Curriculum Vitae

Dr. Muhammad Azeem Arshad
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Personal Information:

Name: Muhammad Azeem Arshad
Father's Name: Muhammad Rashid Arshad
D.O.B: October 26, 1983

Qualification: Ph.D. in Physical and Theoretical Chemistry from the Faculty of Sciences, Mohammed-V University, Rabat, Morocco

Degree/Certificate	Year	Subject(s)	University/Institution
Ph.D.	2018	Chemistry	Faculty of Sciences, Mohammed V University, Rabat, Morocco
French language course	2009	French	Faculty of Educational Sciences, Rabat, Morocco
Master (M.Sc.)	2006	Chemistry	Punjab University Lahore, Pakistan
Bachelor (B.Sc.)	2003	Phys, Chem, Maths	Bahauddin Zakariya University Multan, Pakistan
F.Sc.	2001	Pre-engineering	Govt. College Khanewal, Pakistan
Matriculation	1999	Phys, Chem, Maths, Bio	Govt. High School Khanewal, Pakistan

* 1st division throughout

Research Work:

- Ph.D. thesis entitled, "Kinetics of thermal degradation mechanisms in polymer/metal composites and new mechanistic approaches to solar cell degradation and crystallization in amorphous materials"
- Master's thesis entitled, "Synthesis of benzophenone anil under moderate conditions and different promoters"

Awards/Honors:

- Merit Scholarships holder at undergraduate and graduate levels.
- Good positions in undergraduate and graduate studies.

Teaching Experience:

Post/Designation	University/Institution	Duration
Assistant Professor	School of Physical Sciences, Punjab University, Lahore	Sep 21, 2020 – till date
Part-time Lecturer	Faculty of Sciences, Mohammed V University, Rabat, Morocco	Jan 27, 2010 – July 31, 2019
Teaching Assistant	Govt. College Jahanian, Pakistan	Sep 20, 2008 – Jan 19, 2009
Honorary Lecturer	Govt. College Khanewal, Pakistan	Feb 02, 2006 – Sep 05, 2008

Courses Taught/Suggested:

- Kinetics and thermodynamics of condensed phase processes
- Polymer/polymer composites
- Solar energy
- Management and valorization of waste/biomass
- Methodology of scientific research
- Academic writing and publishing

Research Domain and Activities:

- Research interests include structural characterization of polymers/polymer composites by SEM, XRD, FTIR; kinetics and mechanisms of thermally stimulated processes in solid state including phase transformations, thermal degradation, crystallization in amorphous materials; kinetics and mechanisms of photodegradation reactions, stability/lifetime of organic photovoltaics, and waste management and valorization.

1. Reviewer in the Journal of Analytical and Applied Pyrolysis (JAAP): for details, please contact Prof. Kent Voorhees, Editor JAAP <*kvoorhee@mines.edu*>
2. Reviewer in Polymer Composites (PC) journal: for details, please contact Prof. Donald G. Baird, Executive Editor PC <*dbaird@vt.edu*>
3. Reviewer in the Journal of Applied Polymer Science (JAPS): for details, please contact Dr. Mark A. Schubert, Executive Editor JAPS < *Mark.A.Schubert@sherwin.com* >
4. Reviewer in Polymer Engineering & Science (PES) journal: for details, please contact Prof. Alan J. Lesser, Editor-in-Chief PES <*ajl@polysci.umass.edu*>
5. Reviewer in the Journal of Taibah University for Science (JTUSCI): for details, please contact Prof. Ahmed Ali Joraid, Editor-in-Chief JTUSCI <*aaljoraid@taibahu.edu.sa* >
6. Reviewer in the Journal of Solid State Chemistry (JSSC): for details, please contact Prof. Zhang Qichun, Associate Editor JSSC <*qczhang@ntu.edu.sg* >
7. Reviewer in Materials Chemistry and Physics: for details, please contact Prof. Dinesh Kumar Agrawal, Editor, Materials Chemistry and Physics <*dxa4@psu.edu*>
8. Reviewer in Renewable Energy (RENE): for details, please contact Dr. Gilles Notton, Subject Editor RENE <*rene@elsevier.com*>
9. Reviewer in Molecular Simulation: for details, please contact Dr. Tim Gould, Editor MS < *t.gould@griffith.edu.au* >
10. Reviewer in Scientific Study & Research – Chemistry & Chemical Engineering, Biotechnology, Food Industry Journal: for details, please contact the Journal's editorial board < *redactia_ciba@ub.ro* >
11. Reviewer in the Journal of Materials and Environmental Science (JMES): for details, please contact Prof. Belkheir Hammouti, Editor-in-Chief JMES <*jmaterenvironsci@gmail.com* >

Publications:

1. M.A. Arshad, A novel kinetic approach to crystallization mechanisms in polymers, Polymer Engineering and Science 61 (2021) 1502-1517.
2. A. El Yousfi, A.G. El Hachimi, M.A. Arshad, A. Benyoussef, A. El Kenz, Electronic magnetic and optical properties of Sm and C doped and co-doped TiO_2 through modified Becke Johnson approximation, Optical and Quantum Electronics 53 (2021) 95.

3. M.A. Arshad, Thermo-oxidative decomposition of multi-walled carbon nanotubes: Kinetics and thermodynamics, Fullerenes, Nanotubes and Carbon Nanostructures 28 (2020) 857–868.
4. M.A. Arshad, A. Maaroufi, Kinetics of dynamic percolation in polymer/carbon composites, Polym. Eng. Sci. 60 (2020) 423-433.
5. M.A. Arshad, A. Maaroufi, Kinetic approach to degradation mechanisms in polymer solar cells and their accurate lifetime predictions, Journal of Power Sources 391 (2018) 134–147.
6. M.A. Arshad, A. Maaroufi, Kinetics of photodegradation mechanisms in organic photovoltaics, Physica B: Condensed Matter 545 (2018) 465–474.
7. M.A. Arshad, A. Maaroufi, Unfolding complex thermal degradation mechanisms in polymer composites, Society of Plastics Engineers 2018.
DOI: 10.2417/spepro.006991
8. M.A. Arshad, A. Maaroufi, Recent advances in kinetics and mechanisms of condensed phase processes: A mini-review, Reviews in Advanced Material Science 51 (2017) 177-187.
9. M.A. Arshad, A. Maaroufi, Recent progress in kinetics of thermal degradation mechanisms in polymer composites, MOJ Polymer Science 1 (2017) 120–125.
10. M.A. Arshad, A. Maaroufi, R. Benavente and G. Pinto, Thermal degradation of urea-formaldehyde cellulose composites filled with aluminum particles: kinetic approach to mechanisms, Journal of Applied Polymer Science 134 (2017) 44826–44838.
11. M.A. Arshad, A. Maaroufi, R. Benavente and G. Pinto, Predicting thermal degradation mechanisms in urea-formaldehyde cellulose composites filled with tin particles, Polymer Composites 39 (2018) 4341–4354.
12. M.A. Arshad, A. Maaroufi, R. Benavente and G. Pinto, Kinetics of the thermal degradation mechanisms in urea-formaldehyde cellulose composites filled with zinc particles, Journal of Materials Science: Materials in Electronics 28 (2017) 11832–11845.
13. M. Dahhou, M. El Moussaouiti, M.A. Arshad, S. Moustahsine, M. Assafi, Synthesis and characterization of drinking water treatment plant sludge-incorporated Portland cement, Journal of Materials Cycles and Waste Management 20 (2018) 891–901.
14. M.A. Arshad, A. Maaroufi, G. Pinto, S. El-Barkany, A. Elidrissi, Morphology, thermal stability and thermal degradation kinetics of cellulose-modified urea–formaldehyde resin, Bulletin of Materials Science 39 (2016) 1609-1618.
15. M. Dahhou, M. El Moussaouiti, A. Benlalla, A. El Hamidi, M. Taibi, M.A. Arshad, Structural aspects and thermal degradation kinetics of water treatment plant sludge of Moroccan capital, Waste and Biomass Valorization 7 (2016) 1177-1187.
16. M.A. Arshad, A. Maaroufi, Predicting thermal degradation mechanism in polymer composites, Society of Plastics Engineers 2015.
DOI: 10.2417/spepro.006183
17. M.A. Arshad, A. Maaroufi, R. Benavente and G. Pinto, Thermal degradation mechanisms of epoxy composites filled with tin particles, Polymer Composites 36 (2015) 9–20.
18. M.A. Arshad, A.K. Maaroufi, Relationship between Johnson-Mehl-Avrami and Šesták-Berggren Models in the kinetics of crystallization in amorphous materials, Journal of Non-Crystalline Solids 413 (2015) 53–58.
19. M.A. Arshad, A.K. Maaroufi, A new kinetic approach to analyze the thermally stimulated photodegradation of solar devices, IEEE proceedings, 2014.
DOI: 10.1109/irsec.2014.7059837
20. M.A. Arshad, A.K. Maaroufi, An innovative reaction model determination methodology in solid state kinetics based on variable activation energy, Thermochimica Acta 585 (2014) 25-35.
21. M.A. Arshad, A. Maaroufi, R. Benavente and G. Pinto, Kinetics of the Thermal Decomposition Mechanisms of Conducting and Non-conducting epoxy/Al Composites, Journal of Materials and Environmental Science 5 (2014) 1342-1354.
22. M.A. Arshad, A. Maaroufi, R. Benavente, J.M. Pereña, G. Pinto, Thermal degradation kinetics of insulating/conducting epoxy/Zn composites under nonisothermal conditions, Polymer Composites 34 (2013) 2049-2060.
23. M.S. Yahya, G. Kaichouh, M. Khachani, M. El Karbane, M.A. Arshad, A. Zarrouk, K. El Kacemi, Mineralization of ofloxacin antibiotic in aqueous medium by electro-Fenton process using a carbon felt cathode: influencing factors, Analytical & Bioanalytical Electrochemistry 12 (2020) 425-436.
24. M. Dahhou, M.A. Arshad, M. El Moussaouiti, Synthesis and characterization of Portland cement clinker by exploiting waste oyster shells and alumina sludge, European Journal of Environmental and Civil Engineering, accepted manuscript.

DOI: 10.1080/19648189.2019.1632227

25. M. Dahhou, M.A. Arshad, A. Belafhaili, M. El Moussaouiti, Synthesis and characterization of belite clinker by sustainable utilization of alumina sludge and calcium fluoride, Materialia, in revision.
26. A. Laqhaili, M. Mosaddak, A. Bellaouchou, A. Hakiki, A. Guenbour, M.A. Arshad, Chemical characterization and insecticidal activities of the Lavandula Stoechas essential oils from Doukkala and Zaer regions of Morocco, to be submitted.
27. A. El Yousfi, A.G. El Hachimi, M.A. Arshad, A. Benyoussef, A. El Kenz, Electronic, optical and thermoelectric properties of TiNiSn and TiSnPt half-heusler compounds, to be submitted.
28. A. EL Yousfi, M.L. Ould Ne, A.G. El hachimi, M.A. Arshad, A. Benyoussef, A. El Kenz, Theoretical study of electronic and thermoelectric properties of Ca_2-X (X=Ge, Si), to be submitted.
29. M.A. Arshad, A. El Hamidi, F. Kanwal, Thermal oxidation kinetics in iron nanoparticles, Oxidation of Metals, in preparation.
30. M.A. Arshad, Kinetics of crystallization mechanism in industrial polymers: Case of polyolefins, Materials Chemistry and Physics, in preparation.

Oral/Poster Presentations:

1. M.A. Arshad, A. Maaroufi, An innovative reaction model determination methodology in solid state kinetics based on variable activation energy, Doctoriales, February 19-21, 2015, Faculty of Sciences Rabat, Morocco.
2. M.A. Arshad, A. Maaroufi, Kinetics of crystallization in amorphous materials, 1st French Moroccan Colloquium on New and Renewable Energies, October 28-30, 2014, Mohammedia, School of Engineering, Rabat, Morocco.
3. M.A. Arshad, A. Maaroufi, A new kinetic approach to analyze the thermally stimulated photodegradation of solar devices, 2nd International Renewable and Sustainable Energy Conference, October 17-19, 2014, Ouarzazate, Morocco.
4. M.A. Arshad, A. Maaroufi, An Explicit Relationship between Avrami and Šestak Models holds in the Kinetics of Crystallization Processes in Amorphous Materials, The 12th International Conference on Condensed Matter and Statistical Physics (ICCMSP), Oct 30-Nov 1, 2013, Faculty of Sciences and Techniques, Errachidia, Morocco.
5. M.A. Arshad, A. Maaroufi, R. Benavente and G. Pinto, Non-Isothermal Degradation Kinetics of epoxy/Al Composites As Building Blocks of Polymer Solar Panels, Asian CORE workshop "Fundamentals and Applications of Nanophotonics, Photovoltaics and Biophotonics, 6-8 March 2013, MASCiR, Rabat, Morocco.
6. M.A. Arshad, A. Maaroufi, R. Benavente and G. Pinto, Thermal degradation kinetics of insulating/conducting polymer/metal composites, Doctoriales 14-15 January 2013, Rabat, Morocco.
7. M.A. Arshad, A. Maaroufi, R. Benavente, J.M. Pereña, G. Pinto, Mechanistic predictions of metal-polymer interactions by thermal degradation data treatment under non-isothermal conditions, ITMC 27-29 October 2011, Casablanca, Morocco.
8. M.A. Arshad, A. Maaroufi, Theoretical thermal analysis; yesterday, today and tomorrow: an elaborated review of history, current challenges and future research trends, Second Moroccan days on nano-science and nanotechnology, 16-17 June, 2011, Fez, Morocco.
9. M.A. Arshad, A. Maaroufi, R. Benavente, J.M. Pereña, G. Pinto, Study and comparison of thermal degradation kinetics of thermosetting polymers loaded with metallic fillers, 27th World Congress of the Polymer Processing Society (PPSC), 9-14 May 2011, Marrakesh, Morocco.
10. M.A. Arshad, A. Maaroufi, R. Benavente, J.M. Pereña, G. Pinto, Influence of percolation threshold on the thermal degradation kinetics of polymer/metal composites, 7th colloquium on organic polymers and their applications, 5-7 May, 2011, Tangier, Morocco.

Book(s):

1. M.A. Arshad, A. Maaroufi, Thermal Degradation of Polymer Composites: Kinetics and Mechanisms, in preparation

Languages:

Language	Status
English	Fluent
French	Good
Classic Arabic	Communicational
Moroccan Dialect	Communicational
Urdu	Fluent
Punjabi	Fluent

References:

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