

# CURRICULUM VITAE

## ALI IRANMANESH

### Address:

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### Personal:

*Birth date:* 26<sup>th</sup> October 1965  
*Place of Birth:* Kerman, Iran  
*Nationality:* Iranian  
*Sex:* Male  
*Marital Status:* Married  
*Children:* Two sons

### Education:

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|------|---|
| 1995 | Ph.D. Pure Mathematics<br>University of Tarbiat Modares, Iran.<br>( <i>Supervisor: Dr.M.R.Darafsheh</i> )<br>Thesis topic: <i>Irreducible characters of the affine groups</i> |
| 1991 | M.Sc. Pure Mathematics University of Tarbiat Modares, Iran.<br>Project topic: <i>On characters of certain groups<br/>associated with symmetric groups</i>                     |
| 1988 | B.Sc. Applied Mathematics University of Shiraz, Iran.   |

### Honors:

- 2020 : National Distinguished Professor selected by Ministry of Science, Research and Technology.
- 2016 : Winner of the Riazi Kermani prize, Iranian Mathematical Society.
- 2010-present : Member of Academy of Mathematical Chemistry.
- 2006-present : Editor in chief of the Iranian Journal of Mathematical Sciences and Informatics.
- 2014-2020 : President of the Iranian Nano Technology Society.
- 2006-present : The representative of the Minister of research and education in committee for promotion of university professors in Iran.
- 2006-present : Member of commission of assessment and certification of publications at Minister of research and education.
- 2019 : Distinguished Researcher of Tarbiat Modares University.
- 2018 : Sabbatical leave awarded by the Tarbiat Modares University, University of California, Berkeley, California, USA.
- 2017 : Distinguished Researcher of Tarbiat Modares University.
- 2015 : Distinguished Researcher of Tarbiat Modares University.
- 2015 : Distinguished Professor of Tarbiat Modares University.
- 2014 : Distinguished Researcher of Tarbiat Modares University.
- 2012 : Distinguished Researcher of Iranian Universities.
- 2012 : Distinguished Researcher of Tarbiat Modares University.
- 2011-2014 : Vice president of the Iranian Nano Technology Society.
- 2011 : Distinguished Researcher of Tarbiat Modares University.
- 2010 : Distinguished Researcher of Tarbiat Modares University.
- 2010 : The eighth Iranian Scientist in Nanotechnology.
- 2009 : Distinguished Researcher of Tarbiat Modares University.
- 2009 : Distinguished Professor of Tarbiat Modares University.
- 2008 : The fourth Iranian Scientist in Nanotechnology.
- 2008 : Distinguished Researcher of Tarbiat Modares University.
- 2007 : Distinguished Researcher of Tarbiat Modares University.
- 2006 : Distinguished Researcher of Tarbiat Modares University.
- 2005 : Distinguished Researcher of Tarbiat Modares University.
- 2004 : Distinguished Researcher of Tarbiat Modares University.
- 2003 : Distinguished Researcher of Tarbiat Modares University.
- 2003 : Sabbatical leave awarded by the Tarbiat Modares University.
- 2002 : Distinguished Researcher of Tarbiat Modares University.
- 2001 : Distinguished Professor of Tarbiat Modares University.
- 2001 : Distinguished Researcher of Tarbiat Modares University.
- 2000 : Distinguished Researcher of Tarbiat Modares University.
- 1997 : First award of the national Ph.D theses evaluation.
- 1995 : Ph.D. with distinction from Tarbiat Modares University.
- 1993 : Winner of the first Prize in the nationwide Competition between the young researchers of Iran.
- 1993 : Best student of Iran universities. R

- 1991 : M.Sc. with distinction from Tarbiat Modares University.  
 1990 : Second rank in the 8<sup>th</sup> Congregation of Iranian students.  
 1988 : B.Sc. with distinction from Shiraz University.  
 1988 : Fifth rank in the National student competition held by the Iranian Mathematical Society.

### **Member of Associations and the Editorial Board of International Journals**

- 2006-present : Editor-In-Chief of the Iranian journal of Mathematical Sciences and Informatics .  
 2011-present : Member of the editorial board of the Journal of Mathematical Chemistry.  
 2014-present : Member of the editorial board of the International Journal of Nanoscience and Nanotechnology.  
 2011-present : Member of the editorial board of the Transactions on Combinatorics.  
 2009-present : Member of the editorial board of the International Journal of Industrial Mathematics.  
 2016-present : Member of the editorial board of the Journal of Mathematics and Society.  
 2009-2015 : Member of the executive council of the Iranian Mathematical Society.  
 2009-2022 : Member of the executive council of the Iranian Nano Technology Society.  
 1998-2006 : Member of the executive council of the Iranian Mathematical Society.  
 2000-2005 : Member of the editorial board of the Bulletin of the Iranian Mathematical Society.  
 2001-present : Reviewer, Zentralblatt fur Mathematik.  
 2000-present : Reviewer, American Mathematical Reviews.  
 1996-present : Member of the American Mathematical Society .  
 1998-present : Member of the London Mathematical Society.  
 2005-present : Member of the European Mathematical Society.  
 2007-present : Member of the European Society of Mathematical Chemistry.

### **Subjects Taught:**

Undergraduate Level : Algebra I, Algebra II, Algebra III, Linear Algebra, Ordinary Diff. Equations, Ring theory, Calculus ( for human sciences, biology and economic).

Postgraduate Level : Finite group theory, Character theory, Representation theory, Permutation groups, Linear groups, Advance algebra, Infinite abelian groups, Theory of hyperstructure.

### **Academic Employment:**

- 1996-2001 : Assistant Professor of Mathematics, Mathematics Department, Tarbiat Modares University, Tehran, Iran.  
 2001-2005 : Associate Professor of Mathematics, Tarbiat Modares University,

Tehran, Iran.

2005-present : Professor of Mathematics, Mathematics Department, Tarbiat Modares University, Tehran, Iran.

### **Present Research Work:**

Finite group theory, Computational of groups by GAP, Character theory of finite groups, Characterization of finite simple groups by different methods, Application of group theory in Chemistry, Mathematical Chemistry, Bio-Mathematics, Nano Computation, Hyperstructures and its applications, History of Mathematics, Education of Mathematics.

### **Administrative Experiences**

2000-2002 : Head, Department of Mathematics,  
University of Tarbiat Modares, Tehran, Iran.  
2004-2006 : Head, Department of Mathematics,  
University of Tarbiat Modares, Tehran, Iran.  
2006-2010 : Dean, Faculty of Science,  
University of Tarbiat Modares, Tehran, Iran.  
2010-2015 : Dean, Faculty of Mathematical Sciences,  
University of Tarbiat Modares, Tehran, Iran.  
2019 - 2025 : Dean, Faculty of Mathematical Sciences,  
University of Tarbiat Modares, Tehran, Iran.

### **Chairman of the Conferences:**

1. 5th International Congress on Nanoscience & Nanotechnology, October 22-24, 2014, Tarbiat Modares University, Tehran, Iran.
2. International Conference on the Millennium of Avicenna's Canon, October 29-31, 2013, Tarbiat Modares University, Tehran, Iran.
3. The Third Conference And Workshop on Mathematical Chemistry, February 22-24, 2010, Tarbiat Modares University, Tehran, Iran.
4. The First Conference And Workshop on Mathematical Chemistry, January 29-31, 2008, Tarbiat Modares University, Tehran, Iran.
5. 1th National Congress and Workshop on Nanoscience and Nanotechnology, May 16-17, 2013, Tarbiat Modares University, Tehran, Iran.
6. 8th Conference And Workshop on Mathematical Chemistry, May 10-11, 2018, Tarbiat Modares University, Tehran, Iran.
7. 12th Iranian Group Theory Conference, February 2020, Tarbiat Modares University, Tehran, Iran.



## Publication:

### I. Books

1. With M. Khoshdel, *Pre calculus for human sciences*, (in Persian) Payame Noor University Press, 2003.
2. With A. R. Ashrafi, A. Loghman, and B. Soliemani, *PI index of Nanotubes and Nanotori*, (in Persian), Iranian Academic Center for Education, Culture and Research (ACECR), Tehran, Iran.
3. *Pre calculus-Level 10*, (high school), (in persian), 2010.
4. *Pre calculus-Level 7*, (high school), (in persian), 2013.
5. *Pre calculus-Level 9*, (high school), (in persian), 2015.
6. *Pre calculus-Level 10*, (high school), (in persian), 2016.
7. *Pre calculus-Level 11*, (high school), (in persian), 2017.
8. *Pre calculus-Level 12*, (high school), (in persian), 2018.

### II. Book Chapters

1. The Mathematics and Topology of Fullerenes, Series: Carbon Materials: Chemistry and Physics,  
Chapter 5: *Computation of some Topological Indices of  $C_{60}$  and  $C_{80}$  Fullerenes by GAP Program*, Vol. 4, 1st Edition, 2011, Springer.
2. Distance in Molecular Graphs-Applications,  
Chapter 8 : *PI and Co-PI index of some nanotubes*, MCM, Kragujevac, 2012.
3. Topological Modelling of Nanostructures and Extended Systems,  
Chapter 12 : *The Edge-Wiener index and its computation for some nanostructures*, 2013, Springer.  
Chapter 13 : *Computation of the Szeged index of some nanotubes and dendrimers*, 2013, Springer.
4. Topics in Chemical Graph Theory,  
Chapter 6 : *Computing Wiener-Like Topological Invariants for Some Composite Graphs and Some Nanotubes and Nanotori*, pp. 69-90, MCM, Kragujevac, 2014.
5. Exotic Properties of Carbon Nanomatter,  
Chapter 7: *The first and second Zagreb indices of several interesting classes of chemical graphs and nanostructures*, Springer Netherlands, Dordrecht, vol. 8, 2015, pp. 153-183.
6. Distance, Symmetry, and Topology in Carbon Nanomaterials, ISBN: 978-3-319-31582-9,  
Chapter 14 : *Edge-Wiener Indices of Composite Graphs*, 2016, pp. 217-248, Springer.  
Chapter 16 : *The Hosoya Index and the Merrifield-Simmons Index of Some Nanostructures*, 2016, pp. 269-280, Springer.
7. Bounds in Chemical Graph Theory-Mainstreams,  
Chapter 12 : *On Degree-Based Indices of Dendrimers*, Vol.20, , 2017, pp. 287-299, MCM, Kragujevac.
8. Bounds in Chemical Graph Theory - Advances,  
Chapter 6: *Bounds on Multiplicative Zagreb Indices of Graph Operations and Subdivision*

- Operators*, Vol.21, 2017, pp. 187-215, MCM, Kragujevac.
9. NEW FRONTIERS IN NANOCHEMISTRY Concepts, Theories, and Trends Volume 2 Topological Nanochemistry, Apple Academic Press Inc. USA
- Chapter 1: *Atom-Bond Connectivity Index*, 2020, pp. 1-18,
- Chapter 12: *Degree Distance*, 2020, pp. 155-160,
- Chapter 13: *Distance Algorithm in Chemical Graphs*, 2020, pp. 161-169,
- Chapter 14: *Eccentric Distance Sum*, 2020, pp. 171-179,
- Chapter 19: *Geometric-Arithmetic Index*, 2020, pp. 227-248,
- Chapter 20: *GAP Programming* 2020, pp. 249-253,
- Chapter 32: *Q-Wiener Index*, 2020, pp. 367-373,
- Chapter 39: *Topological Indices of  $C_{10n}$  Fullerene*, 2020, pp. 447-451,
- Chapter 49: *Zagreb Indices*, 2020, pp. 505-513.

### III. Journal Articles

#### 1995

1. M. R. Darafsheh and A. Iranmanesh, Computation of the character table of affine groups using Fischer matrices, *Lecture Note London Math. Soc.*, No. 211, (1995) 131-137.
2. M. R. Darafsheh and A. Iranmanesh, Construction of the character table of the hyperoctahedral group, *Rivista Di Matematica Pur Ed Applicata*, No. 17, (1995) 71-82.

#### 1997

3. A. Iranmanesh, The characters of the affine group in low dimensions, *Southeast Asian Bulletin of Mathematics*, Vol. 21, (1997) 27-62.

#### 1998

4. A. Iranmanesh and M. N. Iradmusa,  $H_v$ -structures associated with generalized  $P$ -hyperoperations, *Bulletin of the Iranian Math. Soc.*, Vol 24, No. 1, (1998) 33-47.

#### 2000

5. A. Iranmanesh, General types of conjugacy classes of  $GL_n(q)$ , *Far East Journal of Math. Sci. (FJMS)*, Vol. 2, No. 1, (2000) 93-103.
6. A. Iranmanesh and A. Faghihi, Minimal generalized permutations, *Korean Journal of Computational and Applied Mathematics*, Vol. 7, No. 3, (2000) 685-691.
7. A. Iranmanesh and B. Khosravi, A characterization of  $F_4(q)$  where  $q$  is even, *Far East J. Math. Sci. (FJMS)*, Vol. 2, No. 6, (2000) 873-879.

#### 2001

8. A. Iranmanesh, Fischer matrices of the affine groups, *Southeast Asian Bulletin of Mathematics*, Vol. 25, No. 1, (2001) 121-128.
9. A. Iranmanesh and M. N. Iradmusa, Complement of an  $F$ -hyperoperation, *Algebras Groups and Geometries*, Vol. 18, No. 1, (2001) 43-51.
10. A. Iranmanesh and S. H. Alavi, A new characterization of  $A_p$  where  $p$  and  $p - 2$  are primes, *Korean J. Comput. & Appl. Math.*, Vol. 8, No. 3, (2001) 665-673.

## 2002

11. A. Iranmanesh and S. H. Alavi, A characterization of simple groups  $PSL(5, q)$ , *Bulletin of the Australian Mathematical Society*, Vol. 65, (2002) 211-222.
12. A. Iranmanesh and B. Khosravi, A characterization of  $C_2(q)$  where  $q > 5$ , *Comment. Math. Univ. Carolinae*, Vol. 43, No. 1, (2002) 9-21.
13. A. Iranmanesh, S. H. Alavi and B. Khosravi, A characterization of  $PSL(3, q)$  where  $q$  is an odd prime power, *Journal of Pure and Applied Algebra*, Vol. 170, No. 2-3, (2002) 243-254 .
14. A. Iranmanesh, S. H. Alavi and B. Khosravi, A characterization of  $PSL(3, q)$  for  $q = 2^m$ , *Acta Mathematica Sinica, English series*, Vol. 18, No. 3, (2002) 463-472.
15. A. Iranmanesh, B. Khosravi and S. H. Alavi, A characterization of  $PSU(3, q)$  for  $q > 5$ , *Southeast Asian Bulletin of Mathematics*, Vol. 26, No. 1, (2002) 33-44.
16. A. Iranmanesh and M. N. Iradmusa,  $H_\nu$ -structures associated with  $nF$ -hyperoperations,  $n = 1, 2, 3$ , *Italian Journal of Pure and Applied Mathematics*, No. 12, (2002) 197-208.

## 2003

17. A. Iranmanesh and B. Khosravi, A characterization of  $PSU_5(q)$ , *International Mathematical Journal*, Vol. 3, No. 2, (2003) 129-141.
18. A. Iranmanesh and A. H. Babareza, Some properties of the complement of a hypergroup, *J. of Discrete Mathematical Sciences and Cryptography*, Vol. 6, (2003) 1-8.
19. A. Iranmanesh and R. Tavakoli, The isomorphism of  $\frac{F\{H\}}{\gamma^*}$  and  $F$ , *Italian Journal of Pure and Applied Mathematics*, No. 14, (2003) 9-20.
20. A. Iranmanesh and B. Khosravi, A characterization of  $F_4(q)$  where  $q$  is an odd prime power, *Lecture Note London Math. Soc.*, No. 304, (2003) 277-283.
21. B. Khosravi and A. Iranmanesh, A characterization of  ${}^2D_p(3)$  where  $p = 2^n + 1$  ( $n \geq 2$ ), *Hardonic Journal Supplement*, Vol. 18, (2003) 465-478.
22. A. Iranmanesh and A. H. Babareza, Transposition hypergroups and complement hypergroups, *J. of Discrete Mathematical Sciences and Cryptography*, Vol. 6, No. 2-3, (2003) 161-168.

## 2004

23. A. Iranmanesh and A. Faramarzi, Projective representations of the group  $G = \langle a, b, c | a^{p^2} = b^p = c^p = 1, b^{-1}ab = ac, c^{-1}ac = a^{p+1}, c^{-1}bc = b \rangle$ , *International Mathematical Journal*, Vol. 5, No. 1, (2004) 75-83.
24. A. Iranmanesh and B. Khosravi, A characterization of  $PSU(11, q)$ , *Canadian Mathematical Bulletin*, Vol. 47, No. 4, (2004) 530-539.
25. A. Iranmanesh and B. Khosravi, A characterization of  $PSU(7, q)$ , *International Journal of Applied Mathematics*, Vol. 15, No. 4, (2004) 329-340.
26. K. Mehrabadi, A. R. Ashrafi and A. Iranmanesh,  $(p, q, r)$ -generation of the Suzuki group  $Suz$ , *International J. of Pure and Applied Mathematics*, Vol. 11, No. 4, (2004) 447-463.
27. A. Iranmanesh, A characterization of  $PSU(19, q)$ , *International Journal of Pure and Applied Mathematics*, Vol. 15, No. 4, (2004) 499-511.

## 2005

28. A. Iranmanesh and M. N. Iradmusa, The combinatorial and algebraic structure of the hypergroup associated to a hypergraph, *Mult. Val. Logic & Soft Computing*, Vol. 11, (2005) 530-539.
29. M. Dabirian and A. Iranmanesh, The full non-rigid group theory for the bipyramidal geometry of pentamethylphosphorus, *MATCH Communications in Mathematical and in Comput. Chem.* Vol. 53, (2005) 357-376.
30. A. Iranmanesh and B. Khosravi, A characterization of  $C_4(q)$  where  $q = 2^n$  *Chinese Journal of Contemporary Mathematics*, Vol. 4, (2005) 105-110.
31. M. Dabirian and A. Iranmanesh, The full non-rigid group theory for trimethylamine BH3 complex, *MATCH Communications in Mathematical and in Computer Chemistry*, Vol. 54, (2005) 75-88.
32. A. R. Ashrafi and A. Iranmanesh,  $nX$ -complementary generations of the Rudvalis group  $Ru$ , *Vietnam Journal of Mathematics*, Vol. 33, No. 4, (2005) 169-189.
33. A. Iranmanesh and B. Khosravi, A characterization of  $PSU(17,q)$ , *Journal of Applied Algebra and Discrete Structures*, No. 4, (2005) 169-189.
34. A. Iranmanesh, A characterization of  $PSU(23,q)$ , *International J. of Applied Mathematics*, Vol. 22, No. 4, (2005) 449-461.

#### 2006

35. A. Iranmanesh and A. R. Ashrafi, Generalized latin square, *J. Appl. Math. Comput.*, Vol. 22, (2006) 285-293.
36. A. Iranmanesh and M. Dabirian, Non-rigid group theory of ammonia tetramer:  $(NH_3)_4$ , *MATCH Communications in Mathematical and in Computer Chemistry*, Vol. 56, (2006) 317-330.
37. A. Iranmanesh and G. Hasanpour, Full non-rigid group theory for heptamethyl tungsten, *International Journal of Pure and Applied Mathematical Sciences*, Vol. 3, (2006) 161-194.

#### 2007

38. A. Iranmanesh and B. Soleimani, PI index of  $TUC_4C_8(R)$  nanotubes, *MATCH Communications in Mathematical and in Computer Chemistry*, Vol. 57, (2007) 251-262.
39. A. Iranmanesh, B. Soleimani and A. Ahmadi, Szeged index of  $TUC_4C_8(R)$  Nanotubes, *Journal of Computational and Theoretical Nanoscience*, Vol. 4, (2007) 147-151.
40. A. Iranmanesh and S. Memarzadeh, A study of the restricted non-rigid group of tetra methyl tungsten hybrid, *Asian Journal of Chemistry*, Vol. 19, (2007) 1027-1034.
41. A. Iranmanesh and A. R. Ashrafi, Balaban index of an armchair polyhex,  $TUC_4C_8(R)$  and  $TUC_4C_8(S)$  nanotorus, *Journal of Computational and Theoretical Nanoscience*, Vol. 4, (2007) 514-517.
42. A. Jafarzadeh and A. Iranmanesh, On the simple  $K_n$ -groups for  $n = 5, 6$ , *Lecture Note London Mathematical Society*, Vol. 340, (2007) 517-526.
43. A. Iranmanesh and Y. Pakraves, Detour index of  $TUC_4C_8(S)$  nanotubes, *Ars Combinatorics*, Vol. 84, (2007) 247-254.
44. A. Iranmanesh and A. Jafarzadeh, Characterization of finite groups by their commuting graph, *Acta Mathematica Academiae Paedagogicae Nyiregyhaziensis*, Vol. 23, (2007) 7-13.
45. K. Mehrabadi and A. Iranmanesh, Finite groups with p-Sylow coverings, *Bull.*

- Iranian Mathematical Soc.*, Vol. 33, (2007) 1-10.
46. A. Iranmanesh and N. Gholami, Computing the Szeged index of third and fourth dendrimer nanostars, *Micro & Nano Letters*, Vol. 4, (2007) 107-110.
47. A. R. Ashrafi and A. Iranmanesh, On the number of maximal subgroups and theta pairs in a finite group, *International Journal of Applied Mathematics & Statistics*, Vol. 11, No. 7, (2007) 7-12.
48. A. Iranmanesh and Y. Pakraves, Szeged index of  $HAC_5C_6C_7[k, p]$  nanotubes, *Journal of Applied Sciences*, Vol. 7, No. 23, (2007) 3606-3617.
49. A. Iranmanesh and M. Viseh, A remark on character degrees and nilpotence class in  $p$ -groups, *Missouri Journal Of Mathematical Sciences*, Vol. 19, No. 1, (2007) 49-51.

## 2008

50. A. Iranmanesh and O. Khormali, Padmakar-Ivan (PI) index of  $HAC_5C_7[r, p]$  nanotubes, *Journal of Computational and Theoretical Nanoscience*, Vol. 5, (2008) 131-139.
51. P. Corsini, V. Leoreanu-Fotea and A. Iranmanesh, On the sequence of hypergroups and membership functions determined by a hypergraph, *Journal of Multiple-Valued Logic and Soft Computing*, Vol. 14, (2008) 565-577.
52. A. Iranmanesh and M. Dabirian, Nonrigid group theory of water clusters (Cyclic Forms):  $(H_2O)_i$  for  $1 \leq i \leq 6$  *Iranian Journal of Mathematical Sciences and Informatics*, Vol. 3, No. 1, (2008) 1-15.
53. A. Iranmanesh, Y. Alizadeh and B. Taherkhani, Computing the Szeged and PI indices of  $VC_5C_7[p, q]$  and  $HC_5C_7[p, q]$  nanotubes, *International Journal of Molecular Sciences*, Vol. 9, (2008) 131-144 .
54. A. Iranmanesh and Y. Pakraves, Szeged index of  $TUC_4C_8(S)$  nanotube, *Utilitas Mathematica*, Vol.75, (2008) 89-96.
55. A. Iranmanesh and A. Jafarzadeh, On the commuting graph associated with the symmetric and alternating groups, *Journal of Algebra and Its Applications*, Vol. 7, No. 1, (2008) 129-146.
56. A. Iranmanesh, Y. Pakraves and A. Mahmiani, Szeged index of  $HC_5C_7[r, p]$  nanotubes, *Ars Combinatorics*, Vol.87, (2008) 193-201.
57. A. Iranmanesh and Y. Alizadeh, Computing some topological indices by GAP program, *MATCH Communications in Mathematical and in Computer Chemistry*, Vol. 60, (2008) 883-896.
58. A. Iranmanesh and N. Gholami, Computing the Szeged index of two type dendrimer nanostars, *Croatica Chemica Acta*, Vol. 81, (2008) 299-303.
59. A. Iranmanesh and N. Ahanjideh, A characterizaton of  ${}^2D_n(p^k)$  by Order of normalizer of Sylow subgroups, *International Journal of Algebra*, Vol. 18, (2008) 853-865.
60. A. Mahmiani, A. Iranmanesh and Y. Pakraves, Szeged index of armchair polyhex nanotube, *Ars Combinatorics*, Vol. 89, (2008) 309-319.
61. A. Iranmanesh and Y. Alizadeh, Computing Wiener index Of  $HAC_5C_7[p, q]$  nanotubes by GAP program, *Iranian Journal of Mathematical Sciences and Informatics*, Vol. 3, No. 1, (2008) 17-29.
62. A. Iranmanesh, Y. Pakraves and A. Mahmiani, PI and edge-Szeged index of  $HC_5C_7[k, p]$  nanotubes, *Utilitas Mathematica*, Vol. 77, (2008) 65-78.
63. A. Mahmiani, O. Khormali and A. Iranmanesh, The explicit relation among the edge versions of detour index, *Iranian Journal of Mathematical Sciences and Informatics*, Vol.

3, No. 2, (2008) 1-14.

64. A. Iranmanesh, A. R. Ashrafi, On Two Methods for Computing the Non-Rigid Group of Molecules, *Iranian Journal of Mathematical Sciences and Informatics*, Vol. 3, No. 2, (2008) 21-28.

65. H. Naraghi, A. Iranmanesh, A probability problem in distinct Fuzzy subgroups of a group, *Journal of Statistical sciences*, Vol. 2, No. 1, (2008) 115-124 (in Persian).

## 2009

66. B. Taherkhani, Y. Alizadeh and A. Iranmanesh, Computing the Szeged and PI indices of  $HAC_5C_7(p, q)$  and  $HAC_5C_6C_7(p, q)$  nanotubes by GAP program, *Asian Journal of Chemistry*, Vol. 21, No. 5, (2009) 3683-3696.

67. A. Iranmanesh, I. Gutman, O. Khormali and A. Mahmiani, The edge versions of the Wiener index, *MATCH Communications in Mathematical and in Computer Chemistry*, Vol. 61, (2009) 663-672.

68. Y. Alizadeh, A. Iranmanesh and S. Mirzaie, Computing Schultz polynomial, Schultz index of  $C_{60}$  Fulleren by GAP program, *Digest Journal of Nanomaterials and Biostructures*, Vol. 4, No. 1, (2009) 7-10.

69. A. Iranmanesh and N. Gholami, Computing the Szeged index of styrylbenzene dendrimer and triarylamine dendrimer of generation 1-3, *MATCH Communications in Mathematical and in Computer Chemistry*, Vol. 62, (2009) 371-379.

70. A. Iranmanesh and Y. Alizadeh, Computing Szeged and Schultz indices of  $HAC_5C_6C_7$  nanotube by GAP program, *Digest Journal of Nanomaterials and Biostructures*, Vol. 4, No. 1, (2009) 67-72.

71. A. Iranmanesh and Y. Alizadeh, Computing the higher Randic index of  $HAC_5C_7[p, q]$  and  $TUZC_6[p, q]$  nanotubes by GAP program, *MATCH Communications in Mathematical and in Computer Chemistry*, Vol. 62, (2009) 285-294.

72. N. Ahanjideh and A. Iranmanesh, A characterization of  $B_n(q)$  and  $C_n(q)$  by the set of orders of their maximal abelian subgroups, *International Journal of Algebra and Computation*, Vol. 19, No. 2, (2009) 191-211.

73. A. Iranmanesh and A. Soltani Kafrani, Computation of the first edge-Wiener index of  $TUC_4C_8(S)$  nanotube, *MATCH Communications in Mathematical and in Computer Chemistry*, Vol. 62, (2009) 311-352.

74. M. R. Darafsheh, A. Iranmanesh and S. A. Moosavi, 2-Frobenius  $Q$ -groups, *Indian Journal of Pure and Applied Mathematics*, Vol. 40, No. 1, (2009) 29-34.

75. A. Mahmiani and A. Iranmanesh, edge - Szeged index of  $HAC_5C_7[r, p]$  nanotube, *MATCH Communications in Mathematical and in Computer Chemistry*, Vol. 62, (2009) 397-417.

76. A. Iranmanesh, O. Khormali, I. Najafi Khalilsaraee and B. Soleimani, New version of Szeged index and its computation for some nanotubes *Digest Journal of Nanomaterials and Biostructures*, Vol. 4, No. 1, (2009) 167 - 176.

77. N. Dorosti, A. Iranmanesh and M. V. Diudea, Computing the Cluj index of dendrimer nanostars, *MATCH Communications in Mathematical and in Computer Chemistry*, Vol. 62, (2009) 389-395.

78. M. R. Darafsheh, A. Iranmanesh and R. Kahkeshani, Some designs and codes invariant under the groups  $S_9$  and  $A_8$ , *Designs, Codes and Cryptography*, Vol. 51, No. 2, (2009) 211-223.

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## Participation in Conference and Seminars:

1. The character table of the group  $2^n.S_n$ , 23<sup>rd</sup> Anual Iranian Mathematics Conference, Kermanshah, Iran (1992).
2. Poster presented at the International Congress of Mathematicians, Zurich, Switzerland (1994).
3. Computation of the character table of the affine subgroups of the classical groups, First Congress of Students in Basic Science, Tabriz, Iran (1994).
4. Fischer matrices, Proceedings of 26<sup>th</sup> Anual Iranian Mathematics Conference, Kerman, Iran (1995).
5. Character degrees of the affine subgroups of orthogonal group, 2<sup>nd</sup> Asian Mathematics Conference 17-20 Oct. Nakhon Ratchasima University of Technology, Thailand (1995).
6. Computation of the Fischer matrices for the group  $H_n$  when  $n \leq 6$ , 27<sup>th</sup> Anual Iranian Mathematics Conference, Shiraz, Iran (1996).
7.  $H_v$ -Lie algebra, International Conference of AHA 96, Prague (1996).
8. General types of conjugacy classes of  $GL_n(q)$ , Groups- St Andrews 1997, Bath University, England (1997).
9. Combinatorial and algebraic structure of hypergroup associate with a hypergraph, 29<sup>th</sup> Anual Iranian Mathematics Conference, Tehran, Iran (1998).
10. Fischer matrices of the affine groups, 4<sup>th</sup> International Conference on Group Theory, Pusan, Korea (1998).

11.  $H_v$ -structures associated with generalized  $P$ -hyperoperations, International Congress of Mathematicians, Berlin, Germany (1998).
12. Minimal generalized permutations, 10<sup>th</sup> National Algebra Seminar, Kordestan, Iran (1998).
13. About the complement of a hypergroup, 7<sup>th</sup> International Algebraic Hyperstructures and Applications, Taormina, Italy (1999).
14. Determination of  $(G, H)$  where  $\delta(G, H) = 4$ , Loops' 99, Prague (1999).
15. Some results about  $W$ -hypergroups, 11<sup>th</sup> National Algebra Seminar, Esfahan, Iran (1999).
16. Hyperstructure and Lie algebra, I Colloquium on Lie Algebra and Applications, Vigo, Spain (2000).
17. A characterization of simple groups  $PSL(5, q)$ , 13<sup>th</sup> National Algebra Seminar, Iran (2001).
18. A characterization of  $F_4(q)$  where  $q$  is an odd prime power, Groups- St Andrews 2001, Oxford University, England.
19. General Assembly of International Mathematical Union (IMU), Shanghai, Beijing, China, (2002).
20. A characterization of  $PSU(7, q)$ , International Congress of Mathematicians, Beijing, China (2002).
21. A characterization of  $PSU(19, q)$ , International Conference on Mathematics and Its Applications, Kuwait (2004).
22. A characterization of  $PSU(p, q)$  for some prime numbers  $p$ , Antalya Algebra Days VI, Turkey (2004) (**Invited speaker**).
23. Characterization of some finite simple groups ,36<sup>th</sup> Annual Iranian Mathematics Conference, Yazd University, Yazd, Iran (2005) (**Invited speaker**).
24. Irreducible representations on non-abelian groups which have an abelian normal subgroup of index prime, A Conference in Honor of Adalbert Bovdi's 70th Birthday, Debrecen, Hungary (2005).
25. On commuting graph of finite groups, International Congress of Mathematicians, Madrid, Spain (2006).
26. Some topological indices of  $TUC_4C_8(R)$  nanotubes, Math/Chem/Comp 2006, Dubrovnik, Croatia (2006).
27. Some topological indices of  $HAC_5C_7$  nanotubes, International Conference on Bio-Nanotechnology, Al-Ain, UAE, (2006).
28. The commuting graph of finite groups, 18<sup>th</sup> Seminar Algebra, Damghan, Iran, (2007).
29. A characterization of  $2D_n(q)$  by order of normalizer of sylow subgroups, 4<sup>th</sup> Seminar Algebra, Iran, (2007).
30. Szeged index of some nanotubes, Workshop of metric graph theory and applications of nano-science, Iran, (2007).
31. Some properties of the sharp pairs of type  $\{3, -1\}$  or  $\{1, -3\}$ , 19<sup>th</sup> Seminar Algebra, Iran, (2007).
32. The Relation between of the nullity class of nilpotent groups and number of faithful of nonlinear character, 19<sup>th</sup> Seminar Algebra, Iran, (2007).
33. Infinite abelian groups with finite cover, The first scientific conference on mathematics (Payame Noor University), (in Persian), Iran (2007).
34. Hypergroups, hypergraphs and join spaces, 1st Workshop on Algebraic Hyperstruc-

- tures and Fuzzy Mathematics, Babolsar, Iran (2007) (**Invited speaker**).
35. Relations on some topological indices of a graph, The First IPM Conference on Algebraic Graph Theory, Tehran, Iran (2007).
  36. Computing the Szeged and PI indices of any graph by GAP program, Chemical graph theory and Molecular modeling workshop (CHEMMOD 2007), Cluj, Romania (2007).
  37. The edge-Szeged index of  $HAC_5C_7[k, p]$  nanotube, Nano Korea, Kintex, IIsan, Korea (2008).
  38. Computing the higher Randic index of some nanotubes, Math/Chem/Comp 2008, Verbania-Intra, Italy (2008).
  39. The quasirecognizable of finite simple groups  $A_{3^k}(2)$  by prime graph, 39<sup>th</sup> Annual Iranian Mathematics Conference, Shahid Bahonar University of Kerman, Iran (2008).
  40. Computing the Cluj index of the first and second type dendrimer nanostars, 5<sup>th</sup> International Conference on Nanosciences and Nanotechnologies, Greece (2008).
  41. The First De Burn Workshop on Computations Algebra, NUI Galway, Ireland (2008).
  42. Fifth European Congress of Mathematics, Amsterdam, Netherlands (2008).
  43. Szeged index of  $VAC_5C_7[r, p]$  nanotubes, 5<sup>th</sup> International Conference on Nanosciences and Nanotechnologies, Greece (2008).
  44. Computing the szeged and schultz indices of some nanotube by GAP program, NANO korea 2008, Korea (2008).
  45. The first edge-wiener index of  $TUC_4C_8(r)$ , NANO korea 2008, Korea (2008).
  46. The quasirecognizable of finite simple groups  $A_3(2)$  by simple graph, 39<sup>th</sup> Annual Iranian mathematics conference, Iran (2008).
  47. Divisibility of some hypergroups and its properties, 39<sup>th</sup> Annual Iranian mathematics conference, Iran (2008).
  48. On fuzzy subgroups of finite  $p$ -group 76<sup>th</sup>, workshop on general algebra, Austria (2008).
  49. Szeged index of  $VAC_5C_7[r, p]$  nanotubes, 5<sup>th</sup> International conference-NNO8&2nd international summer school, Austria (2008).
  50. Computing the cluj index of the first and the second type dendrimer nanostars, 5<sup>th</sup> International conference-NNO8&2nd international summer school, Austria (2008).
  51. PI index of  $HC_5C_7[k, p]$  nanotubes, 5<sup>th</sup> International conference-NNO8&2nd international summer school, Greece (2008).
  52. The relation between of divisibility of hypergroups and groups, 10<sup>th</sup> International AHA congress, Czech,(2008).
  53. Computing hyper-wiener and shultz indices of  $TUZC_6[q, p]$  nanotube by GAP program, ICN 2008, Emirates (2008).
  54. The first edge-wiener index of  $TUC_4C_8(S)$  nanotubes, ICN 2008, Emirates (2008).
  55. Computing a topological index of the first type dendrimer nanostars, ICN 2008, Emirates (2008).
  56. Edge-wiener index of armchair polyhex nanotubes, ICN 2008, Emirates (2008).
  57. Computing the higher Randic index of some nanotubes, Math/chem/comp 2008, Italy (2008).
  58. Computing the Cluj index of the first type dendrimer nanostar, Math/Chem/Comp 2009, Dubrovnik, Croatia (2009).
  59. Balaban Index of some nanotubes by GAP program, Nano Smat 2009, Rome, Italy (2009).

60. About the characterization of finite simple groups by different methods , Scientific Conference on group theory and Lie algebra, Iran (2009).
61. The multiplicative Wiener index of some nanotubes and nanotorus, Math/chem/comp 2010 (**Invited Speaker**), Dubrovnik, Croatia (2009).
62. On the characterization of simple groups  $B_n(q)$  and  $C_n(q)$ , 20<sup>th</sup>, seminar on algebra Iran, Iran (2009).
63. Computing the Cluj index of the first type dendrimer nanostar, Math/chem/comp 2009, Croatia (2009).
64. Balaban index of some nanotubes by GAP program, NANOSMAT 2009, Italy (2009).
65. The multiplicative wiener index of some nanotubes and nanotorus, Math/chem/comp 2010, Croatia (2010).
66. Computing Wiener polynomials of  $VC_5C_7[p; q]$  nanotube by GAP program, NanoTR-VI, Izmir Turkey (2010).
67. The multiplicative Wiener index of some nanotubes and nanotorus, Math/Chem/Comp 2010, Dubrovnik, Croatia (2010) (**Invited speaker**).
68. On ordinary generalized geometric-arithmetic index, ICM 2010, Hyderabad, India, (2010).
69. Generalized Zagreb index of graph, 7<sup>th</sup> Slovenian International Conference on Graph Theory, Bled, Slovenia, (2011).
70. Harary index of  $C_4$  nanotubes and  $C_4$  nanotori, NanoTR-VII, Istanbul, Turkey, (2011).
71. The second edge Wiener index of the join of graphs, International Conference on Applied Analysis and Algebra, Istanbul, Turkey, (2011).
72. The Hosoya polynomial of a  $TUC_4C_8(S)$  nanotorus, Math/Chem/Comp 2011, Dubrovnik, Croatia (2011).
73. Reverse Wiener index of composite graphs, 1<sup>th</sup> Iranian Conference on Algebraic Graph Theory and 2<sup>th</sup> Conference on Chemical Graph Theory, Tehran, Iran, (2011).
74. Some results on Zagreb coindices, 1<sup>th</sup> Iranian Conference on Algebraic Graph Theory and 2<sup>th</sup> Conference on Chemical Graph Theory, Tehran, Iran, (2011).
75. On the ABC index of graphs, 1<sup>th</sup> Iranian Conference on Algebraic Graph Theory and 2<sup>th</sup> Conference on Chemical Graph Theory, Tehran, Iran, (2011).
76. Reciprocal reverse wiener index of some nanotubes and nanotrus, 7<sup>th</sup> Slovenian international conference on graph theory, Slovenia (2011).
77. Additively weighted Harary index of some graph products, 42<sup>th</sup> annual mathematics conference, Iran (2011).
78. Computation of two topological indices and their corresponding , Math/chem/ comp 2011, Croatia (2011).
79. Harry index of  $C_4$ -nanotubes , 7<sup>th</sup> Slovenian international conference, Slovenia (2011).
80. Computation of the generalizes Zagreb index of some composite graphs, Int. conf.on applied analysis and algebra, Turkey (2011).
81. Designs and codes from the group  $PSL_2(2n)$ , Third Conference and workshop on group theory, Iran (2011).
82. 2- recognizibility of the simple groups  $B_n(3)$  and  $C_n(3)$ (by prime graph where  $n > 3$  is odd, Third Conference and workshop on group theory, Iran (2011).
83. An algorithm for computing some topological indices based on distance, Math/chem/ comp 2011, Croatia (2011).

84. Generalization of degree distance of unicyclic and bicyclic graphs, The 5<sup>th</sup> Conference & Workshop on Mathematical Chemistry, Yazd, Iran, (2012).
85. On the multiplicative Zagreb indices of graphs, The 5<sup>th</sup> Conference & Workshop on Mathematical Chemistry, Yazd, Iran, (2012).
86. Generalization of degree distance of some graph operations, The 5<sup>th</sup> Conference & Workshop on Mathematical Chemistry, Yazd, Iran, (2012).
87. On the multiplicative edge-Wiener index, The 5<sup>th</sup> Conference & Workshop on Mathematical Chemistry, Yazd, Iran, (2012).
88. Computation of the edge-Wiener index of multiple Phenylenes by GAP program, 1<sup>st</sup> International Conference on Nanostructures and Nanomaterials: Science and Applications, Masjedsoleyman, Iran, (2012).
89. On the Narumi-Katayama index of nanostar dendrimers, 1<sup>st</sup> International Conference on Nanostructures and Nanomaterials: Science and Applications, Masjedsoleyman, Iran, (2012).
90. A survey of the prime graphs of finite groups, The Fourth Group Theory Conference of Iran, Isfahan, Iran, (2012) (**Invited speaker**).
91. On DNA graph and its application to DNA fragment assembly, IAMC meeting, Verona, Italy, (2012).
92. Some topological descriptors of some nanostructures, International Conference on Modern Applications of Nanotechnology, Minsk, Belarus, (2012) (**Invited speaker**).
93. More on Zagreb indices of graph products, 58<sup>th</sup> Workshop: Carbon Topology, Erice, Italy, (2013) (**Invited speaker**).
94. Some Biological applications of Mathematics, Nanoscience in Mathematics, Physics, Chemistry and Biology, Cluj, Romania, (2013) (**Invited speaker**).
95. Mathematics in the works of Ibn Sina, Tokyo, Japan, (2013) (**Invited speaker**).
96. Eccentric connectivity index of a class of benzenoid graphs, 6th Conference and Workshop on Mathematical Chemistry, Persian Gulf University, Bushehr, Iran, (2013).
97. A new method for comparing DNA sequences based on codons, ICM 2014, Seoul, South Korea, (2014).
98. Lower bounds on the multiplicative Zagreb indices of graph operations, Caucasian Mathematics Conference CMC I, Ivane Javakhishvili Tbilisi State University & Georgian national Academy of Sciences, Tbilisi, Georgia, (2014).
99. Various versions of Zagreb indices under some local graph operators, Caucasian Mathematics Conference CMC I, Ivane Javakhishvili Tbilisi State University & Georgian national Academy of Sciences, Tbilisi, Georgia, (2014).
100. Computing some topological indices of thorn graphs, International Conference of the Georgian Mathematical union, Shota Rustaveli Batumi State University, Batumi, Georgia, (2014).
101. On the terminal Wiener and edge-Wiener indices of an infinite family of dendrimers, 8th Slovenian Conference on Graph Theory, Kranjska Gora, Slovenia, (2015).
102. Complete Character Graphs, The Second Conference on Computational Algebra, Computational Number Theory and Applications, Kashan, Iran, (2015).
103. Coloring of Character Graphs, 3rd Biennial International Group Theory Conference and 7th Group Theory Conference of Iran, Mashhad, Iran (2015).
104. Some Properties of the Character Graph of a Solvable Group, 46th Annual Iranian Mathematics Conference, Yazd, Iran (2015).

105. Application of graph theory to biological problems, Nanoscience in Chemistry, Physics, Biology and Mathematics, Romani, (2015) (**Invited speaker**).
106. An alignment-free method to comparing protein sequences, 12th Annual Meeting of the International Academy of Mathematical Chemistry & 2016 International Conference on Mathematical Chemistry, Tianjin, China (2016).
107. A graph theoretical for analyzing DNA sequences based on codons, Bio-Nano-Math-Chem International Conference, 28-30 June, Cluj, Romania (2017) (**Invited speaker**).
108. Total Communicability of Graphs, International Conference on Mathematical Computer Engineering, 23–24 November, Vellore Institute of Technology, Chennai, India (2018) (**Invited speaker**).
109. Influence of Character Degrees on the Structure of Nearly Simple Groups, 5th Biennial International Group Theory Conference, 1-4 July, Institut Teknologi Bandung, Indonesia (2019) (**Invited speaker**).
110. Primes and degrees of Isaacs  $\pi$ -partial character, 15th International group theory conference of Iran, February 9-10, Tehran, Iran (2023).
111. On monomial Isaacs  $\pi$ -partial characters of  $\pi$ -separable groups, The 7th Biennial International Group Theory Conference (7BIGTC2023), 7-11 August, North West University, South Africa, (2023) (**Invited speaker**).
112. Groups whose all Isaacs  $\pi$ -partial characters are monomial, 16th International Group Theory Conference of Iran, February 1-2, Tehran, Iran (2024).
113. Representation theory of symmetric groups and some combinatorial results, 12th Graph Theory and Algebraic Combinatorics, February 7-8, Tafresh, Iran (2024).
114. Exploring degree-based graph invariants in random graphs and chains, 35th MATH/CHEM/COMP Conference, June 3-7, Dubrovnik, Croatia, (2024) (**Invited speaker**).
115. Some results in degrees of monolithic characters (In Persian) ,55th Annual Iranian Mathematics Conference, August 14-16, Mashhad, Iran (2024).
116.  $\pi$ -structure and  $\pi$ -characters, 17th International Group Theory Conference of Iran, January 29-30, Yazd, Iran (2025) (**Invited speaker**).

### Graduated Postdoct. Students:

1. Mr. M. Eliasi, Problems related to topological indices of nanotubes and nanotorus, 1390 (September 2011).
2. Mrs. M. Azari, Computing topological descriptors of molecular graphs related to nanostructures, 1393 (June 2014).
3. Ms. M. Foroudi Ghasemabadi, On recognition problem of finite nonabelian simple groups by their prime graphs, 1394 (January 2015).
4. Mrs. S. Hossien-Zadeh, Study of some properties of graphs associated to algebraic structures, 1396 (July 2017)
5. Mr. M. A. Hossien-Zadeh, Communicability of Graphs and related topics, 1397 (2018).
6. Ms. Nafiseh Jafarzadeh, Computational approaches to investigating biological sequence comparison, 1398 (2019).
7. Mr. F. Shirjian, The influence of complex group algebras and irreducible representations

on the structure of finite groups, 1401 (2022).

### **Graduated Ph.D. Students:**

1. Mr. B. Khosravi, A new characterization of some finite simple groups of Lie type, University of Tarbiat Modares, Tehran, 1381 (February 2002).
2. Mrs. K. Mehrabadi, Covering of some finite groups, University of Tarbiat Modares, Tehran, 1386 (April 2007).
3. Mr. A. Jafarzadeh, The commuting graph of finite groups and its relation with the prime graph of groups, University of Tarbiat Modares, Tehran, 1386 (January 2008).
4. Ms. N. Ahanjideh, Characterization of some finite groups by order of their normalizer of Sylow subgroups, University of Tarbiat Modares, Tehran, 1387 (January 2009).
5. Mr. A. Mahmiani, Computations of some topological indices of molecular graph, Payame Noor University, Tehran, 1388 ( March 2010).
6. Mr. S. A. Moosavi,  $Q$ -groups and related topics, University of Tarbiat Modares, Tehran, 1389 (September 2010).
7. Mr. R. Kahkeshani, Construction of designs and codes using group action, University of Tarbiat Modares, Tehran, 1389 (July 2011).
8. Ms. M. Foroudi Ghasemabadi, Characterization of some finite nonabelian simple groups by prime graph, University of Tarbiat Modares, Tehran, 1389 (September 2011).
9. Mrs. M. Azari, Computation of generalized Wiener index for composite of graphs and some nanotubes and nanotori, Science and Research Branch of The Islamic Azad University, Tehran, 1390 (January 2012).
10. Mr. A. R. Khalili Asboei, Characterization and  $k$ -Characterization of some finite groups by two methods the set of elements of the group and the number of Sylow subgroup of a finite group with trivial center, 1391 (May 2012).
11. Mr. S. S. Amiri,  $k$ -recognizability and quasirecognizability some of finite groups with prime graph and NSE, Science and Research Branch of The Islamic Azad University, Tehran, 1391 (July 2012).
12. Mr. Y. Alizadeh, An algorithm for computation of reverse Wiener, eccentric and Detour indices of simple connected graphs and its applications in nanotubes and fullerenes using GAP program, University of Tarbiat Modares, Tehran, 1391 (September 2012).
13. Mr. Y. Marefat, Groups with the minimum sum of element orders, Science and Research Branch of The Islamic Azad University, Tehran, 1392 (September 2013).
14. Mr. H. Parvizi Mosaed, Characterization of some finite groups by the set of the number of elements of the same order of the group and prime graph, Science and Research Branch of The Islamic Azad University, Tehran, 1393 (August 2014).
15. Mrs. M. Sadat Hemmasi, Computation of eccentric distance sum index, Randic index and other indices on some Fullerenes and obtaining bounds for them, Science and Research Branch of The Islamic Azad University, Tehran, 1393 (September 2014).
16. Mrs. A. Hamzeh, Some topological indices of graph operations and their extremal values, University of Tarbiat Modares, Tehran, 1393 (October 2014).
17. Ms. F. Bardestani, Construction of an error correcting codes for network coding, University of Tarbiat Modares, Tehran, 1393 (March 2015).
18. Mr. A. Soltani Kafrani, Graphs invariants maximum nullity and zero forcing number of graphs, University of Tarbiat Modares, Tehran, 1393 (March 2015).

19. Mrs. F. Falahati Nezhad, Computation of topological indices and their bounds for molecular graphs, Science and Research Branch of The Islamic Azad University, Tehran, 1393 (September 2014).
20. Mr. M. Saki, Generalization and studying Geometric-Arithmetic index, Science and Research Branch of The Islamic Azad University, Tehran, 1393 (September 2014).
21. Mrs. S. Hossein-Zadeh, Graphs associated to some groups, University of Tarbiat Modares, Tehran, 1394 (July 2015).
22. Mrs. F. Shafiei, Relation between the structure of finite groups, their set of irreducible character degrees, University of Tarbiat Modares, Tehran, 1394 (October 2015).
23. Mrs. R. Adhami, Sharp characters whose set of values at nonidentity elements is  $\{-1, 3\}$  or  $\{-3, 1\}$ , University of Tarbiat Modares, Tehran, 1394 (March 2016).
24. Mr. Y. Pakraves, Automorphism group of Cayley graphs, University of Tarbiat Modares, Tehran, 1394 (February 2016).
25. Mr. M. Ebrahimi, Relation between solvability and character degree set, University of Tarbiat Modares, Tehran, 1395 (April 2016).
26. Mr. M. A. Hosseinzadeh, Factors in graphs and related topics, University of Tarbiat Modares, Tehran, 1395 (July 2016).
27. Mr. J. Askari-Farsangi, Optimization approach in matrices associated with graphs, University of Tarbiat Modares, Tehran, 1395 (July 2016).
27. Mr. Behnam Ebrahimzadeh, Characterization of some finite groups by the number of elements of the same order or the largest elements order, Science and Research Branch of The Islamic Azad University, Tehran, 1396 (July 2017).
28. Ms. N. Jafarzadeh, Comparison of biological macromolecules using directed weighted graphs, University of Tarbiat Modares, Tehran, 1396 (February 2018).
29. Mr. F. Shirjian, Connections between structure of finite groups with some group algebras, University of Tarbiat Modares, Tehran, 1398 (July 2019).
30. Mrs. Maryam Tale Masouleh, Embedding of block designs in finite groups, University of Tarbiat Modares, Tehran, 1399 (September 2020).
31. Ms. Safoura Madady Moghadam, Examining the correctness of extensions of Huppert's conjecture for some finite groups, University of Tarbiat Modares, Tehran, 1400 (September 2021).
32. Ms. Hadiseh Saydi, Supercharacter theory of certain finite groups, University of Tarbiat Modares, Tehran, 1401 (July 2022).
33. K. Behizadi, Applications of group and representation theory in genome rearrangements, University of Tarbiat Modares, Tehran, 1401 (February 2023).
34. K. Dastouri, Monomial characters and structure of groups, University of Tarbiat Modares, Tehran, 1402 (December 2023).
35. Mina Hemmati, Relation of the number of elements of same-size conjugacy classes with some properties of finite groups, University of Tarbiat Modares, Tehran, 1404 (February 2026).
36. Mostafa Jahangardi, Study on the invertibility of elements in group rings of quaternion and dihedral groups of order eight, University of Tarbiat Modares, Tehran, 1405 (May 2026).

## Graduated M. Sc. Students:

1. Mr. M. N. Iradmusa, The number of  $H_v$ -structures associated with  $P$ -hyperoperations and generalized  $P$ -hyperoperations, University of Tarbiat Modares, Tehran, 1375 (February 1998).
2. Mr. A. Faghihi, Generalized permutation, representati on and character of  $H_v$ -structure, University of Tarbiat Modares, 1376 (September 1998).
3. Mr. A. H. Babareza, Transposition hypergroups, University of Tarbiat Modares, 1377 (October 1998).
4. Mr. A. R. Khalili, On sums of degrees of irreducible characters, University of Tarbiat Modares, 1377 (February 1999).
5. Mr. A. Zaarei, A class of hyperstructures and convolutions on Wass hyperstructures, University of Tarbiat Modares, 1377 (March 1999).
6. Mr. A. Alinejad, Irreducible characters of solvable groups, University of Tarbiat Modares, 1378 (April 1999).
7. Mr. F. Fakhrali, Symmetry classes of tensor associated with certain groups, University of Tarbiat Modares, 1378 (September 1999).
8. Mr. J. Mokarian, Irreducible character degrees and normal subgroups, University of Tarbiat Modares, 1378 (October 1999).
9. Mrs. M. Ostad, Outer automorphisms of the sporadic simple group  $F_{22}$ , University of Tarbiat Modares, 1378 (February 2000).
10. Mr. R. Tavakoli, The very thin hyperstructures and  $H_v$ -group rings, University of Tarbiat Modares, 1378 (March 2000).
11. Mr. S. H. Alavi, Characterizable, rocnizable and irrecognizable groups, University of Tarbiat Modares, 1379 (February 2001).
12. Mr. A. Faramarzy Sales, Projective representation of some finite groups, University of Tarbiat Modares, 1379 (February 2001).
13. Mr. M. Chehri, On the set of  $n$ -tuple of elements of a finite group, University of Tarbiat Modares, 1379 (March 2001).
14. Mr. R. Vesalian, The relation between p-groups and automorphism groups, University of Tarbiat Modares, 1379 (March 2001).
15. Mr. A. Gandji,  $W$ - hypergroups, University of Tarbiat Modares, 1379 (March 2001).
16. Mrs. A. Eslami Rad, Quantum algebraic structures, University of Tarbiat Modares, 1380 (January 2002).
17. Mr. R. Sharifi, On the Deskins completion,  $\theta$ -pairs and  $\theta$ -completion for maximal subgroups , University of Tarbiat Modares, 1380 (March 2002).
18. Mr. M. Zabihi, Characterization of some alternating groups by their element orders, University of Tarbiat Modares, 1380 (March 2002).
19. Mrs. E. Nobari, The connection between group theory and loop theory, University of Tarbiat Modares, 1381 (March 2003).
20. Mrs. M. Viseh, The relation between nilpotence class and irreducible character degrees of finite  $p$ -groups, University of Tarbiat Modares, 1381 (March 2003).
21. Mr. M. Dabirian, A study of internal dynamics of trimethylamine by using of character table, University of Tarbiat Modares, 1382 (February 2004).
22. Mrs. S. Memarzadeh, Computation of the character table of some non-rigid molecules, University of Tarbiat Modares, 1382 (March 2004).

23. Mr. G. Hasanpour, Application of group theory for full non-rigid molecules, University of Tarbiat Modares, 1382 (April 2004).
24. Mrs. A. Shirrafi Ardecani, A new characterization  $D(H)$  by the relation  $\gamma^*$ , University of Tarbiat Modares, 1383 (February 2005).
25. Mrs. M. Jahandideh, Groups which the prime graph is a tree, University of Tarbiat Modares, 1383 (March 2005).
26. Ms. M. Foroudi Ghasemabadi, Computation of irreducible representations and characters, of the group  $G_n(m)$ , University of Tarbiat Modares, 1384 (February 2006).
27. Mr. B. Soleimani, Wiener index of hexagonal nets and nanotubes, University of Tarbiat Modares, 1384 (March 2006).
28. Mr. H. Naraghi, On an equivalence of fuzzy subgroups, University of Tarbiat Modares, 1384 (March 2006).
29. Mr. Y. Pakraves, Computation of Detour index of the hexagonal net and some nanotubes, University of Tarbiat Modares, 1385 (January 2007).
30. Mr. O. Khormali, Computing of the Wiener, PI and Shultz index of some nanotubes, University of Tarbiat Modares, 1386 (February 2007).
31. Mr. H. Rahkooy, Study of some topological indices and energy of graph, University of Tarbiat Modares, 1386 (June 2007).
32. Mr. N. Gholami, Computing the Szeged index of dendrimer nanostars, University of Tarbiat Modares, 1386 (August 2007).
33. Mr. K. Gholizadeh, Relation between solvability of a group and factorability of its elements, University of Tarbiat Modares, 1386 (December 2007).
34. Mr. Y. Alizadeh, Computing Randic index of some nanotubes, University of Tarbiat Modares, 1386 (January 2008).
35. Mrs. S. Niazian, Divisible hypergroups and their properties, University of Tarbiat Modares, 1387 (December 2008).
36. Mr. A. Saeidi, Subgroups of groups each of their nonlinear irreducible characters has maximum degree, University of Tarbiat Modares, 1386 (February 2008).
37. Mrs. S. R. Adhamy, The relation between the structure of a finite group and its sharp characters, University of Tarbiat Modares, 1386 (March 2008).
38. Mrs. N. Dorosti, Cluj and Wiener indices and its application in dendrimers, University of Tarbiat Modares, 1387 (March 2009).
39. Mr. A. Soltani Kafrani, Computation of edge-Wiener index of some nanotubes, University of Tarbiat Modares, 1387 (March 2009).
40. Mr. Z. Yaghoubi Besheli, The relation between solvability and factorizability in finite groups, University of Tarbiat Modares, 1388 (February 2010).
41. Mr. E. Babae, The edge -Wiener index of rooted product of graphs and some fullerenes, University of Tarbiat Modares, 1388 (February 2010).
42. Ms. Z. Imani, Computing of the Cluj index of  $TUC_4C_8(R)$  and  $TUC_4C_8(S)$  nanotubs, University of Tarbiat Modares, 1388 (March 2010).
43. Ms. S. Mirzaei, Schultz polynomials of composite graphs and Shultz index of  $C_{60}$  fullerene, University of Tarbiat Modares, 1389 (April 2010).
44. Mrs. M. Zeraatkar, Computing of GA index for some nanotubes and nanotorus, University of Tarbiat Modares, 1389 (October 2010).
45. Mr. A. Karimi Roozbahani, Computing the edge-Wiener index a type of nanotubes, Science and Research Branch of The Islamic Azad University, Tehran, 1389 (September

2010).

46. Ms. M. Rafei pour, Omega polynomial and its Applications on nanostructures and fullerenes, University of Tarbiat Modares, 1389 (December 2010).
47. Ms. S. Asadi, Computation of hyper edge-Wiener index of a type of nanotubes, nanotube, University of Tarbiat Modares, 1389 (February 2011).
48. Ms. Kh. Khedri, The theory and application of Wiener index on trees and dendrimers, University of Tarbiat Modares, 1389 (February 2011).
49. Ms. A. Giahtazeh, Bounds on Harary index and computation of this index for some nanotubes and nanotorus, University of Tarbiat Modares, 1389 (March 2011).
50. Ms. M. Alavi, Computation of reverse Wiener index of some fullerenes and obtain a bound on this index, University of Tarbiat Modares, 1389 (March 2011).
51. Mrs. L. Jadidoleslam, Hosoya polynomial of  $TUC_4C_8(R)$  and  $TUC_4C_8(S)$  nanotubes, University of Tarbiat Modares, 1389 (March 2011).
52. Ms. N. Sarai, On reciprocal reverse wiener index of some nanotubes and nanotorus, University of Tarbiat Modares, 1389 (March 2011).
53. Mr. V. Aram, Immanants invariants of fullerene graph, University of Tarbiat Modares, 1390 (February 2011).
54. Mrs. Gh. Gougrad, Algebra after Dar Al-Fonun in duration of Ghajar, University of Tarbiat Modares, 1390 (May 2011).
55. Mr. A. Shadparvar, Wiener index and it application in graphs and nanotubes, Science and Research Branch of The Islamic Azad University, Tehran, 1390 (summer 2011).
56. Ms. R. Nejati, A DNA algorithm for the graph coloring problem, University of Tarbiat Modares, 1390 (October 2011).
57. Mr. M. Khoshnisen, Computation of Cluj-Tehran index for some nanotubes and nanotori, University of Tarbiat Modares, 1390 (November 2011).
58. Mr. M. Torktaz, The contribution of muslim mathematicians in algebra in second to forth centuries A.H. with concentration on works of AL. Khwarizmi, University of Tarbiat Modares, 1390 (November 2011).
59. Ms. N. Jafarzadeh, On the study of DNA labeled graphs, University of Tarbiat Modares, 1390 (January 2012).
60. Ms. M. Javarsineh, The study of a new graph related to the irreducible characters of a group, University of Tarbiat Modares, 1391 (February 2012).
61. Mr. M. Zallaghi, A relation between a group and a specified graph, University of Tarbiat Modares, 1390 (March 2012).
62. Mr. M. H. Shahrtash, Conjugacy class sizes and theirs effects on the fundamental properties of finite groups, University of Tarbiat Modares, 1390 (March 2012).
63. Mrs. A. Kaeed, Evaluation of the history of the Indian numerals in the Muslim territory, University of Tarbiat Modares, 1391 (July 2012).
64. Ms. F. Faiazy, Analysis DNA sequences based on graph theory, University of Tarbiat Modares, 1391 (January 2013).
65. Mr. M. Gholami, The contribution of Muslim Mathematicians in Algebra from 7th to 9th centuries A. H with centration on works of Ghiasodin Jamshid Kashani ,University of Tarbiat Modares, 1391 (January 2013).
66. Mrs. A. Charkhab Zadeh, Properties of DNA - related sequences in the base of special matrices, University of Tarbiat Modares, 1391(February 2013).
67. Ms. S. Shariati Beyne Kalaei, The study of relation between some properties of finite

- groups and their prime graphs, University of Tarbiat Modares, 1391(February 2013).
68. Ms. R. Babamir, OD- characterization of some finite simple groups, University of Tarbiat Modares, 1391(February 2013).
69. Mr. R. Fatahi, Some problems related to circular DNA, University of Tarbiat Modares, 1391(February 2013).
70. Ms. F. Mavadat-Pour, Some results on finite groups and elements where characters vanish, University of Tarbiat Modares, 1391(February 2013).
71. Ms. Z. Taheri, Finite simple groups with connected prime graph, University of Tarbiat Modares, 1391(February 2013).
72. Mr. R. Barati, Structure of finite groups based on their zeros of irreducible characters table, , University of Tarbiat Modares, 1392(October 2013).
73. Mrs. Z. Alem, Asymptotically sharp bounds for the probability that a pair of random permutations of degree  $n$  generates either  $S_n$  or  $A_n$ , University of Tarbiat Modares, 1392 (February 2014).
74. A. Hojati, On the R-Conjugate-Permutable subgroups, University of Tarbiat Modares, 1392 (February 2014).
75. S. Esmaeeli, Measuring Lemma and it's Applications, University of Tarbiat Modares, 1392 (February 2014).
76. F. Shirjian, Factorization problem and bicrossed products of finite groups, University of Tarbiat Modares, 1393 (July 2014).
77. N. Hashemi, P-H curve ,a Graphical Representation of Protein Sequences for similarities Analysis, University of Tarbiat Modares, 1393 (January 2015).
78. T. Haghgoo, Study of the symmetry proporties of circular cides and  $C^3$  -codes and establish connection with group theory and genetic transformation, University of Tarbiat Modares, 1394 (February 2016).
79. E. Gholami, The generalization of Bear Theorem on the injective property of divisible abelian groups, University of Tarbiat Modares, 1394 (March 2016).
80. H. Bahman poor, Character graphs of solvable groups, University of Tarbiat Modares, 1395 (February 2017).
81. L. Kian, Analysis and construction of equidistance subspace codes, University of Tarbiat Modares, 1395 (March 2017).
82. M. Hajibaba, Study of arithmetic problems for representation of finite groups over an algebraic number, University of Tarbiat Modares, 1395 (March 2017).
83. Ms. Z. Masjedi, University of Tarbiat Modares, 1395 (November 2016).
84. N. Ghorbani, A Dedekind-Mertens theorem for power series rings and polynomial rings over hyperrings, University of Tarbiat Modares, 1396 (May 2017).
85. F. Hamdollahpoor, Characterization of some finite groups by character degree graph and order, University of Tarbiat Modares, 1399 (March 2020).
86. A. Soori, Review and application of group theory to molecular systems Biology, University of Tarbiat Modares, 1399 (May 2020).
87. F. Zarei Sahamieh, Linear codes and the mitochondrial genetic code, University of Tarbiat Modares, 1400 (July 2021).
88. Y. khodadadi, Frobenius groups and their importance in group theory, University of Tarbiat Modares, 1401 (July 2022).
89. Z. Ezadi, Determinination of some properties of a group according to the sum of complex irreducible character degrees, University of Tarbiat Modares, 1402 (July 2023).

90. M. Mahaky, Application Of Group Theory In Biology Molecular Systems, University of Tarbiat Modares, 1402 (September 2023).
91. N. Malekhoseini, Space efficient of cayley table representations of some groups, University of Tarbiat Modares, 1402 (September 2023).
92. M.J. Shahdi, Innovations of Muslim Scientists in Trigonometry During the Islamic Golden Age, University of Tarbiat Modares, 1404 (April 2025).
93. E. Sarlak, Characterization of  $p$ -groups from the set of degrees of their irreducible characters and normal subgroups, University of Tarbiat Modares, 1404 (September 2025).