

FACULTY PROFILE



Name	<i>Dr. M. I. Ahymah Joshy</i>
Designation	<i>Assistant Professor</i>
Department	<i>Chemistry</i>
Date of Birth	<i>19.03.1982</i>
Date of Appointment	<i>01.07.2025</i>

Area of Specialization: ***Biomaterials, Nanotechnology & Inorganic Chemistry***

Personal Affiliation : ***Environmental study Committee member, Eco club waste water management and green campus Committee member, Unnat Bharat Abhiyan Committee member***

Academic Records

COURSE	INSTITUTION	YEAR OF PASSING	SUBJECT TAKEN	MARKS
Ph.D.	Anna University,	2011	Chemistry	Degree awarded
M.Sc.	St. Joseph's College, Tiruchirappalli, Bharathidasan	2005	Chemistry	64.54
B.Sc.	Holy Cross College, Nagercoil, Manonmaniam Sundaranar	2003	Chemistry	69.50
XII	Board of Higher Secondary Examination	2000		80.58

X	Board of Secondary Education	1998		85.40
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Title of Ph.D. Thesis: “**Synthesis of nano hydroxyapatite and its polymer composites for drug delivery and tissue engineering applications**”

Academic Awards

- ❖ National Doctoral Fellowship (NDF) by All India Council for Technical Education (AICTE), India from 2007-2009.
- ❖ Nature India have highlighted one of my work as “Research Highlight” under the title “Nanorods to kill bugs, cancer” and it was published online on 23 June 2011, doi:10.1038/nindia.2011.88.
- ❖ Best poster presentation award (second) during XXI National conference of the society, January 6-8, 2012.

Conference / Workshop

Category	Conference		Workshops	
	International	National	International	National
Paper presented	07	01	-	-
Participated	05	04	04	09

Membership

- **Life member of the Society for Bio-Materials and Artificial Organs-LM539**

Publications in International and National Journals

First Author Papers

1. **Ahymah Joshy, M. I.**, Elayaraja, K., Suganthi, R.V. and Narayana Kalkura, S. "Mineralization of oriented nano hydroxyapatite in photopolymerized polyacrylamide gel matrix", Cryst. Res. Technol., Vol. 45, No. 5, pp. 551-556, 2010.
2. **Ahymah Joshy, M. I.**, Elayaraja, K., Suganthi, R.V., Sarath Chandra Veerla and Narayana Kalkura, S. "In vitro sustained release of amoxicillin from lanthanum hydroxyapatite nanorods" Curr. Appl. Phys., Vol.11, pp.1100-1106, 2011.
3. **Ahymah Joshy, M. I.**, Elayaraja, K., Shakthivel, Shanthini, Sarath Chandra, V and Narayana Kalkura, S. "Freeze dried cross linking free biodegradable composites with microstructures for tissue engineering and drug delivery application", Mater. Sci. Eng. C, Vol. 33, pp. 466-474, 2013.
4. **Ahymah Joshy, M. I.**, Vani, R., Tamil selvan, A., Suganthi, R. V., Sankaran, K and Narayana Kalkura, S. "Synthesis of Lanthanum (La^{3+}) doped Hydroxyapatite", Archives of Bio Ceramics Research Volume 8, Proceeding of the Asian Bioceramics 2008, Chennai, India, 4-6 Nov. (2008).
5. **Ahymah Joshy, M. I.**, Elayaraja, K., Suresh Kumar, V., Abinaya Sindhu, P., Asokan, K., Narayana Kalkura, S. "Investigations on the effect of swift heavy silicon ion irradiation on hydroxyapatite", Materials Today-Proceedings, Vol.58, pp.802-811, 2022.

Co-Author Papers

6. Elayaraja, K., **Ahymah Joshy, M. I.**, Suganthi, R.V., Narayana Kalkura, S., Palanichamy, M., Ashok, M., Sivakumar, V.V., Kulriya, P.K., Sulania, I., Kanjilal, D. and Asokan, K. " $^{125}\text{MeV Si}^{9+}$ ion irradiation of calcium phosphate thin film coated by rf-magnetron sputtering technique", Appl. Surf. Sci., Vol. 257, pp. 2134-2141, 2011.

7. Suganthi, R.V., Elayaraja, K., **Ahymah Joshy, M. I.**, Sarath Chandra, V., Girija, E.K., and Narayana Kalkura, S. "Fibrous growth of strontium substituted hydroxyapatite and its drug release" Mater. Sci. Eng. C, Vol. 31, pp. 593-599, 2011.
8. Girija, E. K., Parthiban, S. P., Suganthi, R. V., Elayaraja, K., **Joshy, M. I. A.**, Vani, R., Kularia, P., Asokan, K., Kanjilal, D., Yokogawa, Y. and Narayana Kalkura, S. "High energy irradiation a tool for enhancing bioactivity of hydroxyapatite", JCS- Japan, Vol. 116, No. 2, pp.320-324, 2008.
9. Sarath Chandra, V., Ganga Baskar., Suganthi, R. V., Elayaraja, K., **Ahymah Joshy, M. I.**, Sofi Beaula, W., Mythili, R., Ganesh Venkatraman., and Narayana Kalkura, S. "Blood compatibility of iron-doped nanosize hydroxyapatite and its drug release", Appl. Mater. Inter., Vol. 4, pp. 1200-1210, 2012.
10. Elayaraja, K., Rajesh, P., **Ahymah Joshy, M. I.**, Sarath Chandra, V., Suganthi, R.V., Kennedy, J., Asokan, K., Avasthi, D. K., Kanjilal, D., Varma, H. K., Narayana Kalkura, S. "Enhancement of wettability and antibiotic loading/release on surface modified by 100 MeV Ag^{7+} ion irradiation on hydroxyapatite thin film", Mater. Chem. Phys., Vol. 134, pp. 464-474, 2012.
11. Sarath Chandra V, Elayaraja K, Suganthi R.V, **Ahymah Joshy, M.I.**, Sulania I, Kulriya P.K, Asokan K, Kanjilal D, Narayana Kalkura S, „Effect of irradiation of Si^{5+} ion on Fe doped hydroxyapatite, Adv. Mat. Lett., Vol. 4(3), 2013.
12. Elayaraja, K., Sarath Chandra, V., **Ahymah Joshy, M. I.**, Suganthi, R.V., Asokan, K., Avasthi, D. K., and Narayana Kalkura, S. "Nanocrystalline biphasic resorbable calcium phosphate (HAp/ β -TCP) thin film prepared by electron beam evaporation technique", Appl. Surf. Sci., Vol. 274, pp. 203-209, 2013.
13. Elayaraja K, Suganthi R.V, **Ahymah Joshy M.I.**, Thanigaiarul K, Sarath Chandra V and Narayana Kalkura S "Raman and Photoluminescence

analysis of Irradiated Calcium Phosphate based Bio- Ceramics, Bulletin of Indian Laser Association, Vol.23, No.1, April 2012.

14. Vani, R., **Ahymah Joshy, M. I.**, Suganthi, R. V and Narayana Kalkura, S, "Habit modification of nano hydroxyapatite using ethylene glycol", Archieves of Bio Ceramics Research Volume 8, Proceeding of the Asian Bioceramics 2008, Chennai, India, 4-6 Nov. (2008)
15. Elayaraja, K., **Ahymah Joshy, M. I.**, Thanigai Arul, K., Manoj Kumar, P., Ramesh Babu, N., Ashok, M., Sivakumar, G. R., Asokan, K., Narayana Kalkura, S. "Effect of swift heavy silicon ion irradiation on TiO₂ prepared by micro arc oxidized technique", Materials Today- Proceedings, Vol.58 , pp.932-941 , 2022.

Papers presented/accepted in International conferences

1. **Ahymah Joshy, M. I.**, Vani, R., Prakash Parthiban, S., Suganthi, R. V., Girija, E. K., Tamil Selvan, A., Sankaran, K and Narayana Kalkura, S. "Protein binding to synthesized hydroxyapatite", International conference on New Horizons in Biotechnology, National Institute for interdisciplinary science and technology (CSIR) and biotech research society (BRSI), Trivandrum on 26th to 29th November, 2007.
2. **Ahymah Joshy, M. I.**, Vani, R., Tamil Selvan, A., Suganthi, R. V., Sankaran, K and Narayana Kalkura, S. "Synthesis of Lanthanum (La³⁺) doped hydroxyapatite", International conference on Eight Asian Bioceramics Symposium (ABC 2008) organized by Dept. of Metal. & Mater. Engg., Indian Institute of Technology, Madras, Chennai on 4th to 6th November, 2008.
3. **Ahymah Joshy, M. I.**, Elayaraja, K and Narayana Kalkura, S. "In Vitro drug release of amoxicillin from lanthanum doped hydroxyapatite", International conference on nanomaterials and nanotechnology organized by Centre for Nano Science and Technology, K. S. Rangasamy College of Technology, India on 13th to 16th December, 2010.
4. **Ahymah Joshy, M. I.**, Elayaraja, K., Sarath Chandra, V and Narayana Kalkura, S. "Degradable (Gelatin and Agarose) hydroxyapatite scaffolds prepared by freeze-dryer for drug release and tissue engineering application,

- 4th Indo-Australian conference on Biomaterials, Tissue Engineering and Drug Delivery Systems organized by Sardar Patel University, Vallabh Vidyanagar, Gujarat, India on 10th to 12th February, 2011.
5. **Ahymah Joshy, M. I.**, Elayaraja, K., Sarath Chandra, V and Narayana Kalkura, S. “ Influence of metal ions on the mineralization of hydroxyapatite at physiological pH on polyacrylamide gel matrix”, International conference on biomaterials implant devices and tissue engineering organized by Society for Biomaterials and Artificial Organs (India), Society for Tissue Engineering and regenerative medicine held at Rajalakshmi Engineering College, Chennai during January 6-8, 2012. (**Best poster award, second**)
 6. Sarath Chandra, V., Elayaraja, K., **Ahymah Joshy, M. I.**, Thanigaiarul, K and Narayana Kalkura, S. “ Investigations on cobalt doped hydroxyapatite for hyperthermia treatment”, International conference on biomaterials implant devices and tissue engineering organized by Society for Biomaterials and Artificial Organs (India), Society for Tissue Engineering and regenerative medicine held at Rajalakshmi Engineering College, Chennai during January 6-8, 2012. (**Best paper award, Oral**)
 7. **Ahymah Joshy, M. I.**, Elayaraja, K., Sarath Chandra, V., Suganthi, R. V., Kanjilal, D., Asokan, K and Narayana Kalkura, S. “ Investigation on in vitro drug release of surface modified hydroxyapatite polymer composite”, International conference on advanced materials held at Loyola College, Chennai, India during January 5-7, 2012.
 8. **Ahymah Joshy, M. I.**, Elayaraja, K., Suresh Kumar, V., Abinaya Sindhu, P., Asokan, K., and Narayana Kalkura, S. “Investigations on the physical properties, in vitro bioactivity and drug release of 60 MeV Si⁵⁺ ion irradiated hydroxyapatite”, International conference on novel engineering materials for biomedical, energy, environment, sensing and other applications -2021 (ICON-BEES'21) held at National Institute of Technology, Tiruchirappalli-15 during March 11-13, 2021.

Papers presented/accepted in National conferences

9. **Ahymah Joshy, M. I.**, Vani, R., Elayaraja, K., Suganthi, R. V and Narayana Kalkura, S. “Mineralization of Calcium phosphate in polymer matrix”, National conference on 38th National seminar on crystallography organized by DOS in geology, University of Mysore, Mysore on 11th to 13th February, 2009.

10. Elayaraja, K., **Ahymah Joshy, M. I.**, Suganthi, R. V., Thanigaiarul, K., Sarath Chandra, V and Narayana Kalkura, S. "Raman and photoluminescence analysis of irradiated calcium phosphate based bioceramics", National Laser Symposium (NLS-20) held at Crystal Growth Centre, Anna University, Chennai during 9th to 12th January, 2012.

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