



1. Name : Dr. RATNA KUMAR KANCHARLA
2. Designation & Department: Head of Metallurgical Engineering Department
Government Polytechnic, VISAKHAPATNAM
Andhra Pradesh, INDIA
Pin: 530 007
3. Date of Joining to the post of 09-03-1995
Lecturer in this Department:
4. Experience

S.No.	Designation	Qualifying From	Service To	Total No. of Years
1	Lecturer	1995	2000	5
2	Lecturer (Senior Scale)	2000	2005	5
3	Lecturer (Selection Grade)	2005	2011	6
4	Senior Lecturer	2011	2022	11
5	Head of the Department	2022	Till date	01

5. Teaching Subjects: Physical Metallurgy, Heat Treatment Technology
& Welding Technology, Iron & Steel making
6. U.G. Teaching Experience: Teaching for B.E students at Andhra University,
Visakhapatnam from last 04 years.

7. Qualifications:

S.No.	Degree	Specialization	University/Institution	Year of passing	Percentage	Grade
01	Ph.D.	Metallurgical Engineering	Andhra University, Visakhapatnam, INDIA	2009	All A grade reports including foreign report	
02	M. Tech	Industrial Metallurgy	Andhra University, Visakhapatnam, INDIA	2019	8.98 (CGPA)	I
02	M.Tech.	Mineral Process Engineering	Andhra University, Visakhapatnam, INDIA	1996	67.8	I
03	B.E.	Metallurgical Engineering	Andhra University, Visakhapatnam, INDIA	1992	62.2	I

8. Research Qualification: **Ph.D thesis entitled “Microstructure and Corrosion**

behaviour of cast A356 and wrought AA6061 Aluminium

alloy welds” in Metallurgical Engineering (Andhra

University, Visakhapatnam, INDIA)

9. List of Publications List –**Appendix-I** attached

No. of Publications: Journals: **07** Conferences: **27**

10. List of quality improvement programmes attended: **10**

List-**Appendix-II** attached

11. Awards received: 1) State award to meritorious Teachers 2011 (Technical

Education, Government of Andhra Pradesh, INDIA)

2) Best research paper award (COSMET-2007, Andhra University,

Visakhapatnam, INDIA)

3) Best research paper award (NCWPQ, NMRL, Amberinath &

NRB, New Delhi, INDIA)

4) Panthaki memorial award for the best technical paper presented

at “National welding seminar 2010” by Indian Institute of

welding.

12. Contribution to professional growth:

a) Curriculum development: Developed laboratory manual of Fuels laboratory

and Correspondence study material for “Fuels,
Refractories & Pyrometry.

b) Innovation in teaching methods: Preparation, expert review, medication and
editing of e-lessons of Physical metallurgy,
Heat treatment technology and Welding
Technology

c) Preparation of teaching aids & models: Prepared number of films slides used
in Projector for class room teaching

13. Projects guided:

12

Appendix-I

List of Publications

International Journals

1. **K.Ratna Kumar** and K.Srinivasa Rao, Microstructure and Pitting Corrosion of Partially Melted Zone of A356 Al-Si alloy welds, Transactions of Indian Institute of Metals, Vol. 61, No. 4, August 2008, pp. 283-291.
2. **K.Ratna Kumar**, G.Madhusudana Reddy and K. Srinivasa Rao, Microstructure and Corrosion Behavior of Cast A356 and Wrought AA6061 Aluminium Alloy Welds, Journal of Advanced materials research, vol.117, 2010, pp.37-42.

National Journals

3. **K.Ratna Kumar** and K.Srinivasa Rao,; Partially Melted Zone and Pitting Corrosion Resistance of A356 Aluminium-Silicon alloy GTA weld, IWS welding Journal, weld 5, bead 4, December 2008.
4. VSNV Ramana, G.Madhusudana Reddy, **K. Ratna Kumar** and K. Srinivasa Rao: Partially melted zone in dissimilar aluminium alloy welds-Effect of prior thermal temper and welding process, Indian Welding Journal, Volume 43, No. 2, April 2010, pp.32-40.
5. **K.Ratna Kumar**, G. Madhusudana Reddy and K.Srinivasa Rao,; Pitting Corrosion of friction stir welded A356 Al-Si alloy- Effect of rotation speed of tool, journal of manufacturing engineering, issue 2, June 2010, pp.99-105.
6. **K.Ratna Kumar**, G. Madhusudana Reddy and K.Srinivasa Rao,; Corrosion resistance of friction stir welded AA6061 aluminium alloy, Indian Welding Journal Volume 45, No. 3, July 2012, pp.41-53
7. VSNV Ramana, **K. Ratna Kumar**. G.Madhusudana Reddy, and K. Srinivasa Rao: Effect of welding process on microstructure and pitting corrosion behaviour of AA2014 Al-Cu alloy welds, Indian Welding Journal, Volume 45, No. 3, July 2012, pp.29-40.

International Conferences

1. **K.Ratna Kumar** and K.Srinivasa Rao,; Microstructure and Corrosion Resistance of A356 alloy and its Electron Beam welds, Proc. of IIW-international Congress, January 8-10, 2008 at Trade Chennai, Chennai.
2. **K.Ratna Kumar** and K.Srinivasa Rao,; Microstructure and Corrosion Resistance of AA6061 alloy and its Electron Beam welds, Proc. of international conference on Frontiers in Design and Manufacturing Engineering, 1-2 February, 2008 at Karunya University, Coimbatore.

3. **K.Ratna Kumar** and K.Srinivasa Rao,: Partially Melted Zone in Electron Beam welded Al-Si-Mg alloys, Proc. of international Welding Symposium, 14-16 February,2008 at Pragathimaidan, New Delhi.
4. **K.Ratna Kumar** and K.Srinivasa Rao,: Microstructure and Pitting Corrosion resistance of Friction Stir welded A356 Al-Si alloy, Proc. of international Welding Symposium, 14-16 February,2008 at Pragathimaidan, New Delhi.
5. **K.Ratna Kumar** C. Venkata Rao and K.Srinivasa Rao,: Effect of Welding Processes on Corrosion of A356 alloy welds, Proc. of international Conference on Recent Advances in Mateials, Processing and Characterization, 3-4 July, 2008 at Siddartha Engineering College, Kanuru, Vijayawada.
6. **K.Ratna Kumar** and K.Srinivasa Rao,: Pitting Corrosion of friction stir welded A356 Al-Si alloy- Effect of rotation speed of tool, Proc. of II international Conference on Recent Advances in Mateials Processing technology, 26-27 Feb 2009 at National Engineering College, Kovilpatti, TN.
7. **K.Ratna Kumar** G. Madhusudana Reddy and K.Srinivasa Rao, Corrosion Resistance of Friction Stir Welded AA6061 Aluminium alloy: Electrochemical polarization and impedance study, Proc. of international Conference on frontiers in metallurgy and materials technology, 29-31 January 2009, MGIT, Hyderabad, AP.
8. **K.Ratna Kumar** and K.Srinivasa Rao,: Microstructure and corrosion behaviour of cast A356 and wrought AA6061 aluminium alloy welds, DST-JSPS Asia Academic seminar, 8-15th December 2009, Yokohama, Japan.
9. **K.Ratnakumar** G. Madhusudan Reddy and K. Srinivasa Rao, Microstructure and corrosion behaviour of A356 Al-Si alloy and its friction stir welds, Proc. of 64th Annual assembly and International conference of International institute of welding, 17-22 May 2011, Trade Centre, Chennai, INDIA.
10. V.S.N. Venkata Ramana, **K. Ratna Kumar**, G. Madhusudhan Reddy and K. Srinivasa Rao, Microstructure and Corrosion behaviour of AA2014 Al-Cu alloy welds, Proc. of 64th Annual assembly and International conference of International institute of welding, 17-22 May 2011, Trade Centre, Chennai, INDIA.
11. V.S.N. Venkata Ramana, **K. Ratna Kumar**, G. Madhusudhan Reddy and K. Srinivasa Rao, Effect of Welding process on microstructure and pitting corrosion behaviour of AA2014 Al-Cu alloy welds” International conference on advanced materials and manufacturing process, 9-11 December 2011, Indian Institute of Technology, Kharagpur, INDIA- Accepted.
12. V.S.N. Venkata Ramana, **K. Ratna Kumar**, G. Madhusudhan Reddy and K. Srinivasa Rao, Microstrucure and corrosion behaviour of AA2014 Al-CU alloy welds, National welding seminar, 15-17 December 2011, Bhilai, INDIA-Accepted.

National conferences

13. A. Sudha Purnima, K. Sonia, **K.Ratna Kumar** and NRMR Bhargava; Retrogression of Al-Mg alloys, Proc. of National seminar on special materials: Processing and characterization, 17-18 November 2001 at Bhubaneswar.
14. **K.Ratna Kumar** and K.Srinivasa Rao,; Microstructure and hardness of gas Tungsten Arc welded Pressure die cast A356 alloy, Proc. of National Welding Seminar-2006, November 24-26 at Trade centre-Chennai.
15. **K.Ratna Kumar** and K.Srinivasa Rao,; Pitting Corrosion of Pressure Die Cast A356 Al-Si alloy and its welds, Proc. of National Seminar on advances in materials and processing, February 9-10, 2007 at National Institute of Technology-Warangal.
16. **K.Ratna Kumar** and K.Srinivasa Rao,; Partially Melted Zone in Al-Si-Mg alloy welds, Proc. of National Conference on Welding productivity and Quality February 19-21, 2007 at National Metallurgical Research Laboratories-Ambarinath, Pune.
17. **K.Ratna Kumar** and K.Srinivasa Rao,; Effect of Welding Techniques on Corrosion Resistance of A356 Al-Si alloy welds, Proc. of National Conference on Recent advancements in Surface Engineering, March 15-16, 2007 at Annamalai University-Chidambaram.
18. **K.Ratna Kumar** and K.Srinivasa Rao,; Effect of Welding Techniques on Partially Melted Zone in Aluminium-Silicon alloy GTA welds, Proc. of National Conference of Students, Metallurgists, Engineers and Technologists, March 15-16, 2007 at Andhra University-Visakhapatnam.
19. K. Suneel Kumar and **K. Ratnakumar**; Gas tungsten arc welding of plain carbon steels, Proc. of National Conference of Students, Metallurgists, Engineers and Technologists, March 15-16, 2007 at Andhra University-Visakhapatnam.
20. G. Sudheer Kumar and **K. Ratnakumar**; Cold working and recrystallization of as cast commercial pure aluminium, Proc. of National Conference of Students, Metallurgists, Engineers and Technologists, March 15-16, 2007 at Andhra University-Visakhapatnam.
21. **K.Ratna Kumar** and K.Srinivasa Rao,; Studies on Partially Melted Zone in Aluminium-Silicon GTA welds-Effect of prior thermal temper and filler metal, Proc. of National Seminar on Emerging trends in Manufacturing systems and Technologies, September 10-12, 2007 at The Institution of Engineers (India), Hyderabad.
22. B. Siva linga Raju and **K. Ratnakumar**; Studies on deformation and pitting corrosion behaviour of aluminium – copper alloys, Proc. of mechanical engineering students conference, December 2007 at Andhra University, Visakhapatnam.
23. **K.Ratna Kumar** and K.Srinivasa Rao,; Microstructure and pitting Corrosion Resistance of AA6061 alloy and its Friction Stir welds, Proc. of National conference on Advances in Mechanical engineering, January 10-11, 2008 at P V Siddartha Institute of Technology, Vijayawada.
24. **K.Ratna Kumar** and K.Srinivasa Rao,; Studies on partially melted zone in GTA welded A356 Al-Si alloy, Proc. of National seminar on Advanced materials: Characterization and processing, 23-24 January 2009, IEI (India), Hyderabad, AP.
25. V.S.N. Venkata Ramana, **K. Ratna Kumar**, G. Madhusudhan Reddy and K. Srinivasa Rao, Effect of post weld heat treatment on microstructure and

corrosion behaviour of dissimilar AA2024-AA6061 GTA welds, Proc.of National welding seminar, 21-23 December 2010, Visakhapatnam Steel Plant, Vizag, AP.

26. . **K.Ratnakumar** G. Madhusudan Reddy and K. Srinivasa Rao, Investigations on microstructure and corrosion behaviour of friction stir welded A356 and AA6061 aluminium alloys, Proc.of National welding seminar, 21-23 December 2010, Visakhapatnam Steel Plant, Vizag, AP.

27. V.S.N. Venkata Ramana, **K. Ratna Kumar**, G. Madhusudhan Reddy and K. Srinivasa Rao, Microstructure and corrosion behaviour of AA2014 Al-Cu alloy

friction stir welds-effect of prior thermal condition , Proc.of National welding seminar, 21-23 December 2010, Visakhapatnam Steel Plant, Vizag, AP.

Appendix-II

List of Workshops/QIPs attended

S No	Name of Workshop	Name of Institute conducted	Dates	Duration
01	DST-SERC School on Texture and microstructure	IIT Madras; Chennai	25-29 th October,2010	1 week
02	National Workshop on Composite materials	AU College of Engineering; Visakhapatnam	27-28 th February 2007	2 days
03	Workshop on welding for Ship building	Naval Research Board & Naval Material Research Laboratory, Ambarnath	19 th February 2007	1 day
04	QIP on Instructional Design and delivery systems	NITTT & R Chennai	5-16 May 2008	2 weeks
05	QIP on Curriculum based video film shooting on Metallurgy	NITTT & R Chennai	17-22 nd May 2004	1 week
06	QIP on Script writing for Video films	NITTT & R Chennai	16-20 th February 2004	1 week
07	QIP on Preparation of Instructional materials	NITTT & R Chennai-ECH	7-18 May 2001	2 weeks
08	QIP on Orientation programme with focus on strengthening Laboratories & Workshops	NITTT & R Chennai-ECH	7-11 th December 1998	1 week
09	QIP on Subject updating in Metallurgy of Super alloys	NITTT & R Chennai-ECH	24-28 th February 1997	1 week
10	QIP on Instructional skills & Strategies for the newly recruited teachers	NITTT & R Chennai	19 th June -14 th July 1995	4 weeks