

Madurai Kamaraj University Faculty Profile

- (1) **Name :** Dr. K. Sethuraman
- (2) **Date of Birth & Age:** 06.05.1975,42 yrs
- (3) **Designation:** Assistant Professor
- (4) **Department / School :**School of Physics
- (5) **Educational Qualifications:** M.Sc.,M.Phil., Ph.d
- (6) **Professional Experience: Teaching :** 7 Yrs 7 months ; **Research :** 14 Yrs.
- (7) **Teaching Specialization:** Solid State Physics
- (8) **Course Taught/Teaching :** (2015-2017 only)



Name of the Program	Year	Course Title	Course Code	Course/Unit Teacher	No. of Students
PG	2015	Molecular Physics		100%	19
	2015	Mathematical - Physics - I		100%	19
	2016	Molecular Physics		100%	19
	2017	Mathematical - Physics - I		100%	19
M.Phil	2016	Research Methodology		100%	20
Ph.D					

(9) **Teaching Awards / Recognition:**

S.No.	Name of the Award	State/ National/ International	Awarding Agency	Month and Year	Place	Value if any
1	Raman Research Fellow(Post doctoral)	International	UGC New Delhi	Oct 2016- Oct 2017	USA	

- (10) **Research Specialization:** Thin films for Photovoltaic applications and sensors, 2D graphene, crystal Growth

(11) **Research Supervision :**

Program	Completed	Ongoing
Ph.D	2	7
M.Phil	17	nil

(12) **Research Projects: Completed : 2 Ongoing : nil**

(13) **Details of Completed Research Projects :**

S.No.	Title of the Project	Funding Agency	Sanctioned Order No. & Date	Total Grant	Year
1	Synthesis, preparation and characterization of I-III-VI ₂ ternary semiconductor Nanostructure thin films by chemical spray pyrolysis technique for photovoltaic applications	UGC MRP		10,20,800	2012-15
2	Non toxic Cu ₂ ZnSnS ₄ Superstrate solar cells using vertically aligned ZnO nanorods	UGC XII Plan – General Development Assistance – Innovative Research activities		100,000	2014-15

(14) **Details of Ongoing Research Projects : Nil**

S.No.	Title of the Project	Funding Agency	Sanctioned Order No. & Date	Total Grant	Year

(15) **Details of Present Research Scholars :**

S.No	Name of the Scholar	Registered Thesis Title	Register No. with Date	Fellowship Details
1.	T. Logu	Preparation and Characterization of I-III-VI ₂ Ternary Semiconductor Thin Films by Chemical Spray Pyrolysis Technique for Photovoltaic Applications	F9094 29/05/13	UGC – MRP/SRF
2.	M.Beaula Ruby Kamalam	Synthesis of graphene based nanomaterials for optical and optoelectronic applications	P3266 31.08.2013	Nil
3.	B.K. Balachander			
4.	M. Sampath	Preparation and characterization of chemically deposited I ₂ - III ₄ -VI ₄ quaternary semiconductor thin films for photovoltaic applications	F9323 12.04.2014	UGC – NON NET Fellowship
5.	D. Ruby Josephine	Investigation of two dimensional layered transition dichalcogenides (TMDC) for electronic device applications.	F9324 12.04.2014	UGC – NON NET Fellowship
6.	M. S. Kajamuhideen	Growth of Diphenylguanidine complex, Triphenylguanidine and Bis(2-aminobenzimidazolium) Phthalate Single Crystals for Efficient Second Order Nonlinear Optical Application	(Reg.No:P3623) letter dt.18-07-2014	Nil
7.	S. Suba Viveka	Tailoring of intermediate band in CuGaS ₂ thin films via metal doping for photovoltaic applications.	F9768 03.09.2016	DST - INSPIRE fellowship , Ref.No : IF160588

(16) **Research Awards / Recognition:**

S.No.	Name of the Award	State/ National/ International	Awarding Agency	Month and Year	Place	Value if any
1	Raman Research Fellow	International	UGC, New Delhi			

(17) **Publications :**

S. No	Title	Author(s)	Journal Number	Yr	Volume	Pages	Impact Factor	ISBN	Peer review / Non peer review
1.	V doping induces surface morphological changes of CuInS ₂ thin films deposited by chemical spray pyrolysis	T. Logu, K.Sankarasubramanian, P. Soundarrajan, J. Archana, Y. Hayakawa, K. Sethuraman	Journal of analytical and applied pyrolysis				3.65		Peer reviewed
2.	Hierarchical architecture of CuInS ₂ microspheres thin films: Altering laterally aligned crystallographic plane growth by Cd and V doping	Logu Thirumalaisamy Ramesh Raliya, Shaline Kavadiya, Palanivel Soundarrajan, Kunjithapatham Sethuraman and Pratim Biswas	CrystEng Comm (Accepted manuscript)				3.45		Peer reviewed
3	Synthesis, Structural and Optical Studies of Yb Doped CuGaS ₂ Thin Films Prepared By Facile Chemical Spray Pyrolysis Technique	S. Kalainathan, N. Ahsan, T. Hoshii, Y. Okada, T. Logu, K. Sethuraman	Mechanics Materials Science & Engineering						Peer reviewed
4	Titanium Dioxide/Graphene Oxide Nanocomposites as Heterogeneous Catalysts for the Esterification of Benzoic Acid with Dimethyl carbonate	D.S.R. Josephine, B. Sakthivel, K. Sethuraman, and A. Dhakshinamoorthy	ChemPlusChem	2015	80	1472-1477			Peer reviewed
5	Synthesis, Characterization and Catalytic Activity of CdS/Graphene Oxide nanocomposites	D.S.R. Josephine, B. Sakthivel, K. Sethuraman, and A. Dhakshinamoorthy,	ChemistrySelect,	2016	1	2332 – 2340			Peer reviewed

6	Solvothermal synthesis of reduced graphene	M.Beaula Ruby Kamalam B.K.Balachandar	Materials today Proceedings	2016	3	2132 –		: 2214-7853	Peer reviewed
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	oxide/Vanadium pentoxide hybrid nanostructures.	K.Sethuraman				2140			
7	Titanium dioxide anchored graphene oxide nanosheets for highly selective voltammetric sensing of dopamine	D. Ruby Josephine, K. Justice Babu, G. Gnana kumar, K. Sethuraman.	Microchimica Acta	2017	184	781–790	4.381		Peer reviewed
8	Growth and physical characterization of organic nonlinear optical single crystal: N,N'-diphenylguanidinium formate	M.S. Kajamuhideen K. Sethuraman K. Ramamurthi P. Ramasamy	Optics and Laser Technology	2017			1.879		Peer reviewed

(18) **Conferences Participation :**

Name of the Conference	Date	Place	State National/ International	Attended/Presented (Post/Oral/.....)
National Seminar on Crystal Growth	12-14 March 2015	VIT University, Vellore	National	Presented-Poster
International Conference on Recent Advances In Nano-Science and Technology-RAINSAT-2015	8-10 July 2015	Sathya Bama University, Chennai	International	Presented-Oral
National Seminar on Nanomaterials: Synthesis, Characterization and Applications	6 and 7 th August 2015	G. Venkataswamy Naidu College, Kovilpatti	National	Presented-Poster
International Conference on Nanomaterials and Nanotechnology –NANO-2015	7-10 December, 2015	KSR Group of Institutions, Thiruchengode	International	Presented-Oral
International conference on Nanomaterials for energy, environment, catalysis and sensors ICNEECS-15	11 and 12 th December, 2015	School of Chemistry, MKU, Madurai	International	Presented - Poster
International Conference on Recent Advancements in Advanced Materials- PHYIM 2016-2017	19th & 20th September 2016	Ananda College, Devakottai, Sivaganga	International	Presented - Poster
International conference on nanomaterials and molecular research	December 9-10, 2016	Cuddalore	International	Poster Presentation
CRS - Users research scholar's workshop (Physics of	19-20 th December	UGC-DAE Consortium for	National	Oral Presentation
Advanced Materials-III)	2016	Scientific Research, Indore		
One-day international conference on Recent trends in material Science and Applications.	9 th Jan 2017	Sri Meenakshi Arts College for women, Madurai.	International	Presented - Poster
Recent advancements in materials science	February 10, 2017	Periyakulam	National	Oral Presentation
XXI National Seminar on Crystal Growth and Applications.	6-8 th March 2017.	National college, Triuchirappalli.	National	Presented – Poster
International conference on Nanoscience and Nanotechnology	9-11 August 2017	SRM University, Chennai	International	Poster Presentation
International conference on functional materials	September 7-8, 2017	Madurai	International	Poster Presentation

(19) **Papers Presented in Conference :**

Name of the Conference	Date	Place	Title	Author(s)	Conference Proceeding ISBN
National Seminar on Crystal Growth	12-14 March 2015	VIT University, Vellore	Reduced graphen oxide/V ₂ O ₅ hybrid nanostructures Using solvothermal synthesis	M.Beaula Ruby Kamalam B.K.Balachandar K.Sethuraman	Nil
National Seminar on Crystal Growth	12-14 March 2015	VIT University, Vellore	Investigation on layered GO- Titania nanocomposite for heterogenous catalytic application”	D.Ruby Josephine K.Sethuraman	Nil
International Conference on Recent Advances In Nano-Science and Technology- RAINSAT-2015	8-10 July 2015	Sathya Bama University, Chennai	Solvothermal synthesis of reduced graphene oxide/Vanadium pentoxide hybrid nanostructures.	M.Beaula Ruby Kamalam B.K.Balachandar K.Sethuraman	ISSN: 2214-7853
National Seminar on Nanomaterials: Synthesis, Characterization and Applications	6 and 7 th August 2015	G. Venkataswamy Naidu College, Kovilpatti	Investigation on Graphene Oxide (GO) – TiO ₂ (1 Wt %) hybrids for its improved charge transport for application point of view	D.Ruby Josephine K.Sethuraman	Nil
International Conference on Nanomaterials and Nanotechnology –NANO-2015	7-10 December, 2015	KSR Group of Institutions, Thiruchengode	Graphene oxide/ V ₂ O ₅ composites for Photo catalytic applications	M.Beaula Ruby Kamalam B.K.Balachandar K.Sethuraman	Nil
International Conference on Nanomaterials and Nanotechnology –NANO-2015	7-10 December, 2015	KSR Group of Institutions, Thiruchengode	Investigation on monalayered GO nanosheets and functionalization with TiO ₂ (20 Wt%) nanoparticles	D.Ruby Josephine K.Sethuraman	Nil
International conference on	11 and 12 th December, 2015	School of Chemistry,			

Nanomaterials for energy, environment, catalysis and sensors ICNEECS-15		MKU, Madurai	Investigation on TiO ₂ loaded monolayered Graphene oxide nanosheets for bio sensing application	D.Ruby Josephine K.Sethuraman	Nil
International Conference on Recent Advancements in Advanced Materials- PHYIM 2016-2017	19-20 th September 2016	Ananda College, Devakottai, Sivaganga	Removal of Secondary Phases in Spray Deposited Cu ₂ ZnSnS ₄ Thin films by tuning the S/(Cu+Zn+Sn) Ratio.	M. Sampath K.Sankarasubramanian K. Sethuraman	Nil
International conference on nanomaterials and molecular research	December 9-10, 2016	Cuddalore	Influence of Crystal Violet dye on structural, spectroscopic and optical properties of Anthracene single crystals	M.S. Kajamuhideen, K. Sethuraman	Nil
CRS - Users research scholar's workshop (Physics of Advanced Materials-III)	19-20/12/2016	UGC-DAE Consortium for Scientific Research, Indore	Materials design of n-type CuInS ₂ thin films with reduction of Cu-Au phase using Cd ²⁺ ions	T. Logu, K. Sankarasubramanian, P. Soundarrajan and K. Sethuraman	Nil
One-day international conference on Recent trends in material Science and Applications.	9 th Jan 2017	Sri Meenakshi Arts College for women, Madurai.	Non-Vacuum Processed Cu ₂ ZnSnS ₄ thin films: Influence of S/(Cu+Sn+Zn) ratio on structural, optical and electrical properties.	M. Sampath K. Sankarasubramanian P.Soundarrajan K. Sethuraman	Nil

One-day international conference on Recent trends in material Science and Applications.	9 th Jan 2017	Sri Meenakshi Arts College for women, Madurai.	Vanadium doping induces morphological changes of CuInS ₂ thin films deposited by chemical spray pyrolysis	T. Logu, K. Sankarasubramanian, P. Soundarrajan and K. Sethuraman	Nil
Recent advancements in materials science	February 10, 2017	Periyakulam	Experimental and theoretical investigation of organic nonlinear optical single crystal: N,N'-diphenylguanidinium formate	M.S. Kajamuhideen, K. Sethuraman	Nil
XXI National Seminar on Crystal Growth and Applications.	6-8 th March 2017.	National college, Triuchirappalli.	Photoelectrochemical performance of solution Processed Cu ₂ ZnSnS ₄ thin films.	M. Sampath K. Sankarasubramanian P.Soundarrajan K. Sethuraman	Nil
International conference on Nanoscience and Nanotechnology	9-11 August 2017	SRM University, Chennai	Enhanced Photo Catalytic Activity of Graphene Oxide /MoO ₃ Nanocomposites in the degradation of Victoria Blue Dye under Visible light Irradiation	M.Beaula Ruby Kamalam S.Stephen Rajkumar Inbanathan K.Sethuraman	Nil
International conference on functional materials	September 7-8, 2017	Madurai	Growth and physical characterization of organic nonlinear optical single crystal: Diphenylguanidinium formate	M.S. Kajamuhideen, K. Sethuraman	Nil
International conference on Nanoscience and Nanotechnology	9-11 August 2017	SRM University, Chennai	Growth of Zno nano/microrod arrays thin film by using chemical bath deposition and hydrothermal method-A comparative Study	T. Logu, K. Sankarasubramanian P. Soundarrajan M.Geetha K. Sethuraman K.Jeganathan K.Ramamurthi	Nil

(20) **Conference/Workshop/Seminar/Training Organized:**

Type	Name	Date(s)	Place	Role Played	No of Days	No.of Participants	Funding Agency	Budget if any
	Two days workshop on High resolution Transmission electron microscopy	7 & 8 th January 2016	Central Instrumentation centre, Madurai Kamaraj University, Madurai	Convenor	2	100	DST PURSE	

(21) **Research Publication Impact :**

No.of Publications	Total Citation	Highest Citation	h-index	Total Impact Factor	Lowest Impact Factor	Average Impact Factor
52	360	40	12			

(22) **Books Published :**

S.No	Title of the Book/Chapter	Author(s)	Publisher	Year	Total No of Pages	With ISBN Number	Editor Name for Edited Books
1	Advanced Nanomaterials	Investigation on monolayered GO nanosheets and functionalization with TiO ₂ (20 Wt%) nanoparticles	Bloomsburry	2015	219-222	978-93-85436-74-1	Dr.V.Rajendran Dr.K.Saminathan and K.E.Geckler
2	Advanced Nanomaterials	M.Beaula Ruby Kamalam B.K.Balachandar K.Sethuraman	Bloomsburry	2015	253-258	978-93-85436-74-1	Dr.V.Rajendran Dr.K.Saminathan K.E.Geckler

(23) Intellectual Property Rights generated: Nil

(a) Patents :

S.No.	Patent title	Author(s)	Patent No. and date (for Granted)	Filing No (for Submitting/Pending)

(b) Technology Developed/Transferred : Nil

S.No.	Title	Author(s)	Transferred to	Period	Funding Support received if any

- (Transferred receiving Organization/Company/Industry)

(c) Software Developed : Nil

S.No.	Title	Author(s)	Purpose	Period	Funding Support received if any

(d) Scientific Data

Contributions : Nil

Biological

Name	Author(s)	ID	Deposited Data Bank	Date	Funding Support received if any

- (Protein/DNA/RNA/Isolated Strains and their sequence information)

(e) Structural Data

Contributions : Nil (*X-*

Ray/NMR/Microscope)

Name	Author(s)	Methods	ID	Deposited Data Bank	Date	Funding Support received if any

(24) **Consultancy Services Offered :**

Sl. No.	Name of Client / Organization	Period (Month & Year)	Revenue Generated Earned	Purpose of Consultancy	Type (Service / Project)	Govt. / NGO / Small Scale Industry / Private

(25) **Research Collaboration (Both National & International) :**

S.No.	Name of the Collaborator	Institute	Collaboration Details	Collaboration Output (Papers/Patents/Research/Online)
1.	A. Dhakshinamoorthy	MKU- Chemistry	National	D.S.R. Josephine, B. Sakthivel, K. Sethuraman, and A. Dhakshinamoorthy, <i>ChemPlusChem</i> , 2015, 80 , 1472-1477. D.S.R. Josephine, B. Sakthivel, K. Sethuraman, and A. Dhakshinamoorthy, <i>ChemistrySelect</i> , 2016, 1 , 2332–2340. Synthesis, Characterization and Catalytic Activity of CdS/Graphene Oxide nanocomposites.
2.	G.Gnanakumar	MKU- Chemistry	National	D. Ruby Josephine, K. Justice Babu, G. Gnana kumar, K. Sethuraman. <i>Microchim Acta</i> (2017) 184:781–790. Titanium dioxide anchored graphene oxide nanosheets for highly selective voltammetric sensing of dopamine

(26) Foreign Academic Visit(s):

Country Visited	Period (From –To)	Purpose of Visit (Conference/Seminar/Workshop/Viva/Post-doctoral/Visiting Professor)
U.S.A	Oct 2016-Oct 2017	Raman Research Fellow (Post doctoral)

(27) Academic Honors/ Awards / Fellowships :

Name (Honors/ Awards)	Period (Month & Year)	Awarding Agency	Place	Value if any
Raman Research Fellow	Oct 2016-Oct 2017	UGC, New Delhi	U.S.A	

(28) Administrative Experience /Role Played : (Last Five Years)

Role Played	Responsibilities	Period (Month & Year)
Chemical Purchase committee In-charge, School of Physics, MKU	Purchase Chemicals for Faculty members of School of Physics	2010-2016

(29) Membership in Academic/Scientific/Societal Professional Bodies:

Name	Membership Period Year/Life Member	State/ National/ International	Participatory Roles if any
Materials Research Society (MRS), USA	2016 - 2017	International	
Indian Association of Crystal Growth (IACG)	Life Member	National	
Japan Society of Applied Physics		International	

(30) Extension Activities:

Activity Name	Details of Activity	Place	Period (Month & Year)	Societal Impact(s) / Contribution(s)
-	-	-	-	-