

JAMAL MOHAMED COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI-20

DEPARTMENT OF PHYSICS

Individual Staff Profile

I. General Information

1. Name : Dr. A. S. Haja Hameed

2. Sex : Male

3. Designation : Asst. Professor

II. Date of Birth : 29-12-1972

**1. Address : 11, Loordusami Pillai Colony
3rd Street, Kajamalai, Tiruchirappalli – 620 023.**

Phone: +91-9894864497

Email: hajahameed2001@gmail.com

2. Academic Qualifications

	Examination Passed	Year
I. Master's Degree	M.Sc	1996
II. Research Degree	Ph. D	2002
III. Any other degree/ Diploma/Certificate	PGDCA	1996
IV. NET/SEL T	SEL T	---

3. Area of Specialization : Crystal Growth and Nano materials.

III. Teaching Experience:

- i. UG : 8 Years
- ii. PG : 8 Years
- iii. M. Phil&Ph.D : 7 Years

IV. Research Guidance:

Academic year	No. of Candidates		
	Awarded	Submitted	Pursuing
1. M.Phil up to Academic year 2008–2015	14	-	-
2. M.Phil up to Academic year 2015–2016 to till now	6+4	-	-
3. Ph.D up to Academic year 2011-2015 to till now	-	1	2

S.No.	Name of the Course	Name of the sponsoring agency	Place and Date
1	Orientation Course	UGC	Academic Staff College, Bharathidasan University, Tiruchirappalli. 02.03.2010 to 29.03.2010
2	Refresher Course	UGC	Academic Staff College, Bharathidasan University, Tiruchirappalli. 20.11.2012 to 10.12.2012
3	Refresher Course	UGC	Academic Staff College Madras University Chennai 17-11-2015 to 07-12-2015

V. Research Projects (Major Research Projects)

S. No	Title of the project	Name of the funding Agency	Amount in Rs.	Duration
1	Crystal growth of technologically important nonlinear optical material:DAST and fabrication of optical devices for ready commercialization	UGC, Major Research Project	10,32,300	(2010-2013) Completed
2	Implementation of twozone growth method to the growth of high quality L-Arginine family crystals for Second Harmonic Generating (SHG) elements and Electro-optic modulators	DST, SERB Major Research Project	22,50,000	2014-2017 (Ongoing)

Research Interest:

- ❖ Growth and characterization of optical thin films
- ❖ Semiconductor nanostructures & Magnetic nano-particles
- ❖ Fabrication of Photonic crystals by Sol-Gel
- ❖ Growth and characterization of Non-Linear Optical(NLO) crystals

Work experience:

- 1. Project Assistant**, TNSCST Project, Alagappa University, India, 1996-1999.
- 2. Senior Research Fellow**, awarded by Council for Scientific and Industrial Research (CSIR), New Delhi, Govt. of India, 2000-2002.
- 3. Special Researcher**, Chitose Institute of Science and Technology (CIST), Hokkaido, Japan, Nov 2002- June 2003.
- 4. Postdoctoral Fellow**, National Taiwan University, Taipei, Taiwan, Oct 2003- Oct 2005.
- 5. Postdoctoral Fellow**, University of Western Ontario, London On, Canada, Jan 2006 – Dec. 2006.
- 6. Assistant Professor (AICTE)**, Dept. of Computer Science, Jamal Mohamed College, Bharathidhasan University, India, Jan 2007 – Aug. 2007.
- 7. Assistant Professor**, Dept. of Physics, Jamal Mohamed College, Bharathidhasan University, India, Aug. 2007 – till date.

Awards & honours received:

- Senior Research Fellow, awarded by Council for Scientific and Industrial Research (CSIR), New Delhi, Govt. of India, 2000-2002
- Principal Investigator worked in UGC Major Research Project (Rs.10,32,300/-) -2010-2013.
- Invited for oral presentation for the paper” Fabrication and characterization of DNA-lipid complex films for optical amplification” in Nano conference (2009), The international conference for nanotechnology industries, King Saud university.
- Principal Investigator, SERB Major Research Project (2014-17), Department of Science & Technology(DST), Govt. of India.
- Young Scientist, SERB Major Research Project, Department of Science & Technology(DST), Govt. of India.

Publications

Number of International Research Papers published :29

Number of papers / Attended in National and International conferences/seminars : 34

List of Publications:

1. Growth and characterization of L-Arginine Phosphate family crystals

A. S. Haja Hameed, G.Ravi, Md.M.Hossain and P.Ramasamy

J.Crystal Growth, 204(1999) 333-340.

2. Effect of temperature and deuterium concentration on the growth of Deuterated Potassium Dihydrogen Phosphate (DKDP) single crystals

G.Ravi, **A. S. Haja Hameed** and P.Ramasamy

J. Crystal Growth, 207(1999) 319-324.

3. Studies on organic Indole-3-Aldehyde single crystals

A. S. Haja Hameed, G.Ravi, R.Dhanasekaran and P.Ramasamy

J. Crystal Growth, 212(2000) 227-232.

4. Inhibition of microbial growth, study of solution stability, growth and characterization of Potassium Fluoride mixed L-Arginine Phosphate single crystals

A. S. Haja Hameed, G.Ravi and P.Ramasamy

J. Crystal Growth, 229(2001) 547-552.

5. Growth of DAST in straight chain alcohols and their characterization studies

A.NixonAzariah, G.Ravi, **A. S. Haja Hameed**, T.Gurumurthi and P.Ramasamy

Proc. of International conference on Photo responsive Organics and Polymers (ICPOP'01), Cheju Island, Korea, Vol. 1 (2001) pp. 481-482.

6. Growth and characterization of deuterated analog of L-Arginine Phosphate single crystals

A. S. Haja Hameed, G.Ravi, R.Ilangovan, A.NixonAzariah and P.Ramasamy

J. Crystal Growth, 237-239 P1(2002) 893-896.

7. Growth and optical characterization of organic nonlinear optical crystal: Indole-3-Aldehyde **A. S.**

Haja Hameed, G.Ravi, A.NixonAzariah and P.Ramasamy

Journal of Physics and Chemistry of Solid, 64(2003) 147 – 153.

8. Growth of stubbier habit LAP2 single crystals and their characterization

A. S. Haja Hameed, G.Ravi and P.Ramasamy

Materials Science and Engineering B 95 (2002) 61-66.

9. Synthesis, growth and characterization of nonlinear optical material: L-Arginine Fluoride

A. S. Haja Hameed, P. Anandan, R. Jayavel, P. Ramasamy and G. Ravi

J. Crystal Growth 249(2003) 316-320.

10. Nucleation, growth and characterization of dLAP, dLAP:KF and dLAP:NaN₃ crystals

A. S. Haja Hameed, G.Ravi, R. Jayavel and P.Ramasamy

J. Crystal Growth 250(2003) 126 – 133.

11. Optical Amplification Properties of a Cyanine dye-doped DNA-Lipid Complex Fiber

A. S. Haja Hameed, M. Wada, K. Ishihara, Y. Kagami, T. Ishikawa and S. Horinouchi

Organic Photonic Materials and Devices V, Proceedings of SPIE Vol. 4991 (2003) 166 – 174.

12. Nucleation, growth and characterization of L-tartaric acid-nicotinamide NLO crystals

A. S. Haja Hameed and C.W. Lan

J. Crystal Growth 270 (2004) 475 - 480.

13. Crystal growth and characterization of 4-nitro-4'-methoxy benzylideneaniline(NMOBA)

A. Nixon Azariah, **A. S. Haja Hameed**, T. Thenappan, M. Noel and G.Ravi

Materials Chemistry and Physics 88 (2004) 90-96.

14. Synthesis, growth and characterization of new mixed analogs of LAP family crystals

R. Shanmugavadivu, G. Ravi, **A. S. Haja Hameed** and T. Thenappan

Materials Science and Engineering B 113(2004) 269-273.

15. Studies on amino acids admixture Triglycine Sulphophosphate(TGSP) crystals

A. S. Haja Hameed G. Ravi and C.W. Lan

J. Crystal Growth 275 (2005) e1461-e1465.

16. An investigation on the growth and characterization of DAST crystals grown by two zone growth technique

A. S. Haja Hameed, W.C. Yu, Z.B, Chen, C.Y. Tai and C.W. Lan

J. Crystal Growth 282 (2005) 117-124

17. Effect of Sodium Toluene sulfonate on the Nucleation, Growth and Characterization of DAST Single Crystals

A. S. Haja Hameed, W.C. Yu, C. Y. Tai and C.W. Lan

J. Crystal Growth, 292 (2006) 510 -514.

18. Surface defects and mechanical hardness of rapidly grown DAST crystals

A.S.Haja Hameed, S. Rohani, W.C. Yu, C.Y. Tai and C.W. Lan

J. Crystal Growth 297 (2006) 146-151.

19. Growth and characterization of a new chelating agent added 4-dimethylamino-N-methyl-4-stilbazoliumtosylate (DAST) single crystals

A. S. Haja Hameed, S. Rohani, W.C. Yu, Z.B. Chen, Y.C. Liu, C.Y. Tai and C.W. Lan

Materials Chemistry and Physics, 102 (2007) 60-66.

20. Nucleation studies and surface SHG analysis of L-arginine phosphate monohydrate (LAP) family crystals.

A. S. Haja Hameed and S. Rohani

Materials Letters 61 (2007) 5141 -5144.

21. Characterization studies on the additives mixed L-arginine phosphate monohydrate (LAP) crystals

A. S. Haja Hameed, C. Karthikeyan, G. Ravi and S. Rohani

Physica B 406 (2011) 1363-1367.

22. Effects of chloroacetamide on the growth and characterization of nitric acid added triglycinesulphate crystals.

A.S. Haja Hameed, C. Karthikeyan, Golda Louis and G. Ravi

Journal of Crystal Growth 339 (2012) 46–51.

23. Spectroscopic investigation on the efficient organic nonlinear crystals of pure and diethanolamine added DAST

C. Karthikeyan, **A. S. Haja Hameed**, J. Sagaya Agnes Nisha and G. Ravi

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 115 (2013) 667–674.

24. Impact of alkaline metal ions Mg^{2+} , Ca^{2+} , Sr^{2+} and Ba^{2+} on the structural, optical, thermal and antibacterial properties of ZnO nanoparticles prepared by the coprecipitation method

A. S. Haja Hameed, C. Karthikeyan, S. Sasikumar, V. Senthil Kumar, S. Kumaresan and G. Ravi

Journal of Material Chemistry. B, 1 (2013) 5950–5962.

25. Effect of Cobalt Doping on Structural, Optical, and Magnetic Properties of ZnO Nanoparticles Synthesized by coprecipitation Method

G. Vijayaprasath , G. Ravi, **A. S.Haja Hameed** and T. Mahalingam

Journal of Physical Chemistry C, 2014, 118, 9715–9725.

26. Synthesis of cerium oxide nanoparticles using *Gloriosasuperba* L. leaf extract and their structural, optical and antibacterial properties

A. Arumugam, C. Karthikeyan ,**A. S. Haja Hameed**, K. Gopinath, S. Gowri and V. Karthika

Materials Science and Engineering C 49 (2015) 408–415.

27. Effect of Mg^{2+} , Ca^{2+} , Sr^{2+} and Ba^{2+} metal ions on the antifungal activity of ZnO nanoparticles tested against *Candida albicans*

A. S. Haja Hameed, C. Karthikeyan, V. Senthil Kumar and S. Kumaresan

Materials Science and Engineering C 52 (2015) 171-177

28. Phytochemical Synthesis and Crystallization of Sucrose from the Extract of *Gloriosasuperba*

K. Gopinath, C. Karthikeyan, **A. S. Haja Hameed**, K. Arunkumar and A. Arumugam

Research Journal of Phytochemistry9 (2015) 144-160

29.Influence of organic dopands on the optical properties of 4-N-N'-dimethylamino-N-methyl stilbazoliumtosylate crystals

A.S. HajaHameed, C.Karthikeyan , J. Agnes Nisha, GoldaLouis and G.Ravi

Optik (2016) - Article in press.

List of Research papers presented / participated in Conferences/Seminars:

1. Growth and surface analysis of device quality nonlinear crystals, G. Ravi, **A. S. Haja Hameed** and P. Ramasamy, XXI National Conference of the Electron Microscope Society of India, Trivandrum December 17-19, 1997.
2. Study of improving material purity for the growth of device quality KDP crystals, G. Ravi, **A. S. Haja Hameed** and P. Ramasamy, National Seminar On Material Science : An Indian Scene, Tiruchirapalli January 19- 20, 1998.
3. Growth and characterization of potentially applicable nonlinear crystals, G. Ravi, **A. S. Haja Hameed** and P. Ramasamy, Twelfth International Conference on Crystal Growth, Israel, July 26-31 1998.
4. Studies on L-Arginine Phosphate and its family of single crystals, G. Ravi, **A. S. Haja Hameed** and P. Ramasamy, The 5th International Conference on Material Science (IUMRS), Bangalore, October 13-16, 1998.
5. Growth and device characterization on amino mixed TGS crystals, G.. Ravi, **A. S. Haja Hameed** and P.Ramasamy, 2nd Asian Meeting on Ferroelectrics (International) at School of Electrical Electronic Engg., Nanyang Technological University, Singapore, Dec.7-11, 1998.
6. Effect of metallic dopants on Triglycine Sulpho Phosphate single crystals, G. Ravi, **A. S. Haja Hameed** and P. Ramasamy, X National Seminar on Ferroelectrics and Dielectrics, Indian Institute of Technology, Chennai, December 16- 18, 1998.
7. Growth and properties of amino acids mixed Triglycine Sulpho phosphate single crystals, G. Ravi, **A. S. Haja Hameed** and P.Ramasamy, Seventh National Science Tamil Conference, Mononmanium Sundaranar, University, Alwarkuruchi (Thiruvaveli), Dec. 26-27, 1998.

8. Growth and characterization of alkali halides mixed L-Arginine Phosphate single crystals, G. Ravi, **A. S. Haja Hameed** and P. Ramasamy, 8th National Seminar on Crystal Growth, Anna University, Madras, February 2-4, 1999.
9. Growth and characterization of tetragonal Deuterated Potassium Dihydrogen Phosphate (DKDP) crystals potentially applicable to electro-optic Modulators, **A. S. Haja Hameed**, G.Ravi, Md.M. Hossain and P.Ramasamy, National seminar on recent trends in materials science, Alagappa University, Karaikudi, May 3, 1999.
10. Two dimensional theoretical approach on InAs_xP_{1-x} LPE growth by Numerical simulation technique, Md.M. Hossain, R.Dhanasekaran, G.Ravi, **A. S. Haja Hameed** and P.Ramasamy, National seminar on recent in materials science, Alagappa University, Karaikudi, May 3, 1999.
11. Characterization of organic Indole-3-Aldehyde single crystals, **A. S. Haja Hameed**, G.Ravi, R.Dhanasekaran and P.Ramasamy, National Laser Symposium, School of Physics, University of Hyderabad, Hyderabad, December 15-17, 1999.
12. Growth, structural, optical and thermal characterization of L-Arginine Fluoride single crystals, **A. S. Haja Hameed**, G.Ravi and P.Ramasamy, XXX National Seminar on Crystallography, Sri Venkatesvara University, Tirupathi, June 28 –30, 2000.
13. Metastable zone width, etching and SEM studies of organic indole-3-aldehyde single crystals, **A. S. Haja Hameed**, F.Sabeena, G.Ravi and P.Ramasamy, Symposium on Crystal Growth of Laser related materials, Crystal Growth Centre, Anna University, Chennai., Aug. 7-6, 2000.
14. Growth and characterization of L-Arginine Fluoride single crystals, **A. S. Haja Hameed**, G.Ravi, A.NixonAzariah and P.Ramasamy, Twelfth American Conference on Crystal Growth and Epitaxy, at Colorado, USA., Aug 13 – 18, 2000.

- 15.** Growth, solution stability and surface analysis of organic Indole-3-Aldehyde single crystals, **A. S. Haja Hameed**, G.Ravi, A. Nixon Azariah and P.Ramasamy, Ist Asian Conference on Crystal Growth and Crystal Technology, Sendai, Japan. Aug. 29-Sep1, 2000.
- 16.** Growth and characterization of metals doped TriglycineSulphate mixed with L-alanine (ATGS) single crystals, **A. S. Haja Hameed**, A. Nixon Azariah, G.Ravi and P.Ramasamy XI National Seminar on Ferroelectrics and Dielectrics, University of Jammu, Jammu, Nov. 1-3, 2000.
- 17.** Growth, structural, thermal and optical studies of deuterated L-Arginine Phosphate (dLAP) single crystals, **A. S. Haja Hameed**, G.Ravi, A. Nixon Azariah and P.Ramasamy, International Workshop on Preparation and characterization of technologically Important Single crystals, National Physical Laboratory, New Delhi, Feb. 26- 28, 2001.
- 18.** Effect of L-lysine on the solution stability, growth and characterization of TriglycineSulphate single crystals, S.ArulmozhiPackiaseeli, S.Sankar, G.Ravi, **A. S. Haja Hameed** and P.Ramasamy, National Seminar on Current Trends in Material Science –200, Mahatma Gandhi University, Kottayam, March 23-24, 2001.
- 19.** Growth, structural, thermal and optical studies of deuterated L-Arginine Sulpho Phosphate (dLASP) single crystals, **A. S. Haja Hameed**, G.Ravi, A. Nixon Azariah and P.Ramasamy, National Seminar on Current Trends in Material Science –200, Mahatma Gandhi University, Kottayam, March 23-24, 2001.
- 20.** Growth of orthorhombic LAP2 single crystals and its characterization, **A. S. Haja Hameed**, G.Ravi, R.Ilangovan and P.Ramasamy, The Thirteenth International Conference on Crystal Growth (ICCG-13), Doshisha University, Kyoto, Japan, July 30 – August 4, 2001.

- 21.** Solvent effects on the solubility and nucleation of 4-Nitro-4'-Methoxy Benzylidene Aniline, A.NixonAzariah, G.Ravi, **A. S. Haja Hameed**, M. Noal and P.Ramasamy, The Thirteenth International Conference on Crystal Growth (ICCG-13), Doshisha University, Kyoto, Japan, July 30 – August 4, 2001.
- 22.** Impact of solvents, morphological, structural and thermal features of NMOBA, A. Nixon Azariah, G.Ravi, **A. S. Haja Hameed** and P.Ramasamy, International conference on Photo responsive Organics and Polymers, (ICPOP'01), Hannam University, Korea and Tohoku University, Japan, August 19-25, 2001.
- 23.** An investigation on the nucleation, growth and characterization of organic nonlinear optical crystal: L-tartaric acid –nicotinamide(LTN), **A. S. Haja Hameed**, C.I. Wu and C.W. Lan, The Fourteenth International Conference on Crystal Growth(ICCG-14), Grenoble, France, August 9-13, 2004
- 24.** Characterization studies of a hybrid nonlinear optical material:3-Nitroaniline Dihydrogen Phosphate, **A. S. Haja Hameed**, C.I. Wu and C.W. Lan, The Fourteenth International Conference on Crystal Growth(ICCG-14), Grenoble, France, August 9-13, 2004
- 25.** Effect of NaTS on the Nucleation, Growth and Characterization of DAST Single crystals, **A. S. Haja Hameed**, W.C. Yu, C.Y. Tai and C.W. Lan, The 3rd Asian Conference on Crystal Growth and Crystal Technology (CGCT-3), China, October 16-19, 2005.
- 26.** State Level Seminar on Recent trends in Power Science UGC Department of Physics, Jamal Mohamed College, 23-07-2008.
- 27.** Awareness Programme on Nanotechnology (APNT), Bharathidasan University Centre for nanoscience & nanotechnology, School of Physics, Bharathidasan University, 27-02-2010-28-02-2010.

- 28.**State Level Seminar on Advanced Research in Physics – A Few Perspectives, UGC, Department of Physics, Jamal Mohamed College, 28-02-12.
- 29.**National Level seminar on Nanoscience and laser materials processing, UGC, Department of Physics, Jamal Mohamed College,09-03-2013.
- 30.**International Seminar on Crystalline materials and Optoelectronic devices,UGC,Department of Physics, Jamal Mohamed College,03-02-2014.
- 31.**State Level Seminar on Avenues for Higher Scientific Pursuits (AHSP-2014), Jamal Mohamed College, Department of Physics, Jamal Mohamed College,08-09-2014.
- 32.**A three Day Workshop on Amateur Radio, Jamal Mohamed College, Department of Physics, Jamal Mohamed College,13-03-2015 to 15-03-2015.
- 33.** Fabrication and characterization of DNA-lipid complex films for optical amplification, **A. S. Haja Hameed**, Nano conference (2009),The international conference for nanotechnology industries, King Saud university.
- 34.**Structural and photoluminescence properties of ZnO nanoparticles synthesized by sol-gel method using different solvents, **A. S. Haja Hameed**, C. Karthikeyan and G. Ravi. 1st International Conference on Emerging Advanced Nanomaterials, The University of Queensland, Brisbane, Australia. Hotel Mercure, Brisbane, Australia
22-10-2012 to 25-10-2012.

List of M. Phil candidates Completed

S. No	Name of the Candidate	Registration No.	Month-year
1	R. Gowthar	09MFPH08	Aug-2010
2	S. Priya	09MFPH15	Aug-2010
3	K. Karthick	10MFPH02	Aug-2011
4	M. Amali	10MPPH10	Feb-2012
5	G. Elavarasi	10MPPH11	Feb-2012
6	A.Sundhandira Raja	11MPFPH014	Aug-2012
7	M. Parabakaran	11MPFPH009	Aug-2012
8	P. Kathiravan	11MPFPH004	Aug-2012
9	S. S. Karthik	12MPFPH008	Aug-2013
10	S. Thiruvarasu	12MPFPH002	Aug-2013
11	A.Rahamathulla	12MPPH004	Oct-2014
12	R. Prabakaran	13MPFPH005	Aug-2014
13	K. K. Selva Kumar	13MPFPH007	Aug-2014
14	A. Nagarajan	14MPFPH004	Aug-2015

List of Ph.D candidates completed/thesis submitted/pursuing

S. No	Name of the Candidate	Registration	Broad Area of Research
1	C. Karthikeyan	Full Time (Thesis submitted)	Organic NLO materials, metal oxide nanoparticles and their biomedical applications
2	J. Agnes Nisha	Part Time (Persuing)	Amino acids based NLO crystals and inorganic nanoparticles and molecular simulation
3	Golda Louis	Part Time (Persuing)	Growth and Characterization of organic NLO materials