

Faculty Profile of Dr.D.Nataraj



Dr.D.Nataraj
Professor
Department of Physics

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Phone No:0422-2428447

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Research Area

- Quantum Dots
- Hot electron Dynamics
- Materials for Solar Cells

Education & Career

Education

Ph. D.

Subject : Physics

Institution : Bharathiar University

Affiliated University : Bharathiar University

Year of Award : 2001

M. Sc.,

Subject: Physics

Institution : Bharathiar University

Affiliated University : Bharathiar University

Year of Award : 1994

B. Sc.,

Subject: Physics

Institution: Bharathiar University

Affiliated University: Bharathiar University

Year of Award: 1992

Career**At Bharathiar University (Reverse Order)**

Professor: August 2018 to Till Date

Associate Professor: August 2015 to August 2018

Assistant Professor: 02.01.2006 to 30.06.2011

Lecturer: 23.09.2005 to 01.01.2006

Past Experience

Visiting Research Assistant Professor: 01.07. 2011 to 30.06.2012 at Pohang University of Science and Technology (POSTECH), Pohang, South Korea

COE fellow: 01.05.2003 to 21.09.2005 at Hokkaido University, Japan

STA fellow: 01.04.2001 to 31.03.2003 at National Institute of Advanced Industrial Science and Technology (AIST), Hokkaido, Japan

Awards

1. Brain Korea 21 fellow awarded by Pohang University of Science and Technology, South Korea in 2011
2. Fast Track Fellow awarded by DST, India in 2009
3. COE research fellow awarded by Hokkaido University, Japan in 2003
4. STA fellow awarded by JSPS organization, Japan in 2001
5. Senior Research Fellow awarded by CSIR, India in 1999

Membership

Professional Bodies

Member

Regular Member: Luminescent Society of India

Period: Life Member

Member

Regular Member: Magnetic Society of India

Period: Life Member

Visits

Country Visited : China

Duration of Visit : December 2019

Purpose of Visit : Research at Tianjin University

Country Visited : South Korea

Duration of Visit : July 2011 to June 2012

Purpose of Visit : Teaching and Research at POSTECH

Country Visited : Japan

Duration of Visit : May 2003 to Sep 2005

Purpose of Visit : Research at Hokkaido University

Country Visited : Japan

Duration of Visit : April 2001 to March 2003

Purpose of Visit : Research at AIST, Hokkaido

Collaborators

Others

Projects

Funded Projects(National Level)

- [Ongoing](#)
- [Completed - 08](#)

1. RUSA PHASE - II

Title of the project: Fabrication of perovskite oxide based prototype ultra – sensitive (10ppb) acetone sensor for non invasive diabetic diagnosis

Funding Agency: RUSA PHASE - II

Amount: Rs. 5 Lakhs

Duration: February 2020 to June 2020

2. RUSA PHASE - I

Title of the project: Development of graphene quantum dot coupled solid sheet type nanostructure thin films on silicon with strong intrinsic optical and electrical properties for active optoelectronic application

Funding Agency: RUSA PHASE - I

Amount: Rs. 100 Lakhs

Duration: 2017 to 2019

3. UGC - CPEPA

Title of the project: Advanced studies in physics for the development of solar energy materials and devices

Funding Agency: UGC - CPEPA

Amount: Rs. 3.54 Crores

Duration: 2016-2021

4. DST - SERI

Title of the project: Development of Hot electron harvesting quantum dot (CdTe,CdTe/ZnS,CdTe/CdS) based solar cell devices for efficient solar energy conversion application

Funding Agency: DST - SERI

Amount: Rs. 60.52 Lakhs

Duration: 2016-2019

5. DRDO

Title of the project : Design and fabrication of metal oxide (Fe_2O_3 , LaFeO_3 , and LaSrFeO_3) Hybrid nanostructure based prototype gas sensor device to detect the trace amount of CO and CO_2

Funding Agency : DRDO

Amount : Rs. 25.95 Lakhs

Duration : 2014-2017

6. DST - FAST TRACK

Title of the project: Synthesis And Photoluminescence characterisation of conjugate ZnS:Mn nonoparticles

Funding Agency: DST – FAST TRACK

Amount: Rs. 20.40 Lakhs

Duration: 2009-2013

7. DRDO – ER& IPR

Title of the project: Fabrication of organic molecule conjugate quantum nanoparticle based visible and near IR sensitive, high current photoconductive device.

Funding Agency: DRDO – ER& IPR

Amount: Rs. 21.37 Lakhs

Duration: 2010 to 2013

8. DRDO-BU-CLS

Title of the project: Nanostructured thin film based gas sensor for food quality assessment

Funding Agency: DRDO-BU-CLS

Amount: Major Project

Duration: 2005 to 2010

Consultancy Projects

- [Ongoing](#)
 - [Completed](#)
-

Research Guidance

- [Post Doc.](#)
- [Ph.D.](#)
- [M.Phil.](#)
- [M.Sc.](#)

Ongoing

Completed

Ongoing

S. Ramya

S. Manigandan

T. Thrupthika

A. Sangeetha

P. Maheswari
V. Muthuvelan
K. Reivanth

Completed-09

9. Dr. K. P. Thiruppathi

Title of Thesis: SYSTEMATIC SYNTHESIS OF PHASE AND MORPHOLOGY TUNED IRON-BASED METAL OXIDES

(α -Fe₂O₃, Fe₃O₄, LiFeO₂, LaFeO₃ AND La_{1-x}Sr_xFeO₃) AND THEIR APPLICATIONS TOWARDS TRACE LEVEL GAS MOLECULES DETECTION.

Date of Submission:

Date of Award: 2021

8. Dr. S.Prem Kumar

Title of Thesis: Systematic investigation of Interfacial Chemistry Modified Quantum Dot (CdTe,ZnS,Mn:ZnS) and Nanoparticle (Silver) coupled Graphene Hybrid System for Improved Photocurrent Properties

Date of Submission:

Date of Award: 2017

7. Dr. G.Bharathi

Title of Thesis: Band gap opened Graphene Quantum Dot Solid Sheet Nanostructures with Induced Semiconducting Properties for Opto- electronic and Sensing Applications

Date of Submission:

Date of Award: 2017

6. Dr. G.Radha

Title of Thesis: Systematic Investigation on Growth, Characterization and some Application of Nanocrystalline Cobalities (MCo₂, M=Ni or Zn) using Mixed Metal Carboxylates as Single Source Molecular Precursors

Date of Submission:

Date of Award: 2016

5. Dr. V.P.Devarajan

Title of Thesis: Molecular conformation dependent photophysical and photochemical behaviours of Beta carotene conjugated ZnS and Cds Quantum Dot hybrids

Date of Submission:
Date of Award: 2015

4. Dr. T.Pazhanivel

Title of Thesis: Systematic investigation on the photophysical properties of CdSe,CdTe,CdSe/ZnS, CdTe/ZnS quantum dots and their hybrid with organic molecules (Beta carotene, Methionine & L-Cystine) for solar cell and explosive sensing applications

Date of Submission:
Date of Award: 2013

3. Dr. P.Vijay Bharathi

Title of Thesis: Systematic investigation on the Growth and Characterization of Metal Nanoparticles (Ti,Ni and W) Incorporated Diamond like Carbon (DLC) and Nitrogenated Carbon (CN) Thin films for biomedical applications.

Date of Submission:
Date of Award: 2011

2. Dr. S.Rajagopal

Title of Thesis: Controlled synthesis of Nanostructured Transition Metal oxides (WO₃,MoO₃) and Tungstates (FeWO₄,CoWO₄): A systematic Investigation on the structure, Morphology, and Electronic Structure of different Nanostructure and their Photocatalytic applications.

Date of Submission:
Date of Award: 2011

1. Dr.S. Bharathi

Title of Thesis: Morphology controlled synthesis and characterization of multifunctional iron oxide nanostructures: A systematic study on the growth parameters, shape – dependent properties and applications.

Date of Submission:
Date of Award: 2010

Ongoing

A. Ashwini

Completed - 32

32. K. Saranya

Title of Thesis: Preparation and characterization of high aspect ratio of [Mo₃S₁₃]²⁻

Year of award: 2019

31. N.Naveen Kumar

Title of Thesis: Preparation and characterization of MoS₂/Graphene nanocomposite for the effective and efficient absorption of dye molecule

Year of award: 2019

30. P.Maheswari

Title of Thesis: Hydrothermally synthesized blue emitting SiQDs and their application towards Photovoltaic cell and their cytotoxic study toward MCF-7 human breast cancer cell

Year of award: 2018

29. A.Sangeetha

Title of Thesis: Microwave assisted synthesis of carbon quantum dots and their electrochemical detection of Quercetin

Year of award: 2016

28. V.Sarojadevi

Title of Thesis: Growth and characterization of morphology tuned CdTe nanostructures(nanoparticles and nanorods) and their application for solar cell fabrication

Year of award: 2016

27. P.Balakiruthika

Title of Thesis: Synthesis, Characterization and electrochemical performances of hydrothermally prepared carbon Quantum Dots (CQDs)

Year of award: 2016

26. M.Pavithra

Title of Thesis: Synthesis and characterization of ZnS QDs/Graphene and Mn: ZnS QDs/ Graphene nanocomposites for photocatalytic application

Year of award: 2016

25. N.Jeevitha

Title of Thesis: Synthesis and Characterization of Nitrogen and metal ion doped graphene quantum dots and their photocatalytic application

Year of award: 2015

24. G.R Suriya Praba

Title of Thesis: Carbon Quantum dots (CQDs) for Metal Ion sensing application

Year of award: 2014

23. T.Thrupthika

Title of Thesis: Photophysical properties of CuInS₂ and its core-shell structure with β -carotene

Year of award: 2014

22. M.Suganthi

Title of Thesis: Preparation and characterization of TiO₂ nanorods and TiO₂NR/CdS hybrid nanostructures for photocatalytic and gas sensing application.

Year of award: 2013

21. S.Thilagavathi

Title of Thesis: Growth and nanostructure of NiO and NiCo₂O₄ using hybrid coordination polymer precursor – application to photocatalytic degradation.

Year of award: 2013

20. S.Ramya

Title of Thesis: Growth and characterization of ZnO NRS & ZnO/In₂S₃ hybrid nanostructures for gas sensing application

Year of award: 2013

19. R.Amirthavalli

Title of Thesis: Morphology controlled hexagonal nanoflakes of NiCo₂O₄ using ethylene glycol

Year of award: 2013

18. M.R.Madhumathi

Title of Thesis: Growth of β -FeMoO₄ nanorods and multipod structures by hydrothermal method and its structural and morphology characterization

Year of award: 2011

17. V.Mageshwari

Title of Thesis: Detection of nitroaromatic explosives using thiol capped CdTe QDs via fluorescent quenching

Year of award: 2011

16. R.Gnanambal

Title of Thesis: CTAB assisted hydrothermal synthesis of spinel ZnCo₂O₄ nanostructures and its magnetic properties

Year of award: 2011

15. C.Dinesh

Title of Thesis: A study on surface morphology, optical and antibacterial properties of tantalum pentoxide thin films prepared by DC magnetron sputtering technique

Year of award: 2010

14. V.Kavitha

Title of Thesis: Preparation and characterization of Samarium cobalt nanostructured thin films by chemical method

Year of award: 2010

13. R.Kavitha

Title of Thesis: Structural, reduction and magnetic characteristics of iron oxide nanoparticles prepared by hydrothermal synthesis

Year of award: 2010

12. L.Sasikala

Title of Thesis: Characterization on hydrothermally synthesized ZnO nanostructures

Year of award: 2009

11. R.Rajanad Kumar

Title of Thesis: Synthesis and characterization of polymer encapsulated silver nanoparticle coatings for antibacterial effect

Year of award: 2009

10. M.S.Kiruba

Title of Thesis: Study of gas sensing properties of nanocrystalline zinc and cadmium ferrites

Year of award: 2009

9. R.Sandhya

Title of Thesis: Preparation and characterization of undoped and copper doped indium oxide nanoparticles and their films

Year of award: 2009

8. G.Radha

Title of Thesis: Synthesis and characterization of metal cobalities (MCo_2O_4 , $\text{M}=\text{Ni}$ and Zn) based on citrate precursors

Year of award: 2008

7. K.Sownthari

Title of Thesis: Preparation and characterization of Co_3O_4 nanorods by sonochemical method

Year of award: 2008

6. T.Pazhanivel

Title of Thesis: Preparation and characterization of V_2O_5 hollow spheres made up of nanorods using solvothermal method

Year of award: 2008

5. S.Priyadharsini

Title of Thesis: Alcoholic medium dependent growth of In_2O_3 nanoparticles and its characterization

Year of award: 2008

4. R.Yuvakkumar

Title of Thesis: Preparation and characterization of Sb doped ZnO thin films by cathodic vacuum arc method

Year of award: 2007

3. N.Sabari Arul

Title of Thesis: Structural and optical properties of ZnO nanorods grown by chemical method

Year of award: 2007

2. M.Thambidurai

Title of Thesis: Preparation and characterization of ZnO-SnO_2 thin films by cathodic vacuum arc deposition method

Year of award: 2007

1. D.Poornaratna

Title of Thesis: Hall effect and DC conduction studies on ZnTe thin films prepared by thermal evaporation method

Year of award: 2007

Ongoing

Completed - 35

35. Keerthana.R

Title of Thesis: Photophysics of CdTe/CdS/ZnS Core shell Quantum dot nanostructures.

Year of award: 2019

34. Manimekala.T

Title of Thesis: Photophysical properties of Mn Doped CdTe quantum dots

Year of award: 2019

33. Aruna.S

Title of Thesis: Phosphine free synthesis of CdTe quantum dots and their optical characterization

Year of award: 2019

32. Karthick. K

Title of Thesis: Influence of compactness of TiO₂ film on the performance of dye sensitized solar cell.

Year of award: 2018

31. Pavithra. S

Title of Thesis: Understanding the ligand effect on the quantum confinement effect of In₂S₃ QDs

Year of award: 2018

30. Aiswarya. R

Title of Thesis: An insight into BSA-CdTe QDs interaction through absorption and photoluminescence studies

Year of award: 2018

29. Thasrin Aspar. S

Title of Thesis: Optimization of Growth condition to obtain flower-like Indium sulfide nanostructure

Year of award: 2017

28. Saranya. K

Title of Thesis: Growth and characterization of TiO₂ Flower like nanostructures

Year of award: 2017

27. Infanta Diana. M

Title of Thesis: Synthesis and characterization of nanostructured perovskite absorber (Methyl ammonium lead iodide)

Year of award: 2017

26. Vinodhini. S

Title of Thesis: ZnO nanotube formation and their characterization

Year of award: 2017

25. Muthu Velan. V

Title of Thesis: Structural and optical characterization of carbon quantum dots prepared by reflux condensation method

Year of award: 2016

24. Gokila

Title of Thesis: Preparation and synthesis of CdTe Quantum dots

Year of award: 2016

23. Anjali

Title of Thesis: Preparation and optical characterization of InS Quantum dots

Year of award: 2016

22. Radhakrishnan. P

Title of Thesis: Synthesis and characterization of water soluble carbon nanodots(CNDs)

Year of award: 2015

21. Pichaimani. B

Title of Thesis: Synthesis and characterization of N-doped reduced graphene sheets prepared by hydrothermal method

Year of award: 2015

20. Suresh Kumar. N

Title of Thesis: Investigation on size dependent optical properties of CdTe by varying MPA concentration

Year of award: 2015

19. Deviprasath. C. S

Title of Thesis: Investigation of Structural and photoluminescence properties of MPA capped water soluble CdTe QDs and CdTe: GO nanocomposites

Year of award: 2014

18. Balakiruthika. P

Title of Thesis: Photoluminescence and photocatalytic activity of ZnS/ β -carotene hybrid

Year of award: 2014

17. J.Agnes Lincy

Title of Thesis: Preparation and Photoluminescence studies of Carbon Quantum dots

Year of award: 2014

16. Tharani.S

Title of Thesis: Synthesis and characterization of ZnS/CdS & CdS/ZnS core – shell quantum dots for sensing application

Year of award: 2013

15. T.Thrupthika

Title of Thesis: Synthesis and photoluminescence characterization of water soluble ZnS & CdS quantum dots for sensing applications

Year of award: 2013

14. R.Joyce

Title of Thesis: Size sensitive luminescence quenching behaviour of Methionone Capped water soluble CdTe QDs for the explosive detection

Year of award: 2013

13. T.Chandran

Title of Thesis: Temperature dependent growth mechanism of MoO₃ – pyrazine hybrid nanostructure by hydrothermal technique

Year of award: 2011

12. R.Rajeshwari

Title of Thesis: A study on Time dependent Growth mechanism of MoO₃ – Pyrazine Hybrid nanostructured by hydrothermal method

Year of award: 2011

11. P.Balasaritha

Title of Thesis: Synthesis and characterization of hydrothermally prepared hexagonally shaped iron oxide nano crystals

Year of award: 2010

10. M.R.Madhumathi

Title of Thesis: Synthesis of Hematite (α -Fe₂O₃) nanocrystals and their photocatalytic behaviour towards rhodamine b

Year of award: 2010

9. P.Geetha

Title of Thesis: Synthesis and characterization of hydrothermally prepared iron oxide thin films

Year of award: 2010

8. R.Gnanambal

Title of Thesis: Preparation and structural ,luminescence characterization of various temperature based Cds naomaterials

Year of award: 2009

7. G.Udhaykumar

Title of Thesis: Tuning the emission wavelength of ZnS nanoparticles by optimizing chemical compositions

Year of award: 2009

6. S.Premkumar

Title of Thesis: Preparation of nanocrystalline MFe₂O₄ ferrites [M=Fe,Zn] by chemical method and their compaction using spark plasma sintering

Year of award: 2009

5. Palanisamy.P

Title of Thesis: Synthesis, Characterization and Photoluminescence properties of Tungsten trioxide (WO₃) nanorods

Year of award: 2009

4. K.R.Vijayaraghavan

Title of Thesis: Hydrothermal synthesis of CoWO₄ nanopowder and their structural & optical characterization

Year of award: 2008

3. R.Sri vidhya nandhini

Title of Thesis: Hydrothermal synthesis of MnWO₄ nanopowder and its characterizations

Year of award: 2008

2. Bipin.M.K

Title of Thesis: Preparation and structural characterization of WO₃ nanopowder

Year of award: 2008

1. L.Sasikala

Title of Thesis: Synthesis and characterization of ZnO micro – nanocluster films deposited by SILAR method

Year of award: 2007

Research Publication

- [International](#)
- [National](#)
- [Patents](#)
- [Conferences](#)
- [Books / Chapters](#)
- [Database](#)

Reverse Chronological Order

2021

2020

2019-1999

53. [Highly responsive ultraviolet sensor based on ZnS quantum dot solid with enhanced photocurrent](#)

S. Premkumar, D. Nataraj, G. Bharathi, S. Ramya
Nature Scientific reports 9, 1-14 (2019)

52. [Graphene Nanobuds: A New Second-Generation Phosgene Sensor with Ultralow Detection Limit in Aqueous Solution](#)

Pavithra V Ravi, Daniel T Thangadurai, D Nataraj, Kittusamy Senthilkumar, Gunasekaran Manonmani,
Nandakumar Kalarikkal, Sabu Thomas, Praveen Govindh
ACS applied materials & interfaces 11, 19339-19349 (2019)

51. [Photocatalytic performance on visible light induced ZnS QDs – MgAl layered double hydroxides hybrids for methylene blue dye degradation](#)

Kandasamy Bhuvaneswari, Govindasamy Palanisamy, Thangavelu Pazhanivel, Ganapathi Bharathi,
Devaraj Nataraj
Chemistry select 3, 13419-13436 (2018)

50. [Rhodamine capped gold nanoparticles for the detection of Cr³⁺ ion in living cells and water samples](#)

[N Manjubaashini, T Daniel Thangadurai, Ganapathi Bharathi, D Nataraj](#)
Journal of Luminescence 202, 282-288 (2018)

49. [Synthesis and experimental studies on supramolecular synthons of aminoguanidium carboxylates:](#)

[A case study of \$\pi\$ -hole bonded carbon bonding via theoretical approaches](#)

Govindarajan Radha, Baskaran Vijaya Pandiyan, Palanisamy Deepa, Subbiah Govindarajan,
Ponmalai Kolandaivel, Devaraj Nataraj
Chemistry Select 3, 10032-10048 (2018)

48. [Enhanced photocatalytic properties of ZnS-WO₃ nanosheet hybrid under visible light irradiation](#)

Govindasamy Palanisamy, Kandasamy Bhuvaneshwari, Ganapathi Bharathi, Devaraj Nataraj,
Thangavelu Pazhanivel
Chemistry Select 3, 9422-9430 (2018)

47. [Fluorenone based fluorescent probe for selective “turn-on” detection of pyrophosphate and alanine](#)
Daniel Thangadurai, I Nithya, N Manjubaashini, N Bhuvanesh, G Bharathi, R Nandhakumar, D Nataraj
Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 199, 465-471 (2018)
46. [Interfacial Chemistry-Modified QD-Coupled CdTe Solid Nanowire and Its Hybrid with Graphene](#)
[Quantum Dots for Enhanced Photocurrent Properties](#)
Sellan Premkumar, Devaraj Nataraj, Ganapathi Bharathi, Oleg Yu Khyzhun, T Daniel Thangadurai
Chemistry Select 2, 10771-10781 (2017)
45. [Graphene Quantum Dot Solid Sheets: Strong blue-light-emitting & photocurrent-producing band-gap-opened nanostructures](#)
Ganapathi Bharathi, Devaraj Nataraj, Sellan Premkumar, Murugaiyan Sowmiya,
Kittusamy Senthilkumar, T Daniel Thangadurai, Oleg Yu Khyzhun, Mukul Gupta, Deodatta Phase,
Nirmalendu Patra, Shambhu Nath Jha, Dibyendu Bhattacharyya
Nature Scientific reports 7, 1-17 (2017)
44. [Phase transformation from \$\alpha\$ -Fe₂O₃ to Fe₃O₄ and LiFeO₂ by the self-reduction of Fe\(III\) in Prussian red in the presence of alkali hydroxides: investigation of the phase dependent morphological and magnetic properties](#)
K Palani Thiruppathi, Devaraj Nataraj
CrystEngComm 9, 6170-6181 (2017)
43. [Crystal structure and electronic properties of facile synthesized Cr₂O₃ nanoparticles](#)
S Rajagopal, M Bharaneswari, D Nataraj, OY Khyzhun, Yahia Djaoued
Materials Research Express 3, 095019 (2016)
42. [Systematic synthesis and analysis of change in morphology, electronic structure and photoluminescence properties of 2,2'-dipyridyl intercalated MoO₃ hybrid nanostructures and](#)

[investigation of their photocatalytic activity](#)

S Rajagopal, M Bharaneswari, D Nataraj, OY Khyzhun, Yahia Djaoued
RSC advances 6, 88287-88299 (2016)

41. [Iron oxide nanoparticles to an Indian major carp, Labeo rohita: Impacts on hematology, iono regulation and gill Na⁺/K⁺ ATPase activity](#)

Anand Sadanandan Remya, Mathan Ramesh, Manoharan Saravanan, Rama Krishnan Poopal,
Subramanian Bharathi, Devaraj Nataraj
Journal of King Saud University-Science 27, 151-160 (2015)

40. [Improved photocatalytic activity of ZnO coupled CuO nanocomposites synthesized by reflux condensation method](#)

K Mageshwari, D Nataraj, Tarasankar Pal, R Sathyamoorthy, Jinsub Park
Journal of Alloys and Compounds 625, 362-370 (2015)

39. [Synthesis and characterization of indium aluminate \(InAlO₃\) nanoparticles by wet chemical method](#)

[S Sathish, B Chandar Shekar, D Nataraj](#)

Advanced Powder Technology 25, 1007-1015 (2014)

38. [Controlled synthesis of MoO₃ microcrystals by subsequent calcination of hydrothermally grown](#)

[pyrazine-MoO₃ nanorod hybrids and their photodecomposition properties](#)

S Rajagopal, D Nataraj, O Yu Khyzhun, Yahia Djaoued, Jacques Robichaud, Chang-Koo Kim
Materials Chemistry and Physics 141, 383-392 (2013)

37. [Systematic investigation of the structure and photophysical properties of CdSe, CdSe/ZnS QDs and their hybrid with \$\beta\$ -carotene](#)

T Pazhanivel, VP Devarajan, G Bharathi, K Senthil, V Ganapathy, K Yong, D Nataraj
RSC advances 3, 26116-26126 (2013)

36. [Improved sensing performance from methionine capped CdTe and CdTe/ZnS quantum dots for the detection of trace amounts of explosive chemicals in liquid media](#)

T Pazhanivel, D Nataraj, VP Devarajan, V Mageshwari, K Senthil, D Soundararajan

Analytical Methods 5, 910-916 (2013)

35. [Magnetic properties of Cr doped ZnTe alloy powder](#)

DevarajSoundararajan, Devanesan Mangalaraj, Devaraj Nataraj, Lev Dorosinskii, Ki Hyeon Kim

Materials Letters 87, 113-116 (2012)

34. [Hot electron extraction from CdTe quantum dots via beta carotene molecular energy levels](#)

T Pazhanivel, D Nataraj, VP Devarajan, K Senthil, M Seol, K Yong

Applied Physics Letters 101, 261110 (2012)

33. [Biodegradability study and pH influence on growth and orientation of ZnO nanorods via aqueous solution process](#)

P Suresh Kumar, P Paik, A Dhayal Raj, D Mangalaraj, D Nataraj, A Gedanken, S Ramakrishna

Applied surface science 258, 6765-6771 (2012)

32. [Synthesis and characterization of nickel doped cadmium sulfide \(CdS: Ni²⁺\) nanoparticles](#)

M Elango, D Nataraj, K Prem Nazeer, M Thamilselvan

Materials Research Bulletin 47, 1533-1538 (2012)

31. [Bioactivity and mechanical properties of nickel-incorporated hydrogenated carbon nanocomposite thin films](#)

P Vijai Bharathy, D Nataraj, Q Yang, MSRN Kiran

Surface and interface analysis 44, 288-295 (2012)

30. [Reactive biased target ion beam deposited W-DLC nanocomposite thin films—Microstructure and its mechanical properties](#)

P Vijai Bharathy, Q Yang, MSRN Kiran, JongJoo Rha, D Nataraj, D Mangalaraj

Diamond and related materials 23, 34-43 (2012)

29. [Molecular conformation dependent emission behaviour \(blue, red and white light emissions\) of all-](#)

[trans- \$\beta\$ -carotene-ZnS quantum dot hybrid nanostructures](#)

V Perumal Devarajan, Devaraj Nataraj, Thangavelu Pazhanivel,
Karuppanan Senthil, Minsu Seol,
Kijung Yong, Justus Hermannsdorfer, Rhett Kempe
Journal of Materials Chemistry 22, 18454-18462 (2012)

28. [Enhanced super-hydrophobic and switching behavior of ZnO nanostructured surfaces prepared by simple solution-immersion successive ionic layer adsorption and reaction process](#)

P Suresh Kumar, J Sundaramurthy, D Mangalaraj, D Nataraj, D Rajarathnam, MP Srinivasan
Journal of colloid and interface science 363, 51-58 (2011)

27. [Influence of tungsten content in W-DLC nanocomposite thin films prepared by hybrid target biased ion beam assisted deposition technique](#)

P Vijai Bharathy, D Nataraj, D Mangalaraj, MSRN Kiran, J Silvestre-Albero, Q Yang
International Journal of Nanoscience 10, 851-855 (2011)

26. [Growth of hierarchical based ZnO micro/nanostructured films and their tunable wettability behavior](#)

P Suresh Kumar, A Dhayal Raj, D Mangalaraj, D Nataraj, N Ponpandian, Lin Li, G Chabrol
Applied surface science 257, 6678-6686 (2011)

25. [Structural, Compositional and Magnetic Studies on Zn_{1-x}Cr_xTe \(x= 0.05, 0.15\) Films Grown on GaAs \(100\) Substrates](#)

D Soundararajan, D Mangalaraj, D Nataraj, L Dorosinskii, J Santoyo-Salazar, K Senthil, JM Ko
Science of Advanced Materials 3, 80-88 (2011)

24. [Ferromagnetism in ZnTe: Cr film grown on Si \(1 0 0\)](#)

D Soundararajan, P Peranantham, D Mangalaraj, D Nataraj, L Dorosinskii, J Santoyo-Salazar, JM Ko
Journal of alloys and compounds 509, 80-86 (2011)

23. [Systematic synthesis and analysis of change in morphology, electronic structure and](#)

[photoluminescence properties of pyrazine intercalated MoO₃ hybrid nanostructures](#)

S Rajagopal, D Nataraj, O Yu Khyzhun, Yahia Djaoued, Jacques Robichaud, K Senthil, D Mangalaraj
CrystEngComm 13, 2358 - 2368 (2011)

22. [Effect of nickel incorporation on structural, nanomechanical and biocompatible properties of amorphous hydrogenated carbon thin films prepared by low energy biased target ion](#)

P VijaiBharathy, Yin-Yu Chang, D Nataraj, Q Yang, Sheng-Min Yang, D Mangalaraj, Lei Yang,
Thomas J Webster
Thin Solid Films 519, 1623-1628 (2010)

21. [Effect of titanium incorporation on the structural, mechanical and biocompatible properties of DLC thin films prepared by reactive-biased target ion beam deposition method](#)

P Vijai Bharathy, D Nataraj, Paul K Chu, Huaiyu Wang, Q Yang, MSRN Kiran, J Silvestre-Albero,
D Mangalaraj
Applied Surface Science 257, 143-150 (2010)

20. [Reducing gas response kinetics of nanostructured indium oxide thin films](#)

M Seetha, S Bharathi, D Mangalaraj, D Nataraj
Thin Solid Films 518, e125-e128 (2010)

19. [Hydrophobic ZnO nanostructured thin films on glass substrate by simple successive ionic layer absorption and reaction \(SILAR\) method](#)

P Suresh Kumar, A Dhayal Raj, D Mangalaraj, D Nataraj
Thin Solid Films 518, e183-e186 (2010)

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