

## PROFORMA FOR BIO-DATA

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3. Institution International Advanced Research Centre for  
Powder Metallurgy and New Materials, ARCI,
4. Date of Birth 07/11/1960
5. Gender (M/F/T) Male
6. Category Gen/SC/ST/OBC General
7. Whether differently abled (Yes / No) No

### 8. Academic Qualification (Undergraduate Onwards) :

	<b>Degree</b>	<b>Year</b>	<b>Subject</b>	<b>University/Institution</b>	<b>% of marks</b>
1.	B.Sc	1978	Maths and Physics	Madurai Kamaraj	83.6% (III Rank in Physics)
2.	M.Sc	1981	Physics	Madurai Kamaraj	79%
3.	M.Tech	1983	Materials Technology	Institute of Technology, Banaras Hindu University	9.2 GPA / First Rank
4.	Ph.D	1996	Physics (High Tc Superconductors)	Indian Institute of Technology, Madras	Best thesis Award at IIT Madras

5.	Ph.D. thesis title, Guide's Name, Institute / Organisation/ University, Year of Award Microstructural investigations and high critical current density melt textured High Tc YB <sub>2</sub> Cu <sub>3</sub> O <sub>7</sub> Superconductors, Guide: Prof. G. Rangarajan (Physics) and Prof. UV Raju (Materials Research Centre), Indian Institute of Technology, Madras, 1996				
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### 6. Professional Experience:

<b>S. No.</b>	<b>Position held</b>	<b>Name of the Institute</b>	<b>From</b>	<b>To</b>
1.	Regional Director	ARCI	Aug 2019	till date
2.	Adjunct Professor	Indian Institute of Technology, Madras	Mar 2016	till date
3.	Associate Director	International Advanced Research Centre for powder Metallurgy and New Materials, ARCI	Dec 2015	Aug. 2019
4.	Scientist G	International Advanced Research Centre for powder Metallurgy and New Materials, ARCI	Oct 2010	Dec. 2015
5.	Adjunct / Special Researcher	National Institute for Materials Science, NIMS	Aug 2008	Sept.2010
6.	Scientist B – Scientist F	Defence Metallurgical Research Lab, DRDO	Aug 1985	July 2008
7.	Visiting Scientist	National Institute for Materials Science, Japan	Aug. 2003	July 2005

<b>7. Professional Recognition / Award/ Prize/ Certificate, Fellowship received by the applicant.</b>		
<b>S. No.</b>	<b>Name of award</b>	<b>Awarding Agency</b>
1	The Honorary fellow of the Indian Society Analytical scientists	Indian Society Analytical scientists
2	IIM Honorary & Fellow	IIM Metallurgy & Materials Engineering
3	Fellow of National Academy of Engineers, INAE	Indian National Academy of Engineers
4	Elected fellow of Electron Microscope Society of India	Electron Microscope Society of India
5	Fellow of Telangana Academy of Sciences	Telangana Academy of Sciences
6	Elected Fellow, Chennai Academy of Sciences	Academy of Science, Chennai
7	Metallurgist of the Year Award	Ministry of Steel, Govt. of India
8	MRSI Medal award	Materials Research Society of India (MRSI)
9	National Excellence Award in Science & Technology	Indian Scientists for Analytical Society
10	Best paper award for publication in 'Nature'	Defence Metallurgical Research Laboratory (DRDO)
11	Best Ph.D thesis award in Physics (Prof Laskar Memorial Prize)	Indian Institute of Technology, Madras, Chennai
12	51 most impactful Green Leaders (Global list)	World CSR
13	51 Fabulous Global Green Leaders	World CSR
14	Vasvik Industrial Award in Material Engineering	Vasvik Trust
15	National Science Day (Sir CV Raman day) Medal Award	DMRL (DRDO)
16	DMRL (DRDO) Technology Award for Development of Sm <sub>2</sub> Co <sub>17</sub> magnets	Defence Metallurgical Research Laboratory (DRDO)
17	Cited at NIMS, Japan as one of the 21 achievements in 21st Century (for contribution to nano composite magnets	NIMS, Japan
18	UNESCO science citation recognition to give study support in Asia	UNESCO Australia study group
19	MRSI best poster award	Materials Research Society of India (MRSI)
20	International Advisory Committee Member for Rare Earth Magnets	REPM
21	International Programme Committee Member for MMM conferences at Pittsburgh, USA and at Las Vegas, USA	USA
22	Advisory Committee Member	TIDCO Nano science & Technology, TamilNadu Govt.
23	Member	Board of Studies, PSG college of Technology, Coimbatore
24	Member	Board of Research , Hindustan University, Chennai
25	Member, Steering Committee on Energy Storage	TIFAC, New Delhi
26	Member Invitee – "The Consultative Group on Future Transportation System"	PSA Office, Govt. of India
27	I Rank in M.Tech (Materials Technology)	Banaras Hindu University, Varanasi

#### **8. Projects executed / executing:**

<b>Year of Funding</b>	<b>Sponsoring Organization</b>	<b>Title of Project</b>	<b>Amount of Grant (Rs. In lakhs)</b>
2018	BRICS- DST	Development of third generation rare earth permanent magnets Sm-Fe-N	40.00
2017	MHRD-DST	IMPRINT project on Polymer Thermoelectric materials	300.00
2017	Nano Mission, DST	National facility for Atom Probe Tomography	2500.00
2015	DST	Setting up a Technical Research Centre on Alternate Energy Materials & Systems	9154.00
2011	Nano Mission, DST	Thematic unit on Nano materials for automotive applications	1200.00
2011	DST-SERB	Development of Li-ion battery for electric vehicle applications	2000.00
2005	DRDO	Development of Advanced Magnetic Materials	3000.00
2003	MTRDC(DRDO)	Dev. Of SmCo <sub>5</sub> magnets for travelling wave tube applications	25.00
2001	DRDL-RCI-HAL(K)	Dev. Of radial rings SmCo magnets for Prithivi Missile	20.00
2000	VSSC	Specialty SmCo <sub>5</sub> magnets for Space Craft applications	25.00
1996	DRDL	Development of indigenous materials for Prithvi Missile Gyro applications	35.00
1992	DST	High critical current Density high T <sub>c</sub> superconductors	20.00

9. **Publications (List of papers published in SCI Journals, in year wise descending order)**  
(Google Scholar Citation index: h-index 26, i10-index 65)

1.	Sonia Sharma, Meghna Narayanan, Ravi Gautam, <b>R Gopalan</b> , P Swaminathan "Effect of processing route on the structural and functional properties of manganese doped zinc oxide", <b>Journal of Materials Chemistry and Physics, Vol. pp. 124206, 2020 (in press)</b>
2.	B Jayachandran, B Prasanth, <b>R Gopalan</b> , T Dasgupta, D Sivaprahasam, "Thermally stable, low resistance Mg <sub>2</sub> Si <sub>0.4</sub> Sn <sub>0.6</sub> /Cu thermoelectric contacts using SS 304 interlayer by one step sintering", <b>Journal of Materials Research Bulletin, Vol.136, pp. 111147, 2020</b>
3.	VV Ramakrishna, S Kavita, T Ramesh, Ravi Gautam, <b>R Gopalan</b> , "On the Structural and Magnetic Properties of Mn-Bi Alloy Jet Milled at Different Feed Rates", <b>Journal of Superconductivity and Novel Magnetism, Vol. pp.1-5, 2020</b>
4.	Sumit Ranjan Sahu, Vallabha Rao Rikka, Prathap Haridoss, Abhijit Chatterjee, <b>R Gopalan</b> , Raju Prakash, "Lithium-Ion Batteries: A Novel $\alpha$ -MoO <sub>3</sub> /Single-Walled Carbon Nanohorns Composite as High-Performance Anode Material for Fast-Charging Lithium-Ion Battery", <b>Journal of Advanced Energy Materials, Vol.10 (36) pp.2070151, 2020</b>
5.	Kumari Konda, Sahana B Moodakare, Jyoti R Seth, Vinay A Juvekar, <b>R Gopalan</b> , "Optimization of Anode Slurry Preparation and Its Performance Evolution in Lithium-Ion Batteries", <b>Journal of ECS Meeting Abstracts, Vol.1 (4), pp.522, 2020.</b>
6.	P. Laxman Mani Kanta, M. Venkatesh, Satyesh Kumar Yadav, Bijoy Kumar Das, <b>R. Gopalan</b> , "Scalable Synthesis and Kinetic Studies of Carbon Coated Sodium Titanate: A Promising Ultra-low Voltage Anode for Sodium Ion Battery", <b>Journal of Transactions of the Indian National Academy of Engineering, Vol. No.5 PP.475-483, 2020.</b>
7.	DA Kolodkin, AG Popov, AV Protasov, VS Gaviko, D Yu Vasilenko, S Kavita, D Prabhu, <b>R Gopalan</b> , "Magnetic properties of Sm <sub>2</sub> + $\alpha$ Fe <sub>17</sub> Nx powders prepared from bulk and strip-cast alloys", <b>Journal of Magnetism and Magnetic Materials, Vol. 518, 15 January 2021, 167416, 2020.</b>
8.	Sumit Ranjan Sahu, Vallabha Rao Rikka, Prathap Haridoss, Abhijit Chatterjee, <b>R Gopalan</b> , Raju Prakash, "Lithium-Ion Batteries: A Novel $\alpha$ -MoO <sub>3</sub> /Single-Walled Carbon Nanohorns Composite as High-Performance Anode Material for Fast-Charging Lithium-Ion Battery", <b>Journal of Advanced Energy Materials, Vol.10 (36), pp.2070151, 2020.</b>
9.	Kumari Konda, Sahana B Moodakare, P Logesh Kumar, Manjusha Battabyal, Jyoti R Seth, Vinay A Juvekar, <b>Raghavan Gopalan</b> , "Comprehensive effort on electrode slurry preparation for better electrochemical performance of LiFePO <sub>4</sub> battery" <b>Journal of Power Sources, Vol.480, pp- 228837, 2020</b>
10.	Ravi Gautam, Roja Rani, D Prabhu, V Chandrasekaran, Taisuke Sasaki, K Hono, G Sundararajan, <b>R Gopalan</b> , "Effect of recovery and recrystallization on microstructure and magnetic properties of Fe-0.4P rolled sheets", <b>Journal of Materialia, Vol.13, September 2020, 100863</b>
11.	Sumit Ranjan Sahu, Vallabha Rao Rikka, Prathap Haridoss, Abhijit Chatterjee, <b>R Gopalan</b> , Raju Prakash, "A Novel $\alpha$ -MoO <sub>3</sub> /Single-Walled Carbon Nanohorns Composite as High-Performance Anode Material for Fast-Charging Lithium-Ion Battery", <b>Journal of Advanced Energy Materials, Vol. pp. 2001627, 2020</b>
12.	S Kavita, VV Ramakrishna, Shruti Behra, S Suganthi, Debendra Nath Kar, Tiju Thomas, T Ramesh, K Sethupathi, <b>R Gopalan</b> , "Investigation of magnetocaloric and mechanical properties of Ni <sub>49-x</sub> Mn <sub>39</sub> Sb <sub>12</sub> Co <sub>x</sub> alloys", <b>Journal of Alloys and Compounds, Vol.847, pp.156558, December 2020</b>
13.	Sasikala Natarajan, Sahana B Moodakare, Prathap Haridoss, <b>Raghavan Gopalan</b> "Concentration Gradient Driven Aluminium Diffusion in a Single Step Co-precipitation of Compositionally Graded Precursor for LiNi <sub>0.8</sub> Co <sub>0.135</sub> Al <sub>0.065</sub> O <sub>2</sub> with Mitigated Irreversibility of H <sub>2</sub> ↔H <sub>3</sub> Phase Transition". <b>Journal of ACS Applied Materials &amp; Interfaces, Vol. pp- 2020</b>
14.	B Prasanth, B Jayachandran, Neha Hebalkar, <b>R Gopalan</b> , SB Chandrasekhar, D Sivaprahasam "Improved thermal stability of thermoelectric Mg <sub>2</sub> Si <sub>0.4</sub> Sn <sub>0.6</sub> " <b>Journal of Materials Letters, Vol.276. pp-128-204, 2020</b>
15.	Manjusha Battabyal, Karthiselva NS, P Rajesh, <b>Raghavan Gopalan</b> "Pressure induced enhancement in the thermoelectric and mechanical properties of Ni-doped skutterudites during spark plasma sintering" <b>Journal of Materials Research Innovations, Vol. pp- 1-6, 2020 (12.06.2020)</b>
16.	AG Popov, OA Golovnia, VS Gaviko, D Yu Vasilenko, D Yu Bratushev, VI Nithin Balaji, A Kovács, KG Pradeep, <b>R Gopalan</b> , "Development of high-coercivity state in high-energy and high-temperature Sm-Co-Fe-Cu-Zr magnets upon step cooling", <b>Journal of Alloys and Compounds, Vol.820, pp-153103, 2020</b>
17.	S Kavita, G Anusha, Pramod Bhatt, V Suresh, R Vijay, K Sethupathi, <b>R Gopalan</b> "On the giant magnetocaloric and mechanical properties of Mn-Fe-P-Si-Ge alloy", <b>Journal of Alloys and Compounds, Vol. 817 pp-153232, 2020</b>
18.	Vaddi Venkata Narasimha Phanikumar, Boyapati Venkata Appa Rao, Kauveri Vengatajalabathy Gobi, <b>R Gopalan</b> , Raju Prakash, "A Sustainable Tamarind Kernel Powder Based Aqueous Binder for Graphite Anode in Lithium-Ion Batteries", <b>Journal of Chemistry Select, Vol.5(3), pp-1199-1208, 2020</b>
19.	Vallabha Rao Rikka, Sumit Ranjan Sahu, Ashok Roy, Sambhu Nath Jana, Duraisamy Sivaprahasam, Raju Prakash, <b>R. Gopalan</b> , Govindan Sundararajan "Tailoring micro resistance spot welding parameters for joining nickel tab to inner aluminium casing in a cylindrical lithium ion cell and its influence on the electrochemical performance", <b>Journal of Manufacturing Processes, Vol.49, pp-463-471, 2020.</b>

20.	Ravi Gautam, D Prabhu, V Chandrasekaran, <b>R Gopalan</b> , G. Sundararajan "Influence of nanoprecipitates, solid solution and grain size on the magnetic and electrical properties of Fe-P-Si alloys", <b>Journal of Magnetism and Magnetic Materials, Vol.493, pp- 165743, 2020.</b>
21.	D Kolodkin, A Popov, A Protasov, V Gaviko, S Kavita, DB Prabhu, <b>R Gopalan</b> , "Effect of solid solution treatment and nitrogenation on magnetic properties of Sm <sup>2+</sup> αFe <sub>17</sub> N <sub>x</sub> powders", <b>Journal of Physics: Conference Series, Vol.1389 (1), pp-012-125, 2019</b>
22.	Subramani Bhuvaneshwari, U.V. Varadaraju, <b>R. Gopalan</b> , Raju Prakash, "Sc-doping induced cation-disorder in LiNi <sub>0.5</sub> Mn <sub>1.5</sub> O <sub>4</sub> spinel leading to improved electrochemical performance as cathode in lithium ion batteries", <b>Electro Chimica Acta, Vol.327, 135008, 2019</b>
23.	Sumit Ranjan Sahu, Vallabha Rao Rikka, M Jagannatham, Prathap Haridoss, Abhijit Chatterjee, <b>R Gopalan</b> , Raju Prakash "A novel synthesis of graphene sheets from single walled carbon nanohorns", <b>IOP Science (Accepted Manuscript)</b>
24.	S Bhuvaneshwari, UV Varadaraju, <b>R Gopalan</b> , R Prakash, "Structural stability and superior electrochemical performance of Sc-doped LiMn <sub>2</sub> O <sub>4</sub> spinel as cathode for lithium ion batteries", <b>Electro Chimica Acta, Vol.301, pp.342-351, 2019</b>
25.	PV Midhunlal, J Arout Chelvane, D Prabhu, <b>R Gopalan</b> , "Mn <sub>2</sub> V <sub>0.5</sub> Co <sub>0.5</sub> Z (Z= Ga, Al) Heusler alloys: High T <sub>c</sub> compensated P-type ferrimagnetism in arc melted bulk and N-type ferrimagnetism in melt-spun ribbons", <b>Journal of Magnetism and Magnetic Materials, Vol. 489, pp.165-298, 2019</b>
26.	C Xu, H Wang, TL Zhang, A Popov, <b>R Gopalan</b> , CB Jiang, "Correlation of microstructure and magnetic properties in Sm(Co <sub>0.9</sub> Fe <sub>0.1</sub> Cu <sub>0.1</sub> Zr <sub>0.03</sub> ) <sub>6.93</sub> magnets solution-treated at different temperatures", <b>Rare Metals, 38 (1), 20-28, 2019</b>
27.	AG Popov, VS Gaviko, VV Popov, OA Golovnia, AV Protasov, EG Gerasimov, AV Ogurtsov, MK Sharin, <b>R Gopalan</b> , "Structure and Magnetic Properties of Heat-Resistant Sm(Co <sub>0.796-x</sub> Fe <sub>0.177</sub> Cu <sub>x</sub> Zr <sub>0.027</sub> ) <sub>6.63</sub> Permanent Magnets with High Coercivity", <b>JOM, Vol.71 (2), pp.559-566, 2019</b>
28.	VVN Phanikumar, Vallabha Rao Rikka, Bijoy Das, <b>R Gopalan</b> , BV Appa Rao, Raju Prakash, "Investigation on polyvinyl alcohol and sodium alginate as aqueous binders for lithium-titanium oxide anode in lithium-ion batteries", <b>Ionics, Vol. 25, pp.2549-2561, 2019</b>
29.	B Jayachandran, <b>R Gopalan</b> , T Dasgupta, D Sivaprahasam, "Elevated Temperature Behavior of CuPb <sub>18</sub> SbTe <sub>20</sub> /Nano-Ag/Cu Joints for Thermoelectric Devices", <b>Journal of Electronic Materials Vol.48 (2), pp.1276-1285, 2019</b>
30.	S Kavita, VV Ramakrishna, Poonam Yadav, Sravani Kethavath, NP Lalla, Tiju Thomas, Pramod Bhatt, <b>R Gopalan</b> , "Enhancement of martensite transition temperature and inverse magnetocaloric effect in Ni <sub>43</sub> Mn <sub>47</sub> Sn <sub>11</sub> alloy with B doping", <b>Journal of Alloys and Compounds, Vol. 795, pp.519-527, 2019</b>
31.	Deepak Kumar Dinkar, Mithun Palit, <b>R Gopalan</b> , Bijoy Das "Magnetocaloric properties and critical exponents in anti-PbFCI type ZnMnSb room temperature ferromagnet prepared via different routes" <b>Journal of Magnetism and Magnetic Materials Vol. 489, 165437, 2019</b>
32.	D Sivaprahasam, SB Chandrasekhar, S Kashyap, Ashutosh Kumar, <b>R Gopalan</b> , "Thermal conductivity of nanostructured Fe <sub>0.04</sub> Co <sub>0.96</sub> Sb <sub>3</sub> skutterudite", <b>Materials Letters, Materials Letters, Vol. 252, pp.231-234, 2019</b>
33.	AR Dilipan, AK Srinithi, Ravi Gautam, U Gowtham, D Prabhu, V Chandrasekaran, <b>R Gopalan</b> , "Microstructure and Magnetic Properties of Anisotropic Strontium Hexaferrite Powders", <b>IEEE Transactions on Magnetics, Vol.55 (8) pp.1-5, 2019</b>
34.	Bijoy Kumar Das, <b>R Gopalan</b> "Intercalation-based Layered Materials for Rechargeable Sodium-ion Batteries" <b>Journal Layered Materials for Energy Storage and Conversion, Vol.34, pp.71, 2019</b>
35.	Keerthana Muthamilselvan, M Mayarani, G Mohan Muralikrishna, Manjusha Battabyal, <b>R Gopalan</b> , "Tuning the optical and thermoelectric properties of SrTiO <sub>3-x</sub> SnO <sub>2</sub> 2FexO <sub>3</sub> ", <b>Materials Research Express, Materials Research Express, Vol. 6, pp.045-905, 2019</b>
36.	A.G. Popov, O.A. Golovnia, A.V.Protasov, V.S.Gaviko, D.A.Kolodkin, <b>R. Gopalan</b> , "Coercivity kinetics upon step annealing of sintered Sm(Co <sub>0.88-x</sub> FexCu <sub>0.09</sub> Zr <sub>0.03</sub> ) <sub>7</sub> magnets (Текст)" <b>Journal of Earths, Vol.37, pp-1059-1065, 2019</b>
37.	B Priyadarshini, M Battabyal, D Das, AC Bose, <b>R Gopalan</b> , "Tuning of Mg content to enhance the thermoelectric properties in binary Mg <sub>2</sub> +δSi (δ=0, 0.1,0.15,0.2)", <b>Materials Research Express, 2019, Vol.6 (12), pp-125-519</b>
38.	A Kumar, M Battabyal, A Chauhan, G Suresh, <b>R Gopalan</b> , DK Satapathy, "Charge transport mechanism and thermoelectric behavior in Te:(PEDOT: PSS) polymer composites", <b>Materials Research Express, Vol. 6 (11), pp.115-302, 2019</b>
39.	S Ranjan Sahu, V Rao Rikka, P Haridoss, <b>R Gopalan</b> , R Prakash, "Superior Cycling and Rate Performance of Micron-Sized Tin Using Aqueous-Based Binder as a Sustainable Anode for Lithium-Ion Batteries", <b>Energy Technology, Vol.7, pp.190-849, 2019</b>
40.	SR Sahu, VR Rikka, P Haridoss, <b>R Gopalan</b> , R Prakash, "Effect of Carbon Nanohorns on the Electrochemical Performance of Orthorhombic, Hexagonal and Monoclinic Tungsten Trioxide Nanoplatelets As High-Energy Anode Material for Lithium", <b>Meeting Abstracts, Issue 4, pp. 492-492, Vol. 2019</b>

41.	PV Midhunlal, JA Chelvane, D Prabhu, <b>R Gopalan</b> , "Mn <sub>2</sub> V <sub>0.5</sub> Co <sub>0.5</sub> Z (Z= Ga, Al) Heusler alloys: Fully compensated ferrimagnets with high T <sub>c</sub> and compensation temperature", <b>arXiv preprint arXiv:1812.00714, Vol.489, pp.165-298, 2019</b>
42.	Duraisamy Sivaprahasam, Subramaniam Harish, <b>R Gopalan</b> , Govindhan Sundararajan "Automotive Waste Heat Recovery by Thermoelectric Generator Technology" <b>Journal Bringing Thermoelectricity into Reality, pp.163, 2018.</b>
43.	DK Dinkar, B Das, <b>R Gopalan</b> , BS Dehiya, "Effects of surfactant on the structural and magnetic properties of hydrothermally synthesized NiFe <sub>2</sub> O <sub>4</sub> nanoparticles", <b>Materials Chemistry and Physics, Vol. 218, pp.70-76, 2018</b>
44.	AG Popov, OA Golovnia, AV Protasov, VS Gaviko, <b>R Gopalan</b> , C Jiang, T Zhang, "Peculiar Kinetics of Coercivity of Sintered Sm(Co <sub>0.78</sub> Fe <sub>0.10</sub> Cu <sub>0.10</sub> Zr <sub>0.02</sub> ) <sub>7</sub> Magnet Upon Slow Cooling", <b>IEEE Transactions on Magnetism, Vol. 54 (6), pp.1-7, 2018</b>
45.	Vallabha Rao Rikka, Sumit Ranjan Sahu, Abhijit Chatterjee, Parlapalli Venkata Satyam, Raju Prakash, MS Ramachandra Rao, <b>R Gopalan</b> , Govindan Sundararajan, "In Situ/ex Situ Investigations on the Formation of the Mosaic Solid Electrolyte Interface Layer on Graphite Anode for Lithium-Ion Batteries", <b>The Journal of Physical Chemistry C, Vol. 122 (50), pp.28717-28726, 2018</b>
46.	Sumit Ranjan Sahu, D Parimala Devi, VVN Phanikumar, T Ramesh, N Rajalakshmi, G Praveena, R Prakash, Bijoy Das, <b>R Gopalan</b> , "Tamarind seed skin-derived fiber-like carbon nanostructures as novel anode material for lithium-ion battery", <b>Ionics, Vol. 24 (11), pp.3413-3421, 2018</b>
47.	Pavana SV Mocherla, D Prabhu, MB Sahana, Neha Y Hebalkar, <b>R Gopalan</b> , MS Ramachandra Rao, C Sudakar, "High temperature magnetic studies on Bi <sub>1-x</sub> Ca <sub>x</sub> Fe <sub>1-y</sub> Ti <sub>y</sub> O <sub>3-δ</sub> nanoparticles: Observation of Hopkinson-like effect above T <sub>N</sub> ", <b>Journal of Applied Physics, Vol. 124 (7), pp.073-904, 2018</b>
48.	VV Ramakrishna, S Kavita, R Gautam, T Ramesh, <b>R Gopalan</b> , "Investigation of structural and magnetic properties of Al and Cu doped MnBi alloy", <b>Journal of Magnetism and Magnetic Materials, Vol. 458, pp.23-29, 2018</b>
49.	S Natarajan, SB Moodakare, V Shanmugam, P Haridoss, <b>R Gopalan</b> , "Infrared Spectroscopy Signatures of Aluminum Segregation and Partial Oxygen Substitution by Sulfur in LiNi <sub>0.8</sub> Co <sub>0.15</sub> Al <sub>0.05</sub> O <sub>2</sub> ", <b>ACS Applied Energy Materials, Vol. 1 (6), pp.2536-2545, 2018</b>
50.	Manjusha Battabyal, Priyadarshini Balasubramanian, PM Geethu, L Pradiptkanti, Dillip K Satapathy, <b>R Gopalan</b> , "Tailoring the optical phonon modes and dielectric properties of nanocrystalline SrTiO <sub>3</sub> via Yb doping", <b>Materials Research Express, Vol. 5 (4), pp.046-301, 2018</b>
51.	Vikrant Trivedi, Manjusha Battabyal, Priyadarshini Balasubramanian, G Mohan Muralikrishna, Pawan Kumar Jain, <b>R Gopalan</b> , "Microstructure and doping effect on the enhancement of the thermoelectric properties of Ni doped Dy filled CoSb <sub>3</sub> skutterudites", <b>Sustainable Energy &amp; Fuels, Vol. 2 (12), pp.2687-2697, 2018</b>
52.	PV Midhunlal, J Arout Chelvane, D Prabhu, <b>R Gopalan</b> , "Near total magnetic moment compensation with high curie temperature in Mn <sub>2</sub> V <sub>0.5</sub> Co <sub>0.5</sub> Z (Z= Ga, Al) Heusler alloys <b>Journal of Physics D: Applied Physic, Vol.51(7), pp.075002, 2018</b>
53.	Pavana SV Mocherla, MB Sahana, Ehab Abdelhamid, Debarati Hajra, B Nadgorny, R Naik, <b>R Gopalan</b> , MS Rao, BRK Nanda, C Sudakar, "Microstrain induced deviation from Néel's 1/d behaviour: Size-dependent magnetization in Bi <sub>1-x</sub> Ca <sub>x</sub> Fe <sub>1-y</sub> Ti <sub>y</sub> O <sub>3-δ</sub> nanoparticles", <b>arXiv preprint arXiv:1703.07190, 2017</b>
54.	K Dhanapal, D Prabhu, <b>R Gopalan</b> , V Narayanan, A Stephen, "Role of Cu layer thickness on the magnetic anisotropy of pulsed electrodeposited Ni/Cu/Ni tri-layer", <b>Materials Research Express, Vol. 4 (7), pp.075-040, 2017</b>
55.	M Sathiyaraj, J Thomas, D Batuk, V Pimenta, <b>R Gopalan</b> , JM Tarascon, "Dual Stabilization and Sacrificial Effect of Na <sub>2</sub> CO <sub>3</sub> for Increasing Capacities of Na-Ion Cells Based on P <sub>2</sub> -Na <sub>x</sub> MO <sub>2</sub> Electrodes", <b>Chemistry of Materials, Vol. 29 (14), 5948-5956, 2017</b>
56.	Pavana SV Mocherla, MB Sahana, <b>R Gopalan</b> , MS Ramachandra Rao, BRK Nanda, C Sudakar, "Microstrain engineered magnetic properties in Bi <sub>1-x</sub> Ca <sub>x</sub> Fe <sub>1-y</sub> Ti <sub>y</sub> O <sub>3-δ</sub> nanoparticles: deviation from Néel's 1/d size-dependent magnetization behaviour", <b>Materials Research Express, Vol. 4 (10), 1pp.06-106, 2017</b>
57.	S Vasu, MB Sahana, C Sudakar, <b>R Gopalan</b> , G Sundararajan, "In-situ carbon encapsulation of LiNi <sub>1/3</sub> Co <sub>1/3</sub> Mn <sub>1/3</sub> O <sub>2</sub> using pillared ethylene glycol trapped in the metal hydroxide interlayers for enhanced cyclic stability", <b>Electrochimica Acta, Vol. 251, pp.363-377, 2017</b>
58.	Sumit Ranjan Sahu, Vallabha Rao Rikka, M Jagannatham, Prathap Haridoss, Abhijit Chatterjee, R Gopalan and Raju Prakash, "Synthesis of graphene sheets from single walled carbon nanohorns: novel conversion from cone to sheet morphology", <b>Journal of Materials Research express, Vol. 4, pp.3, 2017</b>
59.	R Gautam, D Prabhu, V Chandrasekaran, <b>R Gopalan</b> , G Sundararajan, "Effect of Si addition on AC and DC magnetic properties of (Fe-P)-Si alloy", <b>AIP Advances, Vol. 6 (5), pp.055-921, 2016</b>
60.	Vallabha Rao Rikka, Sumit Ranjan Sahu, Rajappa Tadepalli, Ravi Bathe, Thyagarajan Mohan, Raju Prakash, Gade Padmanabham, <b>R Gopalan</b> , "Microstructure and mechanical properties of pulse laser welded stainless steel and aluminum alloys for lithium-ion cell casings", <b>J Mater Sci Eng B, Vol. 6 (9-10), pp.218-225, 2016</b>
61.	S Harish, D Sivaprahasam, M Battabyal, <b>R Gopalan</b> , "Phase stability and thermoelectric properties of Cu <sub>10</sub> .5Zn <sub>1</sub> .5Sb <sub>4</sub> S <sub>13</sub> tetrahedrite", <b>Journal of Alloys and Compounds, Vol. 667, pp.323-328, 2016</b>
62.	S Kavita, VV Ramakrishna, A Srinivasan, <b>R Gopalan</b> , "Structural and magnetic properties of the low temperature

	phase MnBi with ball milling”, <b>Materials Research Express, Vol. 3 (5), pp.056-102, 2016</b>
63.	M Battabyal, B Priyadarshini, L Pradipkanti, DK Satapathy, <b>R Gopalan</b> , “Phase stability and lattice thermal conductivity reduction in CoSb <sub>3</sub> skutterudites, doped with chalcogen atoms”, <b>Aip Advances, Vol. 6 (7), pp.075-308, 2016</b>
64.	P Balasubramanian, M Battabyal, D Sivaprahasam, <b>R Gopalan</b> , “On the formation of phases and their influence on the thermal stability and thermoelectric properties of nanostructured zinc antimonide”, <b>Journal of Physics D: Applied Physics, Vol. 50 (1), pp.015602, 2016</b>
65.	S Koppoju, V Chandrasekaran, <b>R Gopalan</b> , “52.7 kOe high coercivity in Sm(Co <sub>0.9</sub> Cu <sub>0.1</sub> ) <sub>4.8</sub> melt-spun ribbons”, <b>AIP Advances, Vol.5 (7), 077118, 2015</b>
66.	Koppoju Suresh, <b>R Gopalan</b> , AK Singh, G Bhikshamaiah, V Chandrasekaran, K Hono, “Corrigendum to “Coercivity of Sm (Co <sub>0.9</sub> Cu <sub>0.1</sub> ) <sub>4.8</sub> melt-spun ribbons”, [J. Alloys Compd. 436 (2007) 358–363] & <b>Journal of Alloys and Compounds 100 (641), pp.162, 2015</b>
67.	S Jafari, A Beitollahi, Yekta B Eftekhari, T Ohkubo, <b>R Gopalan</b> , G Herzer, K Hono, “The Effect of Phosphorous on Microstructure and Magnetic Properties of Fe Based Alloys”, <b>Journal of Metallurgical And Materials Engineering (Journal of School of Engineering), Vol.26, pp.85-97, 2015</b>
68.	S Kavita, UMR Seelam, D Prabhu, <b>R Gopalan</b> , “On the temperature dependent magnetic properties of as-spun Mn–Bi ribbons”, <b>Journal of Magnetism and Magnetic Materials, Vol. 377, pp.485-489, 2015</b>
69.	M Battabyal, B Priyadarshini, D Sivaprahasam, NS Karthiselva, <b>R Gopalan</b> , “The effect of Cu <sub>2</sub> O nanoparticle dispersion on the thermoelectric properties of n-type skutterudites”, <b>Journal of Physics D: Applied Physics Vol.48 (45), pp.455309, 2015</b>
70.	Medha Veligatla, Shravana Katakam, Santanu Das, Narendra Dahotre, <b>R Gopalan</b> , D Prabhu, D Arvindha Babu, Haein Choi-Yim, Sundeep Mukherjee, “Effect of iron on the enhancement of magnetic properties for cobalt-based soft magnetic metallic glasses”, <b>Metallurgical and Materials Transactions A, Vol. 46 (3), pp.1019-1023, 2015</b>
71.	SK Manna, DB Prabhu, <b>R Gopalan</b> , V Srinivas, “AC Magnetic Properties and Core Loss Behavior of Fe–P Soft Magnetic Sheets”, <b>IEEE Transactions on Magnetism, Vol.50 (11), pp.1-4, 2014</b>
72.	EH Mohan, V Siddhartha, <b>R Gopalan</b> , TN Rao, D Rangappa, “Urea and sucrose assisted combustion synthesis of LiFePO <sub>4</sub> /C nano-powder for lithium-ion battery cathode application”, <b>AIMS Materials Science 1 (4), 191-201, 2014</b>
73.	D Rangappa, EH Mohan, V Siddhartha, <b>R Gopalan</b> , TN Rao, “Preparation of LiMn <sub>2</sub> O <sub>4</sub> Graphene Hybrid Nanostructure by Combustion Synthesis and Their Electrochemical Properties”, <b>Material Science, Vol. 1, pp.174-183, 2014</b>
74.	S Anandan, TN Rao, <b>R Gopalan</b> , Y Ikuma, “Fabrication of visible-light-driven N-doped ordered mesoporous TiO <sub>2</sub> photocatalysts and their photocatalytic applications”, <b>Journal of nanoscience and nanotechnology, Vol. 14 (4), pp.3181-3186, 2014</b>
75.	Subramani Bhuvanewari, Parakandy Muzhikara Pratheeksha, Srinivasan Anandan, Dinesh Rangappa, <b>R Gopalan</b> , Tata Narasinga Rao, “Efficient reduced graphene oxide grafted porous Fe <sub>3</sub> O <sub>4</sub> composite as a high performance anode material for Li-ion batteries”, <b>Physical Chemistry Chemical Physics, Vol. 16 (11), pp.5284-5294, 2014</b>
76.	MB Sahana, S Vasu, N Sasikala, S Anandan, H Sepehri-Amin, C Sudakar, <b>R Gopalan</b> , “Raman spectral signature of Mn-rich nanoscale phase segregations in carbon free LiFe <sub>1-x</sub> Mn <sub>x</sub> PO <sub>4</sub> prepared by hydrothermal technique”, <b>RSC Advances 4 (110), pp.64429-64437, 2014</b>
77.	S Malleth, S Kavita, <b>R Gopalan</b> , V Srinivas, “On the Question of Thermal Stability and Magnetic Properties of Mn <sub>0.6</sub> Zn <sub>0.4</sub> Fe <sub>2</sub> O <sub>4</sub> Nanoparticles Prepared by Sol-Gel Method”, <b>IEEE Transactions on Magnetism, Vol. 50 (11), pp.1-4, 2014</b>
78.	S Jafari, A Beitollahi, B EftekhariYekta, Keiu Kanada, T Ohkubo, <b>R Gopalan</b> , Giselher Herzer, K Hono, “Microstructural and magnetic properties study of Fe–P rolled sheet alloys”, <b>Journal of Magnetism and Magnetic Materials, Vol. 358, pp.38-43, 2014</b>
79.	SB Chandrasekhar, D Prabhu, M Gopinath, V Chandrasekaran, M Ramakrishna, V Uma, <b>R Gopalan</b> , “High saturation magnetization in Fe–0.4 wt% P alloy processed by a two-step heat treatment”, <b>Journal of Magnetism and Magnetic materials, Vol.345, pp.239-242, 2013</b>
80.	NVR Rao, <b>R Gopalan</b> , V. Chandrasekaran, KG Suresh, “Large low-field inverse magnetocaloric effect near room temperature in Ni <sub>50-x</sub> Mn <sub>37+x</sub> In <sub>13</sub> Heusler alloys” <b>Applied Physics A, Vol.99(1), pp.265-70, 2010</b>
81.	B Rajini Kanth, NV Ramarao, AK Panda, <b>R Gopalan</b> , A Mitra, PK Mukhopadhyay, “Effect of annealing on the martensitic transformation of a CoNiAl ferromagnetic shape memory alloy”, <b>Journal of Alloys and Compounds Vol. 491 (1-2), pp.22-25, 2010</b>
82.	A Srinivas, T Karthik, <b>R Gopalan</b> , V Chandrasekaran, “Improved magnetoelectricity by uniaxial magnetic field pressed and sintered composites in BaTiO <sub>3</sub> (x)–BaFe <sub>12</sub> O <sub>19</sub> (1– x) system (x= 0.8, 0.6)”, <b>Materials Science and Engineering: B Vol.172 (3), pp.289-293, 2010</b>
83.	DM Rajkumar, M Manivel Raja, <b>R Gopalan</b> , AK Singh, V Chandrasekaran, KG Suresh, “Effect of Fe addition on microstructure and magnetocaloric effect in Gd <sub>5</sub> Si <sub>x</sub> Ge <sub>3-9-x</sub> Fe <sub>0.1</sub> alloys with varying Si/Ge ratio”, <b>Intermetallics, Vol.18 (4), pp.518-522, 2010</b>
84.	<b>R Gopalan</b> , T Ohkubo, K Hono, “High coercivity FePt–C bulk magnet processed by spark plasma sintering and hot deformation”, <b>Journal of Magnetism and Magnetic Materials Vol.322 (21), pp.3423-3427, 2010</b>

85.	K Suresh, <b>R Gopalan</b> , DV Sridhara Rao, AK Singh, G Bhikshamaiah, K Muraleedharan, V Chandrasekaran, "Microstructure and coercivity variation in melt-spun Sm–Co–Fe–Zr ribbons", <b>Intermetallics Vol.18 (11), pp.2244-2249, 2010</b>
86.	I Babita, <b>R Gopalan</b> , S Ram, "Magnetic, phase transformation and magnetocaloric studies in ferromagnetic Ni <sub>55</sub> Mn <sub>20</sub> Ga <sub>25</sub> Heusler alloy", <b>Journal of Physics: Conference Series Vol.144 (1), pp.012066, 2009</b>
87.	NV Rama Rao, <b>R Gopalan</b> , J Arout Chelvane, V Chandrasekaran, KG Suresh, "Coupled magnetostructural transformations in melt-spun ribbon: An electron spin resonance study", <b>Journal of Applied Physics, Vol. 105 (12), pp.123904, 2009</b>
88.	<b>R Gopalan</b> , K Hono, A Yan, O Gutfleisch, "Direct evidence for Cu concentration variation and its correlation to coercivity in Sm (Co <sub>0.74</sub> Fe <sub>0.1</sub> Cu <sub>0.12</sub> Zr <sub>0.04</sub> ) <sub>7.4</sub> ribbons", <b>Scripta Materialia, Vol. 60 (9), pp.764-767, 2009</b>
89.	P Saravanan, <b>R Gopalan</b> , D Sivaprahasam, V Chandrasekaran, "Effect of sintering temperature on the structure and magnetic properties on SmCo <sub>5</sub> /Fe nanocomposite magnets prepared by spark plasma sintering" <b>Intermetallics, Vol.17(7), pp.517-522, 2009.</b>
90.	A Srinivas, <b>R Gopalan</b> , V Chandrasekharan, "Room temperature multiferroism and magnetoelectric coupling in BaTiO <sub>3</sub> –BaFe <sub>12</sub> O <sub>19</sub> system" <b>Solid State Communications 149 (9-10), 367-370, 2009</b>
91.	<b>R Gopalan</b> , K Hono, A Yan, O Gutfleisch, "Direct evidence for Cu concentration variation and its correlation to coercivity in Sm (Co <sub>0.74</sub> Fe <sub>0.1</sub> Cu <sub>0.12</sub> Zr <sub>0.04</sub> ) <sub>7.4</sub> ribbons", <b>Scripta Materialia, Vol. 60 (9), pp.764-767, 2009</b>
92.	P Saravanan, M Premkumar, AK Singh, <b>R Gopalan</b> , V Chandrasekaran, "Study on morphology and magnetic behavior of SmCo <sub>5</sub> and SmCo <sub>5</sub> /Fe nanoparticles synthesized by surfactant-assisted ball milling", <b>Journal of Alloys and Compounds, Vol. 480 (2), pp.645-649, 2009</b>
93.	<b>R Gopalan</b> , H Sepehri-Amin, K Suresh, T Ohkubo, K Hono, T Nishiuchi, N Nozawa, S Hirosawa, "Anisotropic Nd–Fe–B nanocrystalline magnets processed by spark plasma sintering and in situ hot pressing of hydrogenation–decomposition–desorption–recombination powder", <b>Scripta Materialia, Vol. 61 (10), pp.978-981, 2009</b>
94.	NVR Rao, <b>R Gopalan</b> , V Chandrasekaran, KG Suresh, "Microstructure, magnetic properties and magnetocaloric effect in melt-spun Ni–Mn–Ga ribbons", <b>Journal of Alloys and Compounds, Vol. 478 (1-2), pp.59-62, 2009</b>
95.	P Saravanan, <b>R Gopalan</b> , R Priya, P Ghosal, V Chandrasekaran, "Textured resin-bonded Sm (Co, Fe, Cu) 5 nanostructured magnets exploiting magnetic field and surfactant-assisted milling", <b>Journal of Alloys and Compounds, Vol. 477 (1-2), pp.322-327, 2009</b>
96.	K Suresh, T Ohkubo, YK Takahashi, K Oh-Ishi, <b>R Gopalan</b> , K Hono, T Nishiuchi, N Nozawa, S Hirosawa, "Consolidation of hydrogenation–disproportionation–desorption–recombination processed Nd–Fe–B magnets by spark plasma sintering", <b>Journal of Magnetism and Magnetic Materials, Vol. 321 (22), pp.3681-3686, 2009</b>
97.	A Annadurai, AK Nandakumar, S Jayakumar, MD Kannan, M Manivel Raja, S Bysak, <b>R Gopalan</b> , V Chandrasekaran, "Composition, structure and magnetic properties of sputter deposited Ni–Mn–Ga ferromagnetic shape memory thin films", <b>Journal of Magnetism and Magnetic Materials, Vol. 321 (6), pp.630-634, 2009</b>
98.	B Ingale, <b>R Gopalan</b> , V Chandrasekaran, S Ram, "Structural, magnetic, and magnetotransport studies in bulk alloy", <b>Journal of Applied Physics Vol.105 (2), pp.023903, 2009</b>
99.	<b>R Gopalan</b> , YM Chen, T Ohkubo, K Hono, "High saturation magnetization and microstructure in melt-spun Fe–P ribbons", <b>Scripta Materialia, Vol. 61 (5), pp.544-547, 2009</b>
100.	B Ingale, <b>R Gopalan</b> , M Rajasekhar, S Ram, "Studies on ordering temperature and martensite stabilization in Ni <sub>55</sub> Mn <sub>20</sub> – xGa <sub>25</sub> + x alloys", <b>Journal of Alloys and Compounds, Vol.475 (1-2), pp.276-280, 2009</b>
101.	NVR Rao, <b>R Gopalan</b> , V Chandrasekaran, KG Suresh, "Phase coexistence, microstructure and magnetism in Ni–Mn–Sb alloys", <b>Journal of Physics D: Applied Physics Vol.42 (6), pp.065002, 2009</b>
102.	DMR Kumar, MM Raja, <b>R Gopalan</b> , AS Rao, V Chandrasekaran, "Effect of Fe-substitution on microstructure, hysteresis behaviour and magnetocaloric effect in Gd <sub>5</sub> Si <sub>2</sub> Ge <sub>2</sub> Alloys", <b>Journal of Magnetism and Magnetic Materials, Vol.321 (9), pp.1300-1305, 2009</b>
103.	I Babita, S Ram, <b>R Gopalan</b> , V Chandrasekaran, "Dynamic inverse-magnetocaloric and martensite transition in Ni <sub>49</sub> Mn <sub>38</sub> Sn <sub>13</sub> nanocrystals in low magnetic fields", <b>Philosophical Magazine Letters, Vol. 89 (6), pp.399-407, 2009</b>
104.	I Babita, <b>R Gopalan</b> , S Ram, HJ Fecht, "A large inverse magnetocaloric effect in Ni <sub>49</sub> .0Mn <sub>37</sub> .4Sn <sub>13</sub> .6 melt-spun ribbons at room temperature", <b>Nanoscience and Nanotechnology Letters, Vol. 1 (3), pp.151-155, 2009</b>
105.	PVB Reddy, VR Reddy, A Gupta, <b>R Gopalan</b> , CG Reddy, "Mössbauer study of nano-crystalline Li–Zn ferrites", <b>Hyperfine Interactions, Vol. 183 (1-3), pp.81-86, 2008</b>
106.	<b>R Gopalan</b> , K Suresh, DV Sridhara Rao, AK Singh, NV Rama Rao, G Bhikshamaiah, V Chandrasekaran, "Amorphization, nanocrystallization and magnetic properties of mechanically milled Sm–Co magnetic powders", <b>International Journal of Materials Research, Vol. 99 (7), pp.773-778, 2008</b>
107.	NV Rama Rao, P Saravanan, <b>R Gopalan</b> , M Manivel Raja, DV Sreedhara Rao, D Sivaprahasam, R Ranganathan, V Chandrasekaran, "Microstructure, magnetic and Mössbauer studies on spark-plasma sintered Sm–Co–Fe/Fe (Co) nanocomposite magnets", <b>Journal of Physics D: Applied Physics, Vol. 41 (6), pp.065001, 2008</b>
108.	P Saravanan, M Manivel Raja, <b>R Gopalan</b> , NV Rama Rao, K Suresh, DV Sridhara Rao, V Chandrasekaran, "Structural and Mössbauer studies on mechanical milled SmCo <sub>5</sub> /α-Fe nanocomposite magnetic powders", <b>Intermetallics, Vol. 16 (5), pp.636-641, 2008</b>
109.	NV Rama Rao, Babita Ingale, <b>R Gopalan</b> , V. Chandrasekaran, Niraj K Chaubey, A Poddar R Ranganathan, KG

	Suresh, "Structural, Magnetic and Magneto-transport studies in melt-spun Ni-Mn-Ga Ribbons", <b>Journal of AIP Conference Proceedings, Vol.1003,pp.201-203, 2008</b>
110.	NV Rama Rao, <b>R Gopalan</b> , RM Manivel, V Chandrasekaran, KG Suresh, "Mössbauer studies on structural ordering and magnetic properties of melt-spun Ni-Fe-Ga ribbons", <b>Applied Physics Letters Vol.93 (20), 202503, 2008</b>
111.	RK Singh, <b>R Gopalan</b> , "Thermal, structural and magnetic characterization of Ni-Mn-Ga sheets fabricated by powder in tube roll bonding technique", <b>Materials Science and Engineering: B, Vol.151 (3), pp.199-204, 2008</b>
112.	<b>M Manivel Raja, R Gopalan, DM Rajkumar, R Balamuralikrishnan, V Chandrasekaran, KG Suresh, K Hono</b> , "Phase relationship, microstructure and magnetocaloric effect in $Gd_{1-x}(Si_{0.5}Ge_{0.5})_x$ alloys", <b>Vol.41 (5), pp.055008, 2008</b>
113.	RK Singh, <b>R Gopalan</b> , "Martensite Transformation and Magnetic Property Dependence on the Annealing Temperature in Ni-Rich Ni-Mn-Ga Alloy", <b>Advanced Materials Research, Vol. 52, pp.57-62, 2008</b>
114.	DMR Kumar, MM Raja, <b>R Gopalan</b> R Balamuralikrishnan, AK Singh, "Microstructure and magnetocaloric effect in $Gd_5Si_2(Ge_{1-x}Ga_x)_2$ alloys", <b>Journal of Alloys and Compounds, Vol.461 (1-2), pp.195-200, 2008</b>
115.	RK Singh, M Shamsuddin, <b>R Gopalan</b> , RP Mathur, V. Chandrasekaran, "Magnetic and structural transformation in off-stoichiometric NiMnGa alloys", <b>Materials Science and Engineering:A, Vol.476 (1-2), pp.195-200, 2008</b>
116.	P Saravanan, <b>R Gopalan</b> , V Chandrasekaran, "Synthesis and characterisation of nanomaterials", <b>Defence Science Journal, Vol. 58 (4), pp.504-516, 2008</b>
117.	DM Rajkumar, MM Raja, <b>R Gopalan</b> , V Chandrasekaran, "Magnetocaloric effect in high-energy ball-milled $Gd_5Si_2Ge_2$ and $Gd_5Si_2Ge_2/Fe$ nanopowders", <b>Journal of Magnetism and Magnetic Materials, Vol. 320 (8), pp.1479-1484, 2008</b>
118.	G Sreenivasulu, <b>R Gopalan</b> , V Chandrasekaran, G Markandeyulu, KG Suresh, BS Murty, "Spark plasma sintered $Sm_2Co_{17}-FeCo$ nanocomposite permanent magnets synthesized by high energy ball milling", <b>Nanotechnology, Vol. 19 (33), pp.335701, 2008</b>
119.	K Suresh, <b>R Gopalan</b> , G Bhikshamaiah, AK Singh, DV Sridhara Rao, K Muraleedharan, V Chandrasekaran, "Phase formation, microstructure and magnetic properties investigation in Cu and Fe substituted $SmCo_5$ melt-spun ribbons", <b>Journal of Alloys and Compounds, Vol. 463 (1-2), pp.73-77, 2008</b>
120.	M Manivel Raja, <b>R Gopalan</b> , DM Rajkumar, R Balamuralikrishnan, V Chandrasekaran, KG Suresh, K Hono, "Phase relationship, microstructure and magnetocaloric effect in $Gd_{1-x}(Si_{0.5}Ge_{0.5})_x$ alloys", <b>Journal of Physics D: Applied Physics, Vol. 41 (5), 055008, 2008</b>
121.	A Gebert, S Roth, <b>R Gopalan</b> , AA Kündig, L Schultz, "Corrosion behaviour of FePt-based bulk magnets in artificial saliva solution", <b>Journal of alloys and compounds, Vol. 436 (1-2), pp.309-312, 2007</b>
122.	J Zhang, YK Takahashi, <b>R Gopalan</b> , K Hono, "Microstructures and coercivities of $SmCo_x$ and $Sm(Co, Cu)_5$ films prepared by magnetron sputtering", <b>Journal of magnetism and magnetic materials, Vol. 310 (1), pp.1-7, 2007</b>
123.	I Babita, MM Raja, <b>R Gopalan</b> , V. Chandrasekaran, S Ram "Phase transformation and magnetic properties in Ni-Mn-Ga Heusler alloys" <b>Journal of alloys and compounds, Vol.432, pp.23-29, 2007</b>
124.	NV Rama Rao, <b>R Gopalan</b> , M Manivel Raja, V Chandrasekaran, D Chakravarty, R Sundaresan, R Ranganathan, K Hono, "Structural and magnetic studies on spark plasma sintered $SmCo_5/Fe$ bulk nanocomposite magnets", <b>Journal of Magnetism and Magnetic Materials, Vol.312 (2), pp.252-257, 2007</b>
125.	P Saravanan, <b>R Gopalan</b> , NVR Rao, MM Raja, V Chandrasekaran, " $SmCo_5/Fe$ nanocomposite magnetic powders processed by magnetic field-assisted ball milling with and without surfactant", <b>Journal of Physics D: Applied Physics, Vol. 40 (17), pp.5021, 2007</b>
126.	NV Rama Rao, <b>R Gopalan</b> , M Manivel Raja, J Arout Chelvane, B Majumdar, V Chandrasekaran, "Magneto-structural transformation studies in melt-spun Ni-Mn-Ga ribbons", <b>Scripta materialia, Vol. 56 (5), pp.405-408, 2007</b>
127.	B Ingale, <b>R Gopalan</b> , MM Raja, V Chandrasekaran, S Ram, "Magnetostructural transformation, microstructure, and magnetocaloric effect in Ni-Mn-Ga Heusler alloys", <b>Journal of applied physics, Vol. 102 (1), pp.013906, 2007</b>
128.	<b>R Gopalan</b> , T Ohkubo, K Hono, "Identification of the cell boundary phase in the isothermally aged commercial $Sm(Co_{0.725}Fe_{0.1}Cu_{0.12}Zr_{0.04})_{7.4}$ sintered magnet" <b>Scripta Materialia, Vol.54 (7), pp.1345-1349, 2006</b>
129.	AA Kündig, <b>R Gopalan</b> , T Ohkubo, K Hono, "Coercivity enhancement in melt-spun $SmCo_5$ by Sn addition", <b>Scripta materialia, Vol. 54 (12), pp.2047-2051, 2006</b>
130.	Raphael Justin Joseyphus, Alwarramanujam Narayanasamy, <b>R Gopalan</b> , Venkatasubramanian Chandrasekaran, Balachandran Jeyadevan, Kazuyuki Tohji, "Proc. Eleventh Int. Workshop on Rare Earth Magnets and their Applications, Pennsylvania, 1990", <b>Materials transactions, Vol. 47 (9), pp.2264-2268, 2006</b>
131.	RJ Joseyphus, A Narayanasamy, <b>R Gopalan</b> , V Chandrasekaran, "Introduction to Magnetic Materials Introduction to Magnetic Materials, 1972", <b>Materials transactions Vol.47 (9), pp.2264-2268, 2006</b>
132.	<b>R Gopalan</b> , XY Xiong, T Ohkubo, K Hono, "Nanoscale microstructure and magnetic properties of melt-spun $Sm(Co_{0.725}Fe_{0.1}Cu_{0.12}Zr_{0.04}B_{0.015})_{7.4}$ ribbons", <b>Journal of magnetism and magnetic materials, Vol. 295 (1), pp.7-20, 2005</b>
133.	<b>R Gopalan</b> , T Ohkubo, K Hono, "Platelet microstructure and magnetic properties in rapidly solidified $Sm_{20.8}Co_{63.4}Fe_{7.9}Cu_{2.4}Zr_{1.6}B_4$ ribbons", <b>Scripta Materialia, Vol. 53 (3), pp.367-</b>

	371, 2005
134.	<b>R Gopalan</b> , DH Ping, K Hono, MQ Huang, BR Smith, ZM Chen, BM Ma, "Investigation on structure-magnetic property correlation in melt-spun Sm (Co <sub>0.56</sub> Fe <sub>0.31</sub> Cu <sub>0.04</sub> Zr <sub>0.05</sub> B <sub>0.04</sub> ) <sub>z</sub> ribbons", <b>Journal of magnetism and magnetic materials</b> , Vol. <b>292</b> , pp.150-158, 2005
135.	J Zhang, YK Takahashi, <b>R Gopalan</b> , K Hono, "Sm (Co,Cu) <sub>5</sub> /Fe exchange spring multilayer films with high energy product", <b>Applied Physics Letters</b> , Vol. <b>86</b> (12), pp.122509, 2005
136.	HW Zhang, <b>R Gopalan</b> , T Mukai, K Hono, "Fabrication of bulk nanocrystalline Fe-C alloy by spark plasma sintering of mechanically milled powder", <b>Scripta materialia</b> , Vol. <b>53</b> (7), pp.863-868, 2005
137.	<b>R Gopalan</b> , AA Kündig, M Ohnuma, S Kishimoto, K Hono, "Mechanically milled and spark plasma sintered FePt-based bulk magnets with high coercivity", <b>Scripta materialia</b> , Vol. <b>52</b> (8), pp.761-765, 2005
138.	<b>R Gopalan</b> , XY Xiong, T Ohkubo, K Hono, "Nanoscale microstructure and magnetic properties of melt-spun Sm (Co <sub>0.725</sub> Fe <sub>0.1</sub> Cu <sub>0.12</sub> Zr <sub>0.04</sub> B <sub>0.015</sub> ) <sub>7.4</sub> ribbons", <b>Journal of magnetism and magnetic materials</b> , Vol. <b>295</b> (1), pp.7-20, 2005
139.	AC Abhyankar, <b>R Gopalan</b> , AK Singh, K Muraleedharan, VA Joshi, TSRK Sastry, V Chandrasekaran, "Microstructure and its correlation to magnetic properties in 2: 17 type (Sm, Gd)-Co-Fe-Cu-Zr alloys", <b>Journal of materials science</b> Vol.39 (10), pp.3433-3442, 2004
140.	K Suresh, <b>R Gopalan</b> , AK Singh, K Muraleedharan, DV Sridhara Rao, V Chandrasekaran, "Studies on Sm(Co <sub>0.9-x</sub> Fe <sub>x</sub> Cu <sub>0.1</sub> ) <sub>48</sub> Nano Composite Magnetic Powder", <b>Indian Journal of Physics</b> , Vol. <b>78</b> , pp.115-119, 2004
141.	<b>R Gopalan</b> , DH Ping, K Hono, MQ Huang, BR Smith, Z Chen, BM Ma, "Microstructure and magnetic properties of melt-spun Sm(Co <sub>0.58</sub> Fe <sub>0.31</sub> Cu <sub>0.04</sub> Zr <sub>0.05</sub> B <sub>0.02</sub> ) <sub>z</sub> ", <b>Journal of applied physics</b> , Vol.95(9), pp.4962-4967, 2004
142.	<b>R Gopalan</b> , DH Ping, K Hono, "Microstructural evolution and the magnetic properties of melt-spun Sm-Co-Cu-B and Sm-Co-Fe-Cu-B ribbons", <b>Journal of magnetism and magnetic materials</b> , Vol. <b>284</b> , pp.321-329, 2004
143.	<b>R Gopalan</b> , K Suresh, AK Singh, V Chandrasekaran, "Metallurgical and magnetic characterisation of mechanically milled Sm (Co <sub>0.9-x</sub> Fe <sub>x</sub> Cu <sub>0.1</sub> ) <sub>4.8</sub> alloys" <b>Scripta materialia</b> , Vol. <b>48</b> (11), pp.1555-1559, 2003
144.	<b>R Gopalan</b> , K Muraleedharan, TSRK Sastry, S Suwas, V Joshi, V Chandrasekaran, "Structural Investigations in 2: 17 type SmCo alloys", <b>Transactions-Materials Research Society of Japan</b> , Vol. <b>26</b> (3), pp.801-804, 2001
145.	<b>R Gopalan</b> , K Muraleedharan, TSRK Sastry, AK Singh, V Joshi, DV Sridhara Rao, V Chandrasekaran, "Studies on structural transformation and magnetic properties in Sm <sub>2</sub> Co <sub>17</sub> type alloys", <b>Journal of materials science</b> Vol.36 (17), pp.4117-4123, 2001
146.	Raphael Justin Joseyphus, Alwarramanujam Narayanasamy, <b>R Gopalan</b> , Venkatasubramanian Chandrasekaran, Balachandran Jeyadevan, Kazuyuki Tohji, "Magnetic Properties of Mechanically Milled Sm-Co Permanent Magnetic Materials with the TbCu <sub>7</sub> Structure" <b>J. Appl. Phy</b> <b>87</b> , 2055-2057, 2000
147.	<b>R Gopalan</b> , T Sastry, AK Singh, V Chandrasekaran, "X-ray diffraction and microstructural studies in 2: 17 type Sm-Co magnetic alloys containing Fe, Cu, and Zr", <b>Journal of materials research</b> , Vol. <b>14</b> (6), pp.2430-2435, 1999
148.	<b>R Gopalan</b> , AK Singh, T Rajasekharan, "Evolution of texture in melt-grown Y-Ba-Cu-O and Gd-Ba-Cu-O superconductors", <b>Journal of materials science</b> , Vol. <b>32</b> (10), pp.2595-2598, 1997
149.	<b>R Gopalan</b> , T Rajasekharan, T Roy, G Rangarajan, "Microstructural investigations on melt grown RE-Ba-Cu-O (RE= Y, Gd and Nd) systems", <b>Journal of materials science</b> , Vol. <b>31</b> (10), pp.2557-2561, 1996
150.	<b>R Gopalan</b> , T Rajasekharan, T Roy, G Rangarajan, V Ganesan, R Srinivasan, "Structural and superconducting properties of melt-grown Y-Ba-Cu-O superconductors", <b>Journal of materials research</b> , Vol. <b>11</b> (10), pp.2406-2415, 1996
151.	<b>R Gopalan</b> , T Roy, T Rajasekharan, G Rangarajan, NH Babu, "Microstructural and magnetisation study in melt-grown YBaCuO samples", <b>Physica C: Superconductivity</b> , Vol. <b>244</b> (1-2), pp.106-114, 1995
152.	<b>R Gopalan</b> , AK Singh, T Rajasekharan, G Rangarajan, UV Varadaraju, "Pole figure studies in melt grown Y-Ba-Cu-O samples", <b>Journal of materials science letters</b> , Vol.14 (15), pp.1043-1045, 1995
153.	V Ganesan, R Srinivasan, S Aswathy, KD Chandrasekaran, B Srinivas, UV Varada Raju, GV Subba Rao, <b>R Gopalan</b> , T Rajasekaran, "Magnetic shielding using high-temperature superconductors", <b>Bulletin of Materials Science</b> Vol.17 (1), pp.87-93, 1994
154.	V Ganesan, R Srinivasan, <b>R Gopalan</b> , T Rajasekaran, "Critical current density of a sample of melt grown YBCO", <b>Solid state communications</b> , Vol. <b>87</b> (11), pp.1077-1080, 1993
155.	P Shah, A Gupta, SN Kane, T Rajasekharan, <b>R Gopalan</b> , "Study of iron doped La <sub>2-x</sub> Sr <sub>x</sub> CuO <sub>4</sub> ", <b>Nuclear Instruments and Methods in Physics Research, Section B</b> , Vol.76 (1-4), pp.325-327, 1993
156.	V Seshu Bai, S Ravi, T Rejasekharan, <b>R Gopalan</b> , "On the composition of 110 K superconductor in a (Bi, Pb)-Sr-Ca-Cu-O system", <b>Journal of applied physics</b> , Vol. <b>70</b> (8), pp.4378-4382, 1991
157.	T Rajasekharan, <b>R Gopalan</b> , T Roy, "Microstructural investigations of melt grown YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7</sub> ", <b>Pramana</b> , Vol. <b>37</b> (2), pp.L173-L177, 1991
158.	YSN Murthy, <b>R Gopalan</b> , S Raoot, T Rajasekharan, S Ravi, VS Bai, "A new coprecipitation technique for the preparation of superconducting oxides", <b>Materials Letters</b> , Vol. <b>9</b> (4), pp.154-156, 1990
159.	<b>R Gopalan</b> , D Akhtar, T Rajasekharan, "Effect of boron on the quasi-crystalline phase formation in rapidly solidified Al-Mn alloys", <b>Zeitschrift fuer Metallkunde</b> , Vol. <b>81</b> , pp.111-113, 1990
160.	<b>R Gopalan</b> , YSN Murthy, T Rajasekharan, S Ravi, VS Bai, "Combustion process for the synthesis of YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7</sub> -

	δ high-Tc superconductor", <b>Materials Letters, Vol. 8 (10), pp.441-443, 1989</b>
161.	G Bhikshamaiah, SV Suryanarayana, SV Nagender Naidu, T Rajashekaran, <b>R Gopalan</b> , "X-ray determination of microstructural parameters of eroded Cu-Al alloys", <b>Wear, Vol.125 (3), pp.241-256, 1988</b>
162.	T Rajasekharan, <b>R Gopalan</b> , D Akhtar, "Do Quasi-Crystals Exist?", <b>Key Engineering Materials, Vol.13, pp.249-256, 1987</b>
163.	G Sridhar, <b>R Gopalan</b> , DS Sarma, "A microstructural characterization of solution-treated titanium alloy Ti-6Al-4V", <b>Metallography, Vol. 20 (3), pp.291-310, 1987</b>
164.	D Akhtar, <b>R Gopalan</b> , T Rajasekharan, "On a new metastable phase in the Al-Mg system", <b>Zeitschrift fuer Metallkunde, Vol. 78, pp.201-203, 1987</b>
165.	T Rajasekharan, <b>R Gopalan</b> , D Akhtar, D Banerjee, "Quasi-crystalline precipitates with icosahedral morphology", <b>Scripta metallurgica, Vol. 21 (3), pp.289-291, 1987</b>
166.	T Rajasekharan, D Akhtar, <b>R Gopalan</b> , K Muraleedharan, "The quasi-crystalline phase in the Mg—Al—Zn system", <b>Nature, Vol. 322 (6079), pp.528, 1986</b>

#### 10. Details of patents.

1	A process for In-Situ Carbon Coating on Alkali Transition Metal Oxides, M.B. Sahana, S. Vasu, Sathiya Mairappan, <b>R. Gopalan</b> , <b>Indian Patent Application Number: 201611007416</b> ,
2	"Microwave Assisted Sol-Gel Process For Preparing In-Situ Carbon Coated Electrode Materials And The Product There of" Bijoy Kumar Das, P. Laxman Mani Kanta, N. Lakshmi Priya, <b>R. Gopalan</b> , G. Sundararajan, <b>Indian Patent, Patent Filing No:201911008004</b> .
3	An in-situ synthesis of sodium insertion material-sacrificial salt composite for sodium ion batteries and the material produced thereof. M. Sathiya, Joy Thomas and R. Gopalan, <b>Indian Patent Application No. 201611018942 A (Filed)</b> .
4	A Process for Preparing Nanocrystalline Olivine Structure Transition Metal Phosphate Material Dinesh Rangappa, <b>R. Gopalan</b> , Tata Narasinga Rao, <b>Patent Application no: 405/DEL/2012</b>
5	Nanocomposite magnet and process for producing the same J. Zhang, Y. Takahashi, <b>R. Gopalan</b> and K. Hono, WO/2006/064937, <b>International application no. PCT/JP2005/02320. International filing date: 13-12-2005</b>
6	Fabrication of bulk nanocrystalline Fe-C alloy by spark plasma sintering of mechanically milled powder, HW Zhang, K Hono, T Mukhai, <b>R Gopalan( Japanese patent filed)</b>
7	Microwave Assisted Sol-Gel Process For Preparing In-Situ Carbon Coated Electrode Materials And The Product There Of" Bijoy Kumar Das, P. Laxman Mani Kanta, N. Lakshmi Priya, <b>R. Gopalan</b> , G. Sundararajan, <b>EU Patent Japanese and Korean Patent Application Number: PCT/IN2020/050143, dated 13.02.2020</b>
8	Post calcination modification of morphology and improvement of Coercivity in high energy milled strontium hexa ferrite powders. Pavana S.V. Mocherla, Priya Ganesan, D. Prabhu, <b>R. Gopalan</b> , U.V. Varadaraju. <b>Patent Application no: 202111003235, 23.01.2021</b> .

11. Books / Reports/ Chapters/ General articles etc.				
S. No.	Title	Author's Name	Publisher	Year of Publication
1.	<p><b>Chapter Title</b> - Texture Studies In High Energy Smcos Permanent Magnets</p> <p><b>Book Title</b> - Proceedings of First National Seminar on the Application of Textures in Materials Research</p>	R Gopalan, AK Singh, V Chandrasekaran	Defence Metallurgical Research Laboratory, Hyderabad	1999
2.	<p><b>Chapter Title</b> - Automotive waste heat recovery by thermoelectric generator technology</p> <p><b>Book Title</b>- Bringing thermoelectricity into reality</p>	Duraisamy Sivaprahasam, Subramaniam Harish, R Gopalan and Govindhan Sundararajan	INTECH open. UK	2018
3.	<p><b>Chapter Title</b>-“Intercalation-based Layered Materials for Rechargeable Sodium-ion Batteries”</p> <p><b>Book Title</b>- Layered Materials for Energy Storage and Conversion</p>	Bijoy Kumar Das and R. Gopalan	RSC	2019
4.	<p><b>Chapter Title</b> - Recent Developments in Electrode Materials for Lithium-Ion Batteries for Energy Storage application</p> <p><b>Book Title</b>- Handbook of Advanced Ceramics and Composites</p>	M. B. Sahana and R. Gopalan	Springer Nature	2020