





Chemistry Section, Physical Sciences Section
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DR. SALMAN AHMAD KHAN | Professor

CURRENT DESIGNATION/ INVOLVEMENT Currently working as a **Professor** in Chemistry Section, Physical Sciences Section & **Dean School of Sciences**, Maulana Azad National Urdu University (Central University), Hyderabad, Telangana, India.

AREA OF SPECIALIZATION Organic Chemistry

ONGOING ACADEMIC RESEARCH/PROJECTS

- Photophysical properties of donor- π -acceptor chromophores
- Synthesis of Metal Complexes of heterocyclic compounds
- Synthesis of heterocyclic compound, Pyrazoline pyrimidine
- Multi-step synthesis of heterocyclic compounds
- Synthesis and Photochemistry of some chromones
- Synthesis of some conjugated dienes
- Synthesis of some macromolecules
- Optical Properties of some organic compounds
- Fluorescent Chemosensor for detection of Metal ion

INNOVATION WITH FIELD OF STUDY AND COLLABORATIVE EFFORTS

Innovation with Field of Study

Developed the novel heterocyclic compounds as fluorescent Chemosensor for the detection of toxic metal ions

National Collaboration

- **Dr. S.M. Afzal**
Physics Department, Aligarh Muslim University, Aligarh 202002, India
- **Dr. Kamlesh Sharma**
Department of Applied Science,
School of Engineering & Technology, ITM University
Sector23A,
Gurgaon 122017, India
- **Dr. Sanjay Kumar**
Department of Chemistry, Multani Mal Modi College,

Patiala, 147001, Punjab, India

- **Prof. Mohammed Yusuf**

Department of Chemistry, Punjabi University, Patiala,
Punjab,
India

- **Dr. Athar Adil Hashmi**

Department of Chemistry, Jamia Millia Islamia, Jamia
Nagar,
New Delhi-110025

[International Collaborations](#)

- **Prof. Abdullah M. Asiri (Highly Cited)**

Chemistry Department, King Abdul Aziz University,
Jeddah, Saudi Arabia

- **Dr. Humaira Parveen**

Chemistry Department, Tabuk University, Tabuk,
Saudi Arabia

- **Dr. Mohmmad Younus Wani**

Chemistry Department, University of Jeddah, Jeddah
Saudi Arabia

- **Prof. Michael B. Hursthouse (Highly Cited)**

School of Chemistry,
University of Southampton,
Southampton SO17 1BJ,
United Kingdom

ACADEMIC AND ADMINISTRATIVE EXPERIENCE

-
- Working as a Dean, School of Sciences, Maulana Azad National Urdu University since 28.10.2020.
- Working as a Professor & Section Head in the Chemistry Section, School of Sciences, **Maulana Azad National Urdu University** since 09.07.2020.
- Worked as an Associate Professor in the Department of Chemistry, **King Abdul-aziz University, Jeddah, Saudi Arabia**, since 01.01.2014 to 23.06.2020
- Worked as an Assistant Professor in the Department of Chemistry, **King Abdul-aziz University, Jeddah, Saudi Arabia**, since 18.02.2009 to 31.12.2013.
- Worked as an Assistant Professor in the Department of Chemistry, **Integral University, and Lucknow-UP India** since 26. 07. 2008 to 13.02.2009

R & D EXPERIENCE:

- Worked as a Research Associate (RA) at Department of Chemistry, **Punjabi University Patiala, Panjab**, India since 01. 08. 2007 to 25. 07. 2008.

TEACHING PROFICIENCY Urdu, English

RESEARCH PUBLICATION
DETAILS

Number of Publication : 116
h-index : 23 (Scopus)
24 (Google)
i10-Index : 67 (Google)
Citations : 1952(Scopus)

LIST OF PUBLICATIONS

116. MohdMehkoom, S. M. Afzal, Shabbir Ahmad, **Salman A. Khan**, The new pyrazoline derivative 5-(3,4-Dimethoxy-phenyl)-3-(2,5-dimethyl-thiophen-3-yl), -4,5-dihydro-pyrazole-1-carbothioic acid amide (DDPA) as an advisable candidate for optical linearity, nonlinearity and limiting performance. *Journal of Molecular Liquefied* 2022, 345, 117018.
- 115 Asad, M., Arshad, M.N., Asiri, A.M., **Salman A. Khan**, Rehan, M., Oves, M. Synthesis of N-Methylspiropyrrolidine Hybrids for Their Structural Characterization, Biological and Molecular Docking Studies Polycyclic Aromatic Compound [this link is disabled](#), 2022 (In) Press) Taylor & Francis, Scopus
114. F. M. Aqlan, A. S. Al-Bogami, N. F. Alqahtani, M. Y. Wani, **Salman A. Khan**, Thiazolidinone: A structural motif of great synthetic and biological importance *Journal of Molecular Structure* 2022, 1250, 131771
113. Mohie E. M. Zayed, Khalid Ahmed Alzahrani, **Salman A. Khan**, Multi-step synthesis, characterization and photophysical investigation of novel biologically active heterocyclic chalcone (AECO) *Journal of Fluorescence* 2021 Nov;31(6):1823-183.
112. Qasim Ullah, **Salman A. Khan**, Ali Mohammad, Applications of green solvents in thin-layer chromatography (TLC)—an overview, *JPC - Journal of Planar Chromatography - Modern TLC*, 2021-03-16. DOI: 10.1007/s00764-021-00085-w Springer, Scopus
111. **Salman A. Khan**, Qasim Ullah, Salahuddin Syed, Alimuddin, A. S. A. Almalki, R. J. Obaid, M. A. Alsharif, S. Y. Alfaifi, H. Parveen, S. Kumar, Multi-Step Synthesis, Physicochemical investigation and optical properties of pyrazoline derivative: A Donor- π -Acceptor chromophore. *Bioorganic Chemistry*, 112 (2021) 104964.
110. **Salman A. Khan**, Q. Ullah, H. Parveen, S. Mukhtar, K. A. Alzahrani, Synthesis and photophysical investigation of novel imidazole derivative an efficient multimodal chemosensor for Cu(II) and fluoride ions *J. PhorochemPhorobio. Chem A.* 406 (2021) 113022 .
109. M. Asad, **Salman A. Khan**, M. N. Arshad, A. M. Asiri, M. Rehan, Design and synthesis of novel pyrazoline derivatives for their spectroscopic, single crystal X-ray and biological studies. *J. Mol. Struc.* 1234 (2021) 130131.

108. **Salman A. Khan**, Q. Ullah, A. S. A. Almaliki, S. Kuamr, R. J. Obaid, M. A. Alsharif, S. Y. Alfafi, A. A. Hashmi, Synthesis and photophysical investigation of (BTHN) Schiff base as off-on Cd²⁺ fluorescent chemosensor and its live cell imaging. *Journal of Molecular Liquid* 328 (2021) 115407.
107. A. M. Asiri, M. M. Al-Amari, Q. Ullah, **Salman A. Khan** Ultrasound-assisted synthesis and photophysical investigation of a heterocyclic alkylated chalcone: a sensitive and selective fluorescent chemosensor for Fe³⁺ in aqueous media, *Journal of Coordination Chemistry*, 73 (2020) 2987-3002
106. M. Asad, M. N. Arshad, M. Oves, M. Khalid, **Salman A. Khan**, A. M. Asiri, M. Rehan, H. D. Cancarg, N-Trifluoroacetylated pyrazolines: Synthesis, characterization and antimicrobial studies. *Bioorganic Chemistry*, 99 (2020) 103842 .
105. **Salman A. Khan**, Multi-step synthesis, photophysical and physicochemical investigation of novel pyrazoline a heterocyclic D- π -A chromophore as a fluorescent chemosensor for the detection of Fe³⁺ metal ion. *Journal of Molecular Structure* 1211 (2020) 128084.
104. M. A.; Malik, S. A. Al-thabaiti, **Salman A. Khan**, Bioactive Macrocyclic Ni(II) Metal Complex: Synthesis, Spectroscopic Elucidation, and Antimicrobial Studies Polycyclic Aromatic Compounds DOI: 10.1080/10406638.2019.1681011.
103. M. E. M. Zayed, P. Kumar, **Salman A. Khan**, Microwave assisted synthesis, spectroscopic and photophysical properties of novel pyrazol-3-one containing push -pull chromophore *Journal of Molecular structure* 1202 (2020) 127103.
102. M. Asad, M. N. Arshad, **Salman A. Khan**, M. Oves, M. Khalid, Abdullah M. Asiri, A. A.C. Braga, Cyclization of chalcones into N-propionyl pyrazolines for their single crystal X-ray, computational and antibacterial studies. *Journal of Molecular structure* 1202 (2020) 127186 .
101. M. A. N. Razvi, S. M. Afzal, **Salman A. Khan**, Ahmed H. Bakry, An efficient ultrasonic-assisted synthesis and nonlinear optical property of Donor (D) Acceptor (A) Chalcone (DDFP) *Zeitschrift fur Physikalische Chemie* 234 (2019) 145–152.
100. H. M. A. Gassan, I. Denetiu, **Salman A. Khan**, M. Rehan, K. Sakkaf, K. Gauthaman, Synthesis and biological evaluation of novel triazolyl 4-anilinoquinazolines as anticancer agents. *Medical Chemistry Research*. (2019) 28:1766–1772.
99. **Salman A. Khan**, A. M. Asiri, M. Y. Wani, K. S. Sharma, M. Asad Synthesis and evaluation of Quinoline-3-carbonitrile derivatives as potential antibacterial agents *Bioorganic Chemistry* 88 (2019) 102968.
98. **Salman A. Khan**, A. M. Asiri, N. N. M. Al-Ghamdi, M. Y. Wani, K. S. Sharma, M. Asad, Microwave assisted synthesis of chalcone and its polycyclic heterocyclic analogues as promising antibacterial agents: In vitro, in silico and DFT studies *Journal of Molecular structure* 1190 (2019) 77-85.
97. Asiri, A.M., Al-Ghamdi, N.S.M., Dzudzevic-Cancar, H., Kumar, P., **Salman A. Khan**, Physicochemical and Photophysical investigation of

- newly synthesized carbazole containing pyrazoline-benzothiazole as fluorescent chemosensor for the detection of Cu²⁺, Fe³⁺ & Fe²⁺ metal ion. *Journal of Molecular structure* 1195 (2019) 670-680.
96. **Salman A. Khan,** A. M. Asiri, S. H. Al-Thaqafy, -Thaqf Photophysical and Physicochemical investigation of Highly fluorescent environmentally benign biologically active pyrrol-containing push- π -pull chromophore: Colloidal silver nanoparticles as fluorescence quencher *RSC Advance* (Communicated)
 95. **Salman A. Khan,** P. Kumar, Photophysical and physicochemical investigation of newly synthesized polycyclic pyrazoline-benzothiazole as fluorescence chemosensor for the detection of Cu²⁺ metal ion *Polycyclic Aromatic Compounds* (Accepted In Press)
 94. A. M. Al-Dies, A. M. Asiri, **Salman A. Khan,** E. R. T. Tiekink Crystal structure of 8,8'-di-p-tolyl-8'H-7,8'-biacenaphtho[1,2-d]imidazole, C₄₀H₂₆N₄ *Zeitschrift fur Kristallographie - New Crystal Structures*, (In Press).
 93. A. M. Al-Dies, A. M. Asiri, **Salman A. Khan,** E. R. T. Tiekink, Crystal structure of 4,4',5,5'-tetraphenyl-2,2'-di-p-tolyl-2'H-1,2'-biimidazole, C₄₄H₃₄N₄, *Zeitschrift fur Kristallographie - New Crystal Structures*, (In Press)
 92. **Salman A. Khan,** A. M. Asiri, M. E. Zayed, H. Parveen, F. M. S. Aqlan, K. Sharma, Microwave-assisted Synthesis, Characterization, and Density Functional Theory Study of Biologically Active Ferrocenyl Bis-pyrazoline and Bis-pyrimidine as Organometallic Macromolecules. *Journal of Heterocyclic Chemistry*, 56 (2019) 312-318 .
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- Surfaces A: Physicochemical and Engineering Aspects, 2018, 543, 38-45
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84. A. M. Asiri, A. A. M. Al-Dies, **Salman A. Khan**, Optical and Photophysical Investigation of (2E)-1-(2,5-Dimethylfuran-3-Yl)-3-(9-Ethyl-9H-Carbazol-3-Yl)Prop-2-en-1-One (DEPO) by Spectrofluorometer in Organized Medium, Journal of Fluorescence, 2017, 27(4), pp. 1487-1494.
83. **Salman A. Khan**, A. M. Asiri, Green synthesis, characterization and biological evaluation of novel chalcones as anti bacterial agents, Arabian Journal of Chemistry, 2017, 10, pp. S2890-S2895.
82. **Salman A. Khan**, A. M. Asiri, N. S. M. Al-Ghamdi, K. Sharma, H. Parveen, Optical properties of novel environmentally benign biologically active ferrocenyl substituted chromophores: A detailed insight via experimental and theoretical approach, Journal of Molecular Structure, 2017, 1139, pp. 137-148
81. **Salman A. Khan**, A. M. Asiri, Synthesis and spectroscopic studies of Ru(II) complexes of steroidal thiosemicarbazones by multi step reaction: As anti-bacterial agents Steroids, 2017, 124, pp. 23-28.
80. **Salman A. Khan**, A. M. Asiri, Physicochemical properties of novel methyl 2-(E)-[(2-hydroxynaphthalen-1-yl)methylidene] amino-4,5,6,7-tetrahydro-1-benzothiophene-3-carboxylate as turn-off fluorometric chemosensor for detection Fe³⁺ ion, Journal of Molecular Liquids, 2017, 243, pp. 85-90
79. **Salman A. Khan**, A. M. Asiri, Spectroscopic, photophysical investigation and micellization for critical micelle concentration (CMC) of 3-(3,4-dimethoxyphenyl)-1-(2,5-dimethylfuran-3-yl)prop-2-en-1-one (DDFP) dye. Journal of Applied Spectroscopy 2017 84(4), pp. 687-693.
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- Advance 2017, 7(14), pp. 8402-8414.
75. A M Asiri, T R Sobahi, O I Osman, **Salman A. Khan**, Photophysical investigation of (D- π -A) DMHP dye: Dipole moments, photochemical quantum yield and fluorescence quantum yield, by solvatochromic shift methods and DFT studies, *Journal of Molecular Structure*, 2017; 1128; 636-644
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 71. K. Narasimharao, R. A. Shiekh, M. A. Malik, M. A. Said, Z. **Salman A. Khan**. Al-Thabaiti, Salman A. Khan,, Design, Spectroscopic Characterization, Electrical Conductivity and Molecular Modelling Studies of Biologically Puissant Co(II) and Ni(II) Complexes of N,N'-bis(furan-2-ylmethyl)benzene-1,2-dicarboxamide. *Int. J. Electrochem. Sci.*, 11 (2016) 7282 – 7307.
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 69. H. Parveen, R. A. S. Alatawi, **Salman A. Khan**,, M. I. Al-Ahmdi, S. Mukhtar, A. Azam, N. H. Elsayed, Synthesis, Characterization and Biological Evaluation of Novel 1-N-Substituted Thiocarbomoyl-3-ferrocenyl-2-pyrazoline Derivatives *Asian J. Chem.* 28 (2016) 1835-1840 .
 68. **Salman A. Khan**, A. M. Asiri, F. M. S Aqlan, Microwave Assisted Synthesis, Optical Properties and Physicochemical Investigations on the Powerful Fluorophore: Donor (D) - π -Acceptor (A) Chalcone *J. of Fluorescence*, 26 (2016) 2133-2140.
 67. M. A. Zayed, A. M. Asiri, **Salman A. Khan**,, Microwave Assisted Synthesis, Spectrofluorometric Characterization of Azomethine as Intermediate for Transition Metal Complexes with Biological Application *J. of Fluorescence*, 26 (2016) 937-947 559-566 .
 66. **Salman A Khan** A M Asiri, Fluorescence quenching of environmentally benign highly fluorescence donor (D)- π -acceptor (A)- π -donor (D) quinoline dye by silver nanoparticles and anionic surfactant in liquid stage *Journal of Molecular Liquef.* 2016; 221; 381-38
 65. **Salman A. Khan**, A. M. Asiri, Physicochemical, photophysical

- investigation and micellization of 3 1-(2,5-dimethylfuran-3-yl)-3-(2,4,5-trimethoxyphenyl)prop-2-en-1-one (DFTP) dye by fluorophotometry. *Journal of Molecular Liquefied*. 2016; 216; 423-428
64. A.M. Asiri, **Salman A. Khan**, H. M. Basisi, Single X-ray crystal and spectroscopic investigation of novel biologically active donor-acceptor chalcones as specific application for opto-electronics and photonics *Journal of the Taiwan Institute of Chemical Engineers* 2016, 59; 457-464
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 62. **Salman A. Khan**, A. M. Asiri, H. M. Basisi, M. N. Arshad, K. Sharma, Microwave Assisted Synthesis, Physicochemical, Photophysical, Single Crystal X-ray and DFT Studies of Novel Push-Pull Chromophores. *J. of Fluorescence*, 25, (2015) 1585-1593
 61. **Salman A. Khan**, A. M. Asiri, Physicochemical and Critical Micelle Concentration (CMC) of Cationic (CATB) and Anionic (SDS) Surfactants with Environmentally Benign Blue Emitting TTQC Dye *J. of Fluorescence*, 25, (2015) 1595-1599.
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 56. A. M. Asiri, **Salman A. Khan**, S. H. Al-Thaqafy, K. Sharma, One Pot Synthesis, Photophysical and X-ray Studies of Novel Highly Fluorescent Isoquinoline Derivatives with Higher Antibacterial Efficacy Based on the In-vitro and Density Functional Theory *J. of Fluorescence*, 25, (2015) 503-518 .
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53. **Salman A. Khan**, M.A.N. Razvi, A. H. Bakry, S.M. Afzal, A. M.Asiri, S. A. El-Daly, Microwave assisted synthesis, spectroscopic studies and non linear optical properties of bis-chromophores. *Spectrochimica Acta. A*: 137, 2015, 1100-1105.
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DETAILS OF
CONFERENCE/SEMINAR
/WORKSHOP/ FDP
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- Abdullah M. Asiri, Mona Mohammad Al-Amari, Salman A. Khan, Synthesis and photophysical study of the Schiff base (E)-diethyl 5-((4-(diethylamino)-2-hydroxybenzylidene)amino)-3-methylthiophene-2,4-dicarboxylate as on-off fluorescent chemosensor for Fe³⁺ metal ion Frontiers in Organometallic and Catalysis (FOMC – 2021) Department of Chemistry Malaviya National Institute of Technology Jaipur 20th to 22nd January 2021
- Najat Saeed M. Al-Ghamdi, Abdullah M. Asiri, Salman A. Khan, Synthesis and Photophysical investigation of pyrazoline derivative as on-off fluorescent chemosensor for the detection of Fe³⁺ metal ion Frontiers in Organometallic and Catalysis (FOMC – 2021) Department of Chemistry Malaviya National Institute of Technology Jaipur 20th to 22nd January
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- Salman A. Khan, A. M. Asiri, Parveen Kumar, "Synthesis, spectroscopic studies of bis-pyrazolines and their palladium (II) complex as anti-bacterial agent " has been accepted for ORAL presentation in 6th National Conference On Chemical & Environmental Sciences: Emerging Dimensions & Challenges Ahead (A Multi-Disciplinary Conference for All Discipline) Sponsored by DG. Higher Education Haryana, on April 1, 2017
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1. Salman A Khan et al. Advances in Metallodrugs: Preparation and Applications in Medicinal Chemistry, John Wiley & Sons, Edition April 2020 250 Pages, ISBN: 978-1-119-64042-4
2. Salman A. Khan et al., Handbook of Biomass Valorization for Industrial applications. 2021, ISBN: 9781119818731, Wiley
3. Salman el al., Organic Chemistry CHEM101 TH (CBCS BASED) SEC. C & D B. Sc. Ist Year H. P. U. Shimla, R. D. Publications Jalandhar, ISBN: 978-81-952545-5-2.
4. Anish Khan, M. Muzibur Rahman, M Ramesh, Salman Ahmad Khan, Abdullah Mohammed Ahmed Asiri, Furans Derivatives - Recent Advances and Applications 2022 (In Press) Online available ISBN 978-1-83969-708-1. Intechopen (Publisher)

Book Chapter

1. Salman A. Khan, et al., Polymer-Inorganic Nanocomposite and Biosensors 2018 Wiley-VCH Verlag GmbH & Co. KGaA. Published 2018 by Wiley (In Press)
2. Salman Ahmad Khan, et al., Bio-Mediated Synthesis of Nanoparticles for Fluorescence Sensors, Bioinspired Nanomaterials,

DETAILS OF KEYNOTE
SPEAKER/RESOURCE
PERSON/ SESSION CHAIR ETC.

1. Environmental Consciousness, Student Induction Programme-2021, Maulana Azad National Urdu University 3rd November 2021
2. Science and Society , School of Sciences , Student Induction Programme-2021, Maulana Azad National Urdu University
3. Green Chemistry-A way for sustainable future, School of Sciences 9 October 2021.

ACHIVEMENTS

1. Listed in Top-2% World Ranking of Scientists, published by Stanford University, USA. (2020)
2. Listed in Top-2% World Ranking of Scientists, published by Stanford University, USA (2021)
3. Figure of the published paper as cover page of the journals Journal of Coordination Chemistry, 2020, Vol. 73. Taylor & Francis (impact Factor: 1.75).
4. Figure of the published paper as cover page of the journals Journal of Heterocyclic Chemistry, 2020, Vol. 73. Taylor & Francis (impact Factor: 1.75).
5. In the list of Most cited articles of Journal of Coordination Chemistry, Volume 73, 2020 - Issue 20-22

DETAILS OF SUPERVISION
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No. of Ph. D students (Thesis Supervision) :4 Awarded

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Awarded 2016

Title

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2: Al-anood Mohamed Al-Dies

Awarded 2018

Title

Photochromic performance and photophysical studies of some photochromic compounds

3: Mona Mohammad Al-Amari

Awarded 2021

Title

Synthesis of some heterocyclic conjugated system as fluorescent chemosensor for the detection of various metal ions

4: Najat Saeed M.Al-Ghamdi

Awarded 2021

Title

Synthesis, Spectroscopic Studies of some novel donor (D) - π - Acceptor containing organic dye

Ph. D Under Supervision

2 Students

1. Mr. Md. Mohasin

Enrolled 2021

Title

Synthesis and photophysical properties of novel heterocyclic donor- π -acceptor chromophores as fluorescent chemosensor for the detection of metal ions

2. Md. Zafer Alam Enrolled 2022

Title

Synthesis and Physicochemical investigation of Novel Biologically active compounds

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