# Gökhan Soydan (Ph.D)

(Curriculum Vitae)



Date of birth :	22.11.1974
Place of birth :	İzmir-TURKEY
Professional address:	Department of Mathematics, Bursa Uludağ University, 16059,
	Görükle, Bursa-TURKEY.
<u>Title:</u>	Full Professor (in Algebra and Number Theory)
Research Areas:	Diophantine Equations and Elliptic Curves
Personal web page:	http://gsoydan.home.uludag.edu.tr
Nationality:	Turkish
<u>Marital status</u> :	Married (Filiz), 1 child (Begüm)
Foreign languages:	English (Intermediate), German (Elementary)

# Education and Qualifications :

2001 - 2006	Uludağ University (Bursa), Faculty of Arts And Sciences,
	Department of Mathematics (Degree-PhD.)
1999 - 2001	Balıkesir University (Balıkesir), Faculty of Arts And Sciences,
	Department of Mathematics (Degree-Msc)
1992 - 1997	Hacettepe University (Ankara), Faculty of Education, Department
	of Mathematics Teaching (Degree-Bsc)

## Work/Research Experiences :

2015 (May) - :	Bursa Uludağ University, Faculty of Arts and Science,
	Department of Mathematics
2014 (Sept.)-2015 (May) :	University of Debrecen, Institute of Mathematics,
	(Debrecen-HUNGARY) (Position: Researcher with TÜBİTAK
	2219-International Postdoctoral Research Scholarship.
	Supervisor: Prof. Dr. Ákos Pintér)
2013 (May)-2014 (Sept.) :	Uludağ University, Department of Mathematics
2002 (July)-2013 (April) :	Işıklar Air Force High School (Bursa) Army Officer (first

lieutenant-major), Instructor Class.

1997-2002 (July): Balıkesir Military High School (Balıkesir) Army Officer (lieutenant-first lieutenant), Instructor Class.

### Thesis Completed :

- MSc: Modular Groups. Balıkesir University, Department of Mathematics, Balıkesir, 2001. (Advisor: Prof. Dr. ismail Naci Cangül)
- PhD: Bachet Elliptic Curves over Finite Fields. Uludag University, Department of Mathematics, Bursa, 2006. (Advisor: Prof. Dr. ismail Naci Cangül)

#### Theses supervised :

- a) MSc Theses:
  - Gamze Savaş ÇELİK, "Consecutive Power Sums and Bernoulli Polynomials", Uludağ University, 2016.
  - Elif KIZILDERE, "The Diophantine Equations Concerning Terai's Conjecture", Bursa Uludağ University, 2019.
- b) PhD Thesis:
  - 1) Gamze Savaş ÇELİK, Bursa Uludağ University, (continuing)
  - 2) Elif KIZILDERE, Bursa Uludağ University, (continuing)

## Teaching:

- a) Undergraduate : Abstract Algebra, Number Theory, Introduction to Algebraic Number Theory, Advanced Group Theory, Introduction to Ring Theory, Calculus I and II, Basic Mathematics I and II, Introduction to Algebra, Elemantary Number Theory,
- b) Graduate: Abstract Algebra I and II, Ring Theory I and II, Theory of Elliptic Curves and Its Applications I and I, Algebra I and II, Diophantine Equations I and II, p-adic Number Theory I, Algebraic Geometry I-II.

#### Research Projects:

 (joint work with Gamze Savaş ÇELİK) Algebraic Curves and Rational Sequaences, 05.05.2020-05.11.2021 (Uludağ University Research Fund (Project No: KUAP (F) 2020/8)), 25.900 TL continuing.

- (joint work with Elif Kızıldere) Diophantine Equations Concerning Terai's Conjecture, 01.02.2018-01.08.2019 (TÜBİTAK 3001 (Project No: 11F787)), 85.256 TL completed.
- (joint work with İsmail Naci Cangül) Diophantine Equations on Jesmanowicz Conjecture, 28.03.2016-27.09.2017 (Uludağ University Research Fund (Project No: KUAP (F) 2016/9)), 10.000 TL, completed.
- (joint work with İsmail Naci Cangül) Diophantine Equations related to Power Sums, 18.03.2015-29.09.2017 (Uludağ University Research Fund (Project No: KUAP (F) 2015/23)), 6.000 TL, completed.
- (joint work with İsmail Naci Cangül) Generalized Lebesque- Nagell Equations, 11.07.2013- 10.07.2015
   (Uludağ University Research Fund (Project No: KUAP (F) 2013/87)), 7.300 TL, completed.
- (joint work with İsmail Naci Cangül and Musa Demirci) Coding Turkish by Means of Number Theory, Researcher, 2003-2005, Uludağ University Research Fund (Project No: KUAP (F) 2003/63), completed.

#### Selected Papers :

- 1) Karolina Chałupka, Andrzej Dąbrowski and Gökhan Soydan, On a class of generalized Fermat equations of signature (2,2n,3), submitted.
- 2) Maohua Le and Gökhan Soydan, On the power values of the sum of three squares in arithmetic progression, submitted.
- 3) Gökhan Soydan and Anitha Srinivasan, A categorization of the primitive Pythagorean triples in Jeśmanowicz' conjecture, submitted.
- 4) Nobuhiro Terai, Gökhan Soydan and İsmail Naci Cangül, On the exponential Diophantine equation (m<sup>2</sup> +n<sup>2</sup>)<sup>x</sup>+ (2mn)<sup>y</sup> = (m+n)<sup>z</sup>, submitted.
- Fadwa S. Abu Muriefah, Maohua Le and Gökhan Soydan, A note on the Diophantine equation x2=4pn-4pm+l2, submitted.
- 6) Elif Kızıldere, Gökhan Soydan, Qing Han and Pingzhi Yuan, The shuffle variant of a Diophantine equation of Miyazaki and Togbé, submitted.
- 7) Maohua Le and Gökhan Soydan, A note on the Terai's conjecture concerning Primitive Pythagorean Triples, Hacettepe Journal of Mathematics and Statistics (2021), accepted for publication, (SCI-Exp).
- Attila Bérczes, Maohua Le, István Pink and Gökhan Soydan, A note on the ternary Diophantine equation x<sup>2</sup>-y<sup>2m</sup>=z<sup>n</sup>, Analele Stiintifice ale Universitatii Ovidius Constanta, Seria Matematica, (2020), accepted for publication, (SCI-Exp).

- 9) Gamze Savaş Çelik, Mohammad Sadek and Gökhan Soydan, Rational points in geometric progression on the unit circle, **Publicationes Mathematicae Debrecen**, (2020), to appear, (SCI-Exp).
- 10) Maohua Le and Gökhan Soydan, A note on the exponential Diophantine equation (A<sup>2</sup>n)<sup>x</sup>+(B<sup>2</sup>n)<sup>y</sup> = ((A<sup>2</sup> +B<sup>2</sup>) n)<sup>z</sup>, Glasnik Matematicki, Vol. 55, No. 75 (2020), 195-201, (SCI-Exp).
- 11) Kálmán Liptai, László Nemeth, Gökhan Soydan and László Szalay, Resolution of the equation (3<sup>x-1</sup>-1)(3<sup>x-2</sup> -1)=(5<sup>y-1</sup>-1)(5<sup>y-2</sup>-1), Rocky Mountain Journal of Mathematics, Vol. 50, No. 4 (2020), 1425-1433, (SCI-Exp).
- 12) Neşe Ömür, Gökhan Soydan, Yücel Türker Ulutaş and Yusuf Doğru, On triangles with coordinates of vertices from terms of the sequences {Ukn} and {Vkn}, Rad HAZU, Matematicke znanosti, Vol. 24 (2020), 15-27 (ESCI).
- Elif Kızıldere, Maohua Le and Gökhan Soydan, A note on the ternary purely exponential Diophantine equation A<sup>x</sup>+B<sup>y</sup>=C<sup>z</sup> with A+B=C<sup>2</sup>, Studia Scientiarum Mathematicarum Hungarica, Vol. 57, No. 2 (2020), 200–206 (SCI-Exp).
- 14) Andrzej Dąbrowski, Nursena Günhan and Gökhan Soydan, On a class of Lebesgue-Ljunggren-Nagell type equations, **Journal of Number Theory**, Vol. 215 (2020), 149-159 (SCI).
- 15) Maohua Le and Gökhan Soydan, A brief survey on the generalized Lebesgue-Ramanujan-Nagell equation, **Surveys in Mathematics and its applications**, Vol. 15 (2020), 473-523.
- 16) Hairong Bai, Elif Kızıldere, Gökhan Soydan and Pingzhi Yuan, On the exponential Diophantine equation (n-1)<sup>x</sup>+(n+2)<sup>y</sup>=n<sup>z</sup>, Colloquium Mathematicum, Vol. 161, No. 2 (2020), 239-249 (SCI-Exp).
- 17) Elif Kızıldere and Gökhan Soydan, On the Diophantine equation (5pn<sup>2</sup>-1)<sup>x</sup>+(p(p-5)n<sup>2</sup>+1)<sup>y</sup>
   =(pn)<sup>z</sup>, Honam Mathematical Journal, Vol. 42, No. 1 (2020), 139–150 (ESCI).
- 18) Maohua Le and Gökhan Soydan, An application of Baker's method to the Jeśmanowicz' conjecture on primitive Pythagorean triples, Periodica Mathematica Hungarica, Vol. 80, No.1 (2020), 74-80 (SCI-Exp).
- Daniele Bartoli and Gökhan Soydan, The Diophantine equation (x+1)<sup>k</sup>+(x+2)<sup>k</sup>+...+(lx)<sup>k</sup>=y<sup>n</sup> revisited, Publicationes Mathematicae Debrecen, Vol. 96/1-2 (2020), 111-120 (SCI-Exp).
- 20) Gamze Savaş Çelik, Mohammad Sadek, Gökhan Soydan, Rational sequences on different models of elliptic curves, **Glasnik Matematicki**, Vol. 54, No. 74 (2019), (SCI-Exp), 53-64.
- Elif Kızıldere, Takafumi Miyazaki and Gökhan Soydan, On the Diophantine equation ((c+1)m<sup>2</sup>+1)<sup>x</sup>+(cm<sup>2</sup>-1)<sup>y</sup>=(am)<sup>z</sup>, Turkish Journal of Mathematics, Vol. 42, No. 5 (2018), (SCI-Exp), 2690-2698.
- 22) Gökhan Soydan, László Nemeth and László Szalay, On the Diophantine equation F1^p+2F2^p+...+kFk^p=Fn^q, Archivum Mathematicum, Vol. 54 (2018), (ESCI), 167-177.

- 23) Gamze Savaş Çelik and Gökhan Soydan, Elliptic curves containing sequences of consecutive cubes, **Rocky Mountain Journal of Mathematics**, (2018), (SCI-Exp), to appear.
- 24) Attila Bérczes, István Pink, Gamze Savaş and Gökhan Soydan, On the Diophantine equation (x+1)<sup>k</sup>+(x+2)<sup>k</sup>+...+(2x)<sup>k</sup>=y<sup>n</sup>, Journal of Number Theory, Vol. 183 (2018), 326-351 (SCI).
- 25) Gökhan Soydan, A note on the Diophantine equations x<sup>2</sup>±5<sup>a</sup>.p<sup>n</sup> =y<sup>n</sup>, Communications Faculty of Sciences University of Ankara Series A1: Mathematics and Statistics, Vol. 67, No.1 (2018), 335-340 (ESCI).
- 26) Gökhan Soydan, On the Diophantine equation (x+1)<sup>k</sup>+(x+2)<sup>k</sup>+...+(lx)<sup>k</sup>=y<sup>n</sup>, Publicationes
   Mathematicae Debrecen, Vol. 91 / 3-4 (2017), 369-382 (SCI-EXP).
- 27) Gökhan Soydan, Musa Demirci, İsmail Naci Cangül and Alain Togbé, On the conjecture of Jesmanowicz, International Journal of Applied Mathematics & Statistics, Vol. 56, No.6 (2017), 46-72 (ESCI).
- 28) Gökhan Soydan and Nikos Tzanakis, Complete solution of the Diophantine equation  $x^2+5^a.11^b=y^n$ , Bulletin of the Hellenic Mathematical Soc., Vol. 60, (2016), 125–151.
- 29) Huilin Zhu, Maohua Le, Gökhan Soydan and Alain Togbé, On the exponential Diophantine equation  $x^2+2^a.p^b=y^n$ , **Periodica Mathematica Hungarica**, Vol. 70, No.2 (2015), 233–247 (SCI-EXP).
- 30) Huilin Zhu, Maohua Le and Gökhan Soydan, On the number of solutions of the Diophantine equation  $x^2+2^a.p^b=y^4$ , Mathematical Reports, Vol. 17, No.3 (2015), 255-263 (SCI-EXP).
- 31) Gökhan Soydan and İsmail Naci Cangül, A note on "On the Diophantine equation nx<sup>2</sup>+2<sup>2m</sup>=y<sup>n</sup>, Y. Wang,
  T. Wang, J. of Number Theory, Vol.131, (2011) 1486-1491", Journal of Number Theory, Vol. 140,
  No.7 July (2014), 425-426 (SCI).
- 32) Gökhan Soydan, Corrigendum to On the Diophantine equation x<sup>2</sup>+7<sup>a</sup>.11<sup>b</sup>=y<sup>n</sup>, Miskolc Mathematical Notes, Vol.13, No.2, (2012) 515-527" Miskolc Mathematical Notes, Vol. 15, No. 1 (2014), 217-217 (SCI-EXP).
- 33) Huilin Zhu, Gökhan Soydan and Wei Qin, A note two Diophantine equations x<sup>2</sup>±2<sup>a</sup>.p<sup>b</sup>=y<sup>4</sup>, Miskolc
   Mathematical Notes, Vol. 14, No. 3 (2013), 1105–1111 (SCI-EXP).
- 34) İsmail Naci Cangül, Musa Demirci, İlker İnam, Florian Luca and Gökhan Soydan, On the Diophantine Equation x<sup>2</sup>+2<sup>a</sup>.3<sup>b</sup>.11<sup>c</sup>=y<sup>n</sup>, Mathematica Slovaca, Vol. 63, No.3 (2013), 647-659 (SCI-EXP)
- 35) Florian Luca and Gökhan Soydan, On the Diophantine equation  $nx^2+2^m=y^n$ , Journal of Number Theory, Vol. 132, No.11 November (2012), 2604–2609 (SCI).
- 36) Gökhan Soydan, On The Diophantine Equation x<sup>2</sup>+7<sup>a</sup>.11<sup>b</sup>=y<sup>n</sup>, Miskolc Mathematical Notes, Vol.13, No.2, (2012) 515-527 (SCI-EXP).
- 37) Gökhan Soydan, Maciej Ulas and Huilin Zhu, On the Diophantine equation x<sup>2</sup>+2<sup>a</sup>.19<sup>b</sup>=y<sup>n</sup>, Indian Journal of Pure and Applied Mathematics Vol. 43, No.3, (2012), 251-261 (SCI-EXP).
- 38) Gökhan Soydan, Yusuf Doğru and N. Umut Arslandoğan, On the ratio of directed lengths on the plane with generalized absolute value metric and and related properties, **FILOMAT**, Vol. 26, No.1, January 2012, 119-130 (SCI-EXP).

- 39) Gökhan Soydan, Yusuf Doğru and N. Umut Arslandoğan, The Pythagorean theorem and area formula for triangles on the plane with generalized absolute value metric, **Creative Mathematics and Informatics** Vol. 20, No.1, (2011), 81-99.
- 40) İsmail Naci Cangül, Musa Demirci, Gökhan Soydan and Nikos Tzanakis, On the Diophantine equation  $x^2+5^a.11^b=y^n$ , Functiones et Approximatio Commentarii Mathematici Vol. 43, No.2, (2010), 209-225.
- 41) İsmail Naci Cangül, Musa Demirci, Florian Luca, Ákos Pintér and Gökhan Soydan, On the Diophantine equation x<sup>2</sup>+2<sup>a</sup>.11<sup>b</sup>=y<sup>n</sup>, The Fibonacci Quarterly Vol. 48, No.1, (2010), 39-46.
- 42) Gökhan Soydan, Musa Demirci and İsmail Naci Cangül, The Diophantine equation x<sup>2</sup>+11<sup>m</sup>=y<sup>n</sup>, Advanced
   Studies in Contemporary Mathematics, Vol.19, No.2, (2009), 183-188 (Web of Science)
- 43) Nazlı Yıldız İkikardeş, Musa Demirci, Gökhan Soydan and İsmail Naci Cangül, The group structure of Bachet elliptic curves over finite fields F<sub>p</sub>, Miskolc Mathematical Notes, Vol.10, No.2 (2009), 129-136. (SCI-EXP)
- 44) İsmail Naci Cangül, Gökhan Soydan and Yılmaz Şimşek, A p-adic look at the Diophantine equation x<sup>2</sup>+11<sup>2k</sup>=y<sup>n</sup>, American Institue of Physics Conf. Proc., September 9, 2009, Volume 1168, pp. 275-277. (Numerical Analysis And Applied Mathematics: International Conference on Numerical Analysis and Applied Mathematics 2009: Vol. 1 and Vol. 2; DOI:10.1063/1.3241447.) (Web of Science)
- 45) Nazlı Yıldız İkikardeş, Musa Demirci, Gökhan Soydan and İsmail Naci Cangül, The group structure of Frey elliptic curves over finite fields F<sub>p</sub>, **JP Journal of Algebra**, Number Theory and Applications, Vol.10 (2008), No.2, 255-263.
- 46) Musa Demirci, Gökhan Soydan and İsmail Naci Cangül, Rational points on elliptic curves y<sup>2</sup>=x<sup>3</sup>+a<sup>3</sup> in F<sub>p</sub> where p=1 (mod 6) is prime, Rocky Mountain Journal of Mathematics, Vol.37, No.5, (2007), 1483-1491. (SCI-EXP)
- 47) Gökhan Soydan, Musa Demirci, Nazlı Yıldız İkikardeş and İsmail Naci Cangül, Counting the number of Pythagorean triples in finite fields, Advances in Theoretical and Applied Mathematics, Vol.2, No.1,(2007), 77-82.
- 48) Musa Demirci, Gökhan Soydan, Nazlı Yıldız İkikardeş and İsmail Naci Cangül, Rational points on Frey elliptic curves on finite fields, Advances in Theoretical and Applied Mathematics, Vol.2, No.2,(2007), 129-136.
- 49) Gökhan Soydan, Musa Demirci, Nazlı Yıldız İkikardeş and İsmail Naci Cangül, Rational points on elliptic curves y<sup>2</sup>=x<sup>3</sup>+a<sup>3</sup> in F<sub>p</sub> where p≡5 (mod 6) is prime , International Journal of Mathematics Sciences, Vol. 1, No.4 ,(2007), 247-250.
- 50) Gökhan Soydan, Nazlı Yıldız İkikardeş, Musa Demirci and İsmail Naci Cangül, On the additive structure of the set of quadratic residues modulo p, Advanced Studies in Contemporary Mathematics, Vol. 14, No.2, (2007), 251-257. (Web of Science)

- 51) Musa Demirci, Nazlı Yıldız İkikardeş, Gökhan Soydan and İsmail Naci Cangül, The number of rational points on elliptic curves y<sup>2</sup>=x<sup>3</sup>+a<sup>3</sup> on finite fields, International Journal of Mathematics Sciences, Vol. 1, No.4 (2007), 255-257.
- 52) İlker İnam, Gökhan Soydan, Musa Demirci, Osman Bizim and İsmail Naci Cangül, Corrigendum on "The number of points on elliptic curves E: y<sup>2</sup> = x<sup>3</sup>+ cx over F<sub>p</sub> mod 8, Communications of the Korean Mathematics Society, Vol.22, No.2 (2007),207-208.
- 53) Nazlı Yıldız İkikardeş, Gökhan Soydan, Musa Demirci and İsmail Naci Cangül, Classification of the Bachet elliptic curves y<sup>2</sup>=x<sup>3</sup>+a<sup>3</sup> Where p=1 (mod6) is Prime, International Journal of Mathematics Sciences, Vol. 1, No.4 (2007), 239-241.
- 54) Musa Demirci, Gökhan Soydan and İsmail Naci Cangül, Diophantine equations and congruence subgroups of the Hecke groups H (√2) and H (√3), Advanced Studies in Contemporary Mathematics, Vol.12, No.2 (2006), 309-313.
- 55) İsmail Naci Cangül, Musa Demirci and Gökhan Soydan, Nazlı Yıldız İkikardeş, Rational points on elliptic curves y<sup>2</sup>=x<sup>3</sup>+a<sup>3</sup> in F<sub>p</sub>, Proceeding of the 16th International Conference Jangjeon Mathematics Society, Hapcheon Vol. 16 (2005), 26-33.

#### International Congresses and Workshops:

- Diophantine Problems, Determinism and Randomness, Marseille Luminy-FRANCE, 23-27
   November 2020, https://www.cirm-math.com/2256virtual (participant).
- (joint work with Elif Kızıldere, Qing Han and Pingzhi Yuan) The shuffle variant of a Diophantine equation of Miyazaki and Togbe, The third Romanian-Turkish Mathematics Colloquium, Constanta-ROMANIA, 18-22 September 2019 (invited speaker).
- (joint work with Elif Kızıldere and Maohua Le) A note on the ternary purely exponential Diophantine equation Ax+By=Cz with A+B=C2, Friendly workshop on Diophantine equations and related problems 2019, Bursa-TURKEY, 6-8 July 2019.
- (joint work with Elif Kızıldere, Qing Han and Pingzhi Yuan) The shuffle variant of a Diophantine equation of Miyazaki and Togbe, Friendly workshop on Diophantine equations and related problems 2019, Bursa-TURKEY, 6-8 July 2019.
- (joint work with Gamze Savaş Çelik and Mohammad Sadek) Rational sequences on different models of elliptic curves, 31 st Journées Arithmétiques, İstanbul University, istanbul-TURKEY, 1-5 July 2019.
- (joint work with Elif Kızıldere, Hairong Bai and Pingzhi Yuan) The generalization of two Diophantine equations of Nagell, 31 st Journées Arithmétiques, İstanbul University, istanbul-TURKEY, 1-5 July 2019.

- 7) (joint work with Elif Kızıldere and Takafumi Miyazaki) On the exponential Diophantine equation ((b+1)m<sup>2</sup>+1)<sup>x</sup>+(bm<sup>2</sup>-1)<sup>y</sup>=(cm)<sup>z</sup>, Conference on Diophantine m-tuples and Related Problems-II, Purdue University, Northwest, Wesville, Indiana, Michigan City-USA, 15-17 October 2018.
- (joint work with Elif Kızıldere) On the exponential Diophantine equation (5pm<sup>2</sup>-1)<sup>x</sup>+(p(p-5)m<sup>2</sup>+1)<sup>y</sup>=(pm)<sup>z</sup>, Conference on Diophantine m-tuples and Related Problems-II, Purdue University, Northwest, Wesville, Indiana, Michigan City-USA, 15-17 October 2018.
- (joint work with Gamze Savaş Çelik) Elliptic curves containing sequences of consecutive cubes, 2 nd International Conference on Pure and Applied Mathematics, Van Yüzüncü Yıl University, Van-TURKEY, 11-13 September 2018.
- 10) (joint work with Gamze Savaş Çelik) Elliptic curves containing sequences of consecutive cubes, International Workshop on Elliptic Curves, Modular Forms and Langlands Functoriality, Bilecik Şeyh Edebali University, **Bilecik-TURKEY**, **11-12 May 2018**.
- (joint work with Attila Bérczes, István Pink and Gamıze Savaş) On the solutions of a Diophantine equation with power sums, The Second Romanian-Turkish Mathematics Colloquium, Galatasaray University, istanbul-TURKEY, 25-29 October 2017.
- 12) (joint work with Attila Bérczes, István Pink and Gamze Savaş) On the solutions of a Diophantine equation with power sums, 30 th Journées Arithmétiques, University of Caen, Normandy, Caen-FRANCE, 3-7 July 2017.
- 13) On the Diophantine equation (x+1)<sup>k</sup>+(x+2)<sup>k</sup>+...+(lx)<sup>k</sup>=y<sup>n</sup>, 29 th Journées Arithmétiques,
   University of Debrecen, Debrecen-HUNGARY, 6-10 July 2015.
- 14) (joint work with Huilin Zhu and Maohua Le) On the solutions of the Diophantine equation x<sup>2</sup>+2<sup>a</sup>.p<sup>b</sup>=y<sup>4</sup>, 13 th Conference of the Canadian Number Theory Association, Ottawa-CANADA, 16-20 June 2014.
- 15) (joint work with Huilin Zhu and Maohua Le) On the solutions of the Diophantine equation x<sup>2</sup>+2<sup>a</sup>.p<sup>b</sup>=y<sup>4</sup>, Introductory Workhop on Modular Methods in Diophantine Equations, Bilecik-TURKEY, 8-11 September 2014. (Invited talk)
- (joint work with Huilin Zhu and Maohua Le) On the solutions of some generalized Lebesgue-Nagell equations, International Congress in Honour of H.M. Srivastava, Bursa-TURKEY, 23-26 Aug. 2012.
- 17) (joint work with Huilin Zhu and Maohua Le) On the solutions of some generalized Lebesgue-Nagell equations, 9th Polish, Slovak and Czech Conference on Number Theory, Ostravice-CZECH REPUBLIC, June-12, 2012.
- 18) (joint work with Musa Demirci and Ismail Naci Cangül) On the solutions of some specific exponential Diophantine equations, ICM 2010 International Congress of Mathematicians, Hyderabad-INDIA, August 19-27 2010. (Invited Talk-Short Communication)

- 19) (joint work with Musa Demirci, Birsen Özgür and Ismail Naci Cangül) Congruence subgroups of modular group and Hecke groups, The 23 th International Conference of the Jangjeon Mathematical Society, Ahvaz-IRAN, Feb 8-10 2010.
- 20) (joint work with Musa Demirci and Ismail Naci Cangül) On some recent results concerning exponential Diophantine equations, The 22 nd International Conference of Jangjeon Math. Soc., Kartnaka-INDIA, 13-15.08.2009.
- 21) (joint work with Ismail Naci Cangül and Yilmaz Simsek) A p-adic look at the Diophantine equation x<sup>2</sup>+11<sup>2</sup>k=y<sup>n</sup>, 7 th International Conference on Numerical Analysis and Applied Mathematics 2009 , Rethymno, Crete-GREECE, 18–22 September 2009.
- 22) (joint work with Musa Demirci and Ismail Naci Cangül) On the Diophantine equation x^2+2^a3^b11^c=y^n, Antalya Algebra Days XI, Antalya-TURKEY, May 20-24 2009.
- 23) (joint work with Ismail Naci Cangül, Musa Demirci and Nazli Yildiz İkikardeş) On a Diophantine equation, Antalya Algebra Days XI, Antalya-TURKEY, May 20-24 2009.
- (joint work with Ismail Naci Cangül and Musa Demirci) The Diophantine equation x<sup>2</sup>+11<sup>m</sup>=y<sup>n</sup>,
   The 20 th International Conference of the Jangjeon Mathematical Society, Bursa-TURKEY,
   August 21-23 2008.
- 25) (joint work with Ismail Naci Cangül, Musa Demirci and Nazli Yildiz İkikardeş) Two special elliptic curves classes International Symposium on Complex Analysis, Sibiu-ROMANIA, August 26-29 2007.
- 26) (joint work with Ismail Naci Cangül, Musa Demirci and Nazli Yildiz İkikardeş) On the additive structure of the set of quadratic residues modulo p, ICM 2006 International Congress of Mathematicians, Madrid-SPAIN, August 22-30 2006. (Poster Session)
- 27) (joint work with Ismail Naci Cangül, Musa Demirci and Nazli Yildiz İkikardeş) Rational points on elliptic curves y<sup>2</sup> = x<sup>3</sup> + a<sup>3</sup> in F\_p , 16th International Conference of the Jangjeon Mathematical Society, Antalya-TURKEY, July 04-06 2005.
- 28) (joint work with Ismail Naci Cangül, Musa Demirci and Nazli Yildiz İkikardeş) Rational points on elliptic curves y<sup>2</sup> = x<sup>3</sup> + a<sup>3</sup> where p is prime, Antalya Algebra Days VII, Antalya-TURKEY, May 18-22 2005.

#### <u>Seminars</u>:

- On the solutions of a Diophantine equation with power sums, University of Rome Tor Vergata, Department of Mathematics, (Inviting: Prof. Dr. Rene Schoof) Rome-ITALY,(13.10.2017), (Invited talk)
- Diophantine equations with Bernoulli polynomials, Institute of Mathematics, University of Debrecen, (Inviting: Prof. Dr. Kálmán Győry) Debrecen HUNGARY, (29.05.2015), (Invited talk)

- Diophantine equations with Bernoulli polynomials, Faculty of Science, Department of Mathematics, University of Zagreb, (Inviting: Prof. Dr. Andrej Dujella) Zagreb-CROTIA, (06.05.2015), (Invited talk)
- Diophantine equations with Bernoulli polynomials, Graz University of Technology, Institute of Analysis and Computational Number Theory, (Inviting: Prof. Dr. Robert Tichy), Graz-AUSTRIA, (07.05.2015), (Invited talk)
- 5) Diophantine equations with Bernoulli polynomials, Institute of Mathematics, Polish Academy of Sciences (Inviting: Prof. Dr. Andrzej Schinzel), Warsaw-POLAND, (15.05.2015), (Invited talk)
- 6) (joint work with Ismail Naci Cangül, Musa Demirci, Ákos Pintér) On Exponential Diophantine Equations, Forschung Seminar, Wintersemester 2008/2009, Institut für Experimentelle Mathematik Universität Duisburg – Essen (Einlader : Prof. Dr. Dr. h.c. Gerhard Frey), Essen-GERMANY, (27.01.2009) (Invited talk)

#### National Congresses:

- (joint work with Gamze Savaş Çelik) Ardışık Küp Dizilerini İçeren Eliptik Eğriler, 13 üncü Ankara Matematik Günleri, TOBB ETÜ, 27-28 Nisan 2018.
- (joint work with Elif Kızıldere and Takafumi Miyazaki) ((b+1)m<sup>2</sup>+1)<sup>x</sup>+(bm<sup>2</sup>-1)<sup>y</sup>=(cm)<sup>z</sup> Üstel Diophant Denklemi, 13 üncü Ankara Matematik Günleri, TOBB ETÜ, 27-28 Nisan 2018.
- (joint work with Attila Berczes, Istvan Pink and Gamze Savaş) Kuvvet Toplamları Tipinde Bir Diophant Denklemin Çözümleri Üzerine, 12 nci Ankara Matematik Günleri, Hacettepe Üniversitesi, 25-26 Mayıs 2017.
- 4) (joint work with Huilin Zhu and Maohua Le) Bazı Genelleştirilmiş Lebesgue-Nagell denklemleri üzerine, 7 nci Ankara Matematik Günleri, **Bilkent Üniversitesi, 31 Mayıs-1 Haziran 2012**.
- 5) (joint work with Nazli Yildiz İkikardeş, Musa Demirci and Ismail Naci Cangül) p asal iken F\_p sonlu cisimlerindeki y<sup>2</sup> = x<sup>3</sup> n<sup>2</sup>.x Frey eliptik eğrilerinin sınıflandırılması ve grup yapıları, , XIX. National Mathematics Symposium, Kütahya, 22-25-08.2006.
- 6) (joint work with Musa Demirci, Nazli Yildiz İkikardeş and Ismail Naci Cangül) F\_p sonlu cisimlerindeki p=3 (mod 4) asal iken y<sup>2</sup> = x<sup>3</sup> - n<sup>2</sup>.x Frey eliptik eğrilerinin bazı özellikleri ve eğrilerin üzerindeki rasyonel noktalar, XIX. National Mathematics Symposium, Kütahya, 22-25-08.2006.
- 7) (joint work with Nazli Yildiz İkikardeş, Musa Demirci and Ismail Naci Cangül) p = 5 (mod 6) asal olmak üzere F p de y<sup>2</sup> = x<sup>3</sup> + a<sup>3</sup> tipindeki eliptik eğriler üzerindeki rasyonel noktalar, XVIII. National Mathematics Symposium, **istanbul**, 05-08-09.2005.
- (joint work with Musa Demirci, Nazli Yildiz İkikardeş and Ismail Naci Cangül) p = 1 (mod 6) asal olmak üzere F p de y<sup>2</sup> = x<sup>3</sup> + a<sup>3</sup> tipindeki eliptik eğriler üzerindeki rasyonel noktalar, XVIII. National Mathematics Symposium, istanbul, 05-08-09.2005.

- 9) (joint work with Musa Demirci, Nazli Yildiz İkikardeş and Ismail Naci Cangül) p = 1 (mod 6) asal iken F p deki y<sup>2</sup>=x<sup>3</sup> + a<sup>3</sup> Bachet eliptik eğrilerinin sınıflandırılması, XVIII. National Mathematics Symposium, **istanbul**, 05-08-09.2005.
- 10) (joint work with Musa Demirci, Nazli Yildiz İkikardeş and Ismail Naci Cangül) Sonlu cisimler üzerindeki Bachet eliptik eğrileri üzerindeki rasyonel noktalar, XVIII. National Mathematics Symposium, İstanbul, 05-08-09.2005.

#### Congresses/Workshops Organized

1) Conference on Diophantine m-tuples and Related Problems II, Purdue University, Northwest,

Wesville, Indiana, Michigan City-USA, 15-17 October 2018 (as a scientific member).

https://www.pnw.edu/faculty/alain-togbe/research7/conference-on-diophantine-m-tuples-andrelated-problems-ii/

 2) 31 st Journées Arithmétiques, İstanbul University, istanbul-TURKEY, 1-5 July 2019 (as a member of local organizing committee)

http://math.gsu.edu.tr/ja2019/

3) Friendly workshop on Diophantine equations and related problems 2019, Bursa-TURKEY, 6-8 July

2019 (as a organizer and scientific member).

http://fwderp2019.uludag.edu.tr

#### Journal Refereeings:

- 1) Journal of Number Theory
- 2) Bulletin Mathématique de laSociété des SciencesMathématiques de Roumanie
- 3) Filomat
- 4) Arab Journal of Mathematical Science
- 5) Honam Mathematical Journal
- 6) Journal of Inequalities and Applications
- 7) Hacettepe Journal of Mathematics and Statistics
- 8) Integers: Electronic Journal of Combinatorial Number Theory
- 9) Turkic World Mathematical Society Journal of Applied and Engineering Mathematics

#### <u>Reviews:</u>

- 1) Mathematical Reviews (MathSciNet) (since 2011).
- 2) Zentralblatt Math (since 2012).

# **Memberships**:

- 1) American Mathematical Society (AMS) (since 2011)
- 2) Mathematical Association of America (MAA) (since 2005)
- 3) Turkish Mathematical Association (TMD) (since 2016)