design**  
Çalkavur S., Balkanay E.  
Second International Eurasian Conference on Mathematical Sciences and Applications (IECMSA 2013), Sarajevo, Bosnia And Herzegovina, 26 - 29 August 2013
- XIII. **A Study on Minimal Codewords of the Codes Associated with the Symmetric  $v \times k \lambda$  Designs**  
Balkanay E., Çalkavur S.  
First International Eurasian Conference on Mathematical Sciences and Applications, Priştine, Kosova, 3 - 07

September 2012

## Memberships / Tasks in Scientific Organizations

5) International Engineering and Technology Institute (IETI), Honorary Member, 2015 - Continues, Turkey  
David Publishing Company, Member of Science Committee, 2013 - Continues, United States Of America  
Türk Matematik Derneği, Member, 2006 - Continues, Turkey  
International Transactions on InformationScience (IEICE), Member, 2015 - 2017, United States Of America

## Scientific Refereeing

COMPUTER JOURNAL, Journal Indexed in SCI-E, May 2022  
Security and Privacy, Journal Indexed in ESCI, May 2022  
Security and Privacy, Journal Indexed in ESCI, March 2022  
JOURNAL OF MATHEMATICS, SCI Journal, March 2022  
SIGNAL PROCESSING-IMAGE COMMUNICATION, SCI Journal, February 2022  
SIGNAL PROCESSING-IMAGE COMMUNICATION, SCI Journal, September 2021  
DISCRETE APPLIED MATHEMATICS, SCI Journal, June 2021  
SIGNAL PROCESSING-IMAGE COMMUNICATION, SCI Journal, May 2021  
European Journal Of Pure and Applied Mathematics, Journal Indexed in ESCI, April 2021  
Düzce University Journal of Science & Technology, Other Indexed Journal, March 2021  
SIGNAL PROCESSING-IMAGE COMMUNICATION, SCI Journal, March 2021  
Punjab University Journal of Mathematics, Journal Indexed in ESCI, February 2021  
Sigma Journal of Engineering and Natural Sciences, Journal Indexed in ESCI, January 2021  
European Journal Of Pure and Applied Mathematics, Journal Indexed in ESCI, December 2020  
European Journal of Pure And Applied Mathematics, Journal Indexed in ESCI, September 2020  
IEEE COMMUNICATIONS LETTERS, SCI Journal, September 2020  
TURKISH JOURNAL OF MATHEMATICS, SCI Journal, May 2020  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, SCI Journal, February 2020  
European Journal of Pure and Applied Mathematics, Journal Indexed in ESCI, October 2018  
SIGNAL PROCESSING-IMAGE COMMUNICATION, SCI Journal, May 2018  
Sigma Journal of Engineering and Natural Sciences, Journal Indexed in ESCI, June 2016  
APPLIED MATHEMATICS & INFORMATION SCIENCES, Journal Indexed in SCI-E, October 2015  
Journal of Computer Technology and Applications, Other Indexed Journal, November 2013

## Tasks In Event Organizations

Çalkavur S., 1) ISAS 2018 (International Symposium on Recent Advances in Vocational Sciences), Scientific Congress, Antalya, Turkey, Nisan 2018

## Citations

Total Citations (WOS):25  
h-index (WOS):3

## Scholarships

Doktora Başarı Bursu, University, 2006 - 2010

Yüksek Lisans Başarı Bursu, University, 2004 - 2006

## **Awards**

Çalkavur S., Yayın Teşvik Ödülü, Tübitak, January 2021

Çalkavur S., Yayın Teşvik Ödülü, Tübitak, October 2017

Çalkavur S., Teşekkür Belgesi, Milli Eğitim Bakanlığı, September 2001