

# Curriculum Vitae

Name: Dr(Mrs)Rita Paikaray

Designation:Reader  
Subject:Physics

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## Professional Experience:

(Starting with the most recent)

Name of the institution	University	Designation	Nature of post Temporary / Permanent	Classes taught UG / PG Pass / Hons.	Period (Give dates)	Length of experiences (years / months)
1..Ravenshaw University, Cuttack.	Ravenshaw University, Cuttack.	Reader	Regular& Temporary	UG- Pass &Hons. PG.	25/01/2010	Cont.
2.Ravenshaw University, Cuttack.	Ravenshaw University, Cuttack.	Reader	Regular& Temporary	UG- Pass &Hons. PG.	2/9/2008- 25/01/2010	Cont.
.Ravenshaw Junior College, Cuttack.	Utkal University	Lecturer SS	Regular& Temporary	+2 Sc. & PG	13/8/2002- 2/9/2008	6 years & 1 month
Ravenshaw Autonomous College, Cuttack.	Utkal University	Lecturer SS	Regular& Temporary	UG- Pass &Hons. PG.	26/7/2000- 13/8/2002	2 years & 1 month
Dhenkanal College,Dhenkanal.	Utkal University	Lecturer SS	Regular& Temporary	UG- Pass &Hons	29/9/95- 25/7/2000	4 years & 11 months
Ravenshaw College,Cuttack.	Utkal University	Lecturer	Regular& Temporary	UG- Pass &Hons	21/8/90- 23/9/95	5 years & 1 month
S.V.M.College,Jagatsingpur.	Utkal University	Lecturer	Regular& Temporary	UG- Pass &Hons	2/8/88- 18/8/90	2 years
Nawrangpur College.	Utkal University	Lecturer	Regular& Temporary	UG- Pass &Hons	7/8/87- 27/7/88	1 year
G.Sc.College,Athgarh	Utkal University	Lecturer	Regular& Temporary	UG- Pass &Hons	2/1/87- 31/7/87	7 months

**Education:**

(Starting with Bachelors up-to the highest qualification)

Examinations and year	Subject	Division / Class	% of marks obtained	Name of the Board / University
Bachelor Degree B.Sc 1979	Physics(Hons)	1 <sup>st</sup> class Hons with distinction	74	Utkal University, Vanivihar, Bhubaneswar.
Postgraduate M.Sc 1981	Physics	A <sup>+</sup>	68.6	Utkal University, Vanivihar, Bhubaneswar.
M.Phil 1984	Physics (Plasma Physics, Astrophysics, Space Physics)		71	University of Delhi, Delhi
Doctorate 1992	Physics			University of Delhi, Delhi

**Area (s) of specialization: (Five Lines)** Plasma Physics  
Acoustics  
Ultrasonics

**Publications:**

1. Books: (Five maximum with ISBN Number, Publication House, Year, Place)

+2 Practical Physics. Srikrishna Prakashan approved by C.H.S.E., Orissa

2. **Research Papers in Peer Reviewed Journals:** (Ten most significant and recent publications with ISSN Numbers)

- i. "Study of acoustic parameters at binary mixture of non-polar liquid with polar liquid at different frequencies." G.Nath, S.Sahu and **\*R.Paikaray**. **Indian Journal of Physics**, 83,4,429(2009). **ISSN No-0973-1458**.
- ii. "Ultrasonic study of Binary mixture of acetone with chlorobenzene at different frequencies", G.Nath and **\* R.Paikaray**. **Indian Journal of Physics**, 83,9,763(2009). **ISSN No-0973-1458**.
- iii. "Effect of frequency on acoustic parameters in a binary mixture of polar liquids". G Nath, S Sahu and **\*R Paikaray**, **Indian Journal of Physics**, 83,11,761(2009). **ISSN No-0973-1458**.
- iv. "Transverse drift velocity of a pulsed-plasma inside a curved magnetic field." **\*R.Paikaray**, D.C.Patra, N.Sasini, B.Mohanty, G.Sahoo, J.Ghosh and A.K.Sanyasi. **J Phys Conf Ser 208** 012049 IOP publishing House, London) (2010). **ISSN-No-1742-6596**.
- v. "Density & temperature measurements of pulsed plasma produced inside a curved vacuum chamber N.Sasini, **\*R.Paikaray**, L.Dinda, G.Sahoo, J.Ghosh, A.K.Sanyasi. **J Phys Conf Ser 208** . 012132(IOP publishing House, London) (2010) **ISSN-No-1742-6596**.

- vi. "Ultrasonic study of Binary mixture of acetone with mono-substituted benzene at different frequencies." G.Nath, S.Acharya and **\*R.Paikaray**. **Journal of Acoustical Society of India**,34,4,135-139(2007). ).ISSN-**No-0253-7257**.
- viii. "Study of molecular interaction and association in binary mixture of DEHPA (di-(2-ethyl-hexyl) phosphoric acid) with n-butyl chloride at different temperatures." **\*Rita Paikaray** & Sujata Mishra. **Journal of acoustical Society of India**.36,(2010) **ISSN-No-0253-7257**.
- ix. "Role of frequency in studying intermolecular interactions in a binary mixture of industrial importance liquid." G Nath, **\*R Paikaray**, **Ultra Scientist of physical Sciences**, 21(1), 99(2009). **ISSN No-0975-7155**.
- ix. "Frequency dependent studies of acoustic parameters in binary mixture of non-polar and polar liquid". G Nath and **\*R.Paikaray**, **Ultra Scientist of Physical Sciences**, 21(2),333 (2009). **ISSN No-0975-7155**
- x. "Study of Molecular Interaction and Association in Binary mixture of DEHPA (DI-(2-ethyle-Hexyl) Phosphoric Acid) with N-Butyl Chloride at Different temperature". S Mishra and **\*R.Paikaray** . **Journal of Acoustical Society of India**,20 Vol 37,No 1(2010).**ISSN-No-0253- 7257**
- xi. "Ultrasonic investigation of molecular interaction in binary mixture of DBP with Benzene at different frequencies, **\*R.Paikaray** and N.Mohanty, **Journal of Acoustical Society of India**, 70 Vol 37, No 2 (2010). **ISSN-No-0253- 7257**
- xiii. "Effect of frequency on thermo acoustic and nonlinearity parameter (B/A) of binary mixture". G.Nath & **\*R.Paikaray** ,**International Journal of Physics**,95 Vol 3, No 2(2010). **ISSN No-0975-7155**
- xiv. "Setting up a triangular magnetic well for experimental study" D C Patra, G Sahoo, **\*R Paikaray**, N Sasini, J Ghosh **O J Phys**, pg, Vol 17, No-2 (2009). **ISSN-No-0974-8202**
- xv. "Study of fluctuations in a magnetized plasma blob" G Sahoo, **\*R Paikaray**, , J Ghosh, D C Patra, N C Sasini, B Mohanty & A Mishra **O J Phys**, pg 53-58, Vol 17, No-1 (2010). **ISSN-No-0974-8202**
- xvi. "Dynamics of positive ion in plasma blobs propagating radially inside a curved vacuum chamber" N Sasini, **\*R Paikaray**, G Sahoo, D C Patra , J Ghosh & A K Sanyasi **O.J.Phys**.Vol-17 No-2 (2010). **ISSN-No-0974-8202**

3. Research Papers in Non-peer Reviewed Journals: (Five maximum, with ISSN Numbers):

4 . Chapters in Edited Books: (Five maximum with ISBN Numbers, Publication House, Year, Place) Laboratory Manual For Plasma Physics,2010,Ravenshaw University

5. Reviews in Peer Reviewed Journals: (Five recent reviews)

Conference Presentations: International (Maximum-10); National (Maximum-10)

**1. International Proceedings/ Presentations:**

- i. "Density and magnetic fluctuation studies in magnetized plasma blob projected by a washer stacked plasma gun into a curved vacuum chamber". G Sahoo, \* **R Paikaray**, J Ghosh, R Singh, D C Patra, N C Sasini, A K Sanyasi **International Symposium on Waves, Coherent Structures and Turbulence in Plasma (Kaw Fest)** at IPR, Gandhinagar, India **12-15 Jan (2009)**.
- ii. "Simulation of magnetic storms generated from solar flares in a laboratory set up" D C Patra, G Sahoo, S Samantaray, R Paikaray, N Sasini, J Ghosh addendum to the abstract book, **6<sup>th</sup> International Conference on Physics and Astrophysics of Quark Gluon Plasma (ICPAQGP-2010)**, at Goa, India **6-10 December 2010**.
- iii. "Simulation of some astrophysical processes in a laboratory set up using Plasma Gun" G Sahoo, S Samantaray, D C Patra, R Paikaray, N Sasini, J Ghosh, R Manchanda, S Banerjee, R Singh, A Sanyasi **6<sup>th</sup> International Conference on Physics and Astrophysics of Quark Gluon Plasma (ICPAQGP-2010)**, at Goa, India **6-10 December 2010**.

**1. National Proceedings/ Presentations:**

- i. "Radial Drift Velocity of Pulsed Plasma inside a curved Vacuum chamber." N.C. Sasini, D.C. Patra, \***R. Paikaray**, A.K. Sanyasi, J. Ghosh. **Souvenir of 22<sup>nd</sup> National Symposium on Plasma Science & Technology**, PLASMA-2007. (p-311 (2007)).
- ii. "Ultrasonic investigation of molecular interactions in a binary mixture of DBP with benzene at different frequencies." \***R. Paikaray**, N. Mohanty. **Proceedings of National Symposium on Acoustics**, NSA-2008. Dec 22-24, 2008.
- iii. "Acoustical investigation of molecular interaction in binary mixture of acetone and xylene (mixed isomers) at different frequency." G. Nath, S. Sahu and \***R. Paikaray**. **Proceedings of National Symposium on Acoustics** 181 (2008).
- iv. "Molecular interaction studies of Dehpa (di - (2-ethyl - hexyl) phosphoric acid) with N- butyl bromide at different temperatures by ultrasonic technique". S Mishra and \***R. Paikaray**, Presented in **National Symposium on acoustics** 26<sup>th</sup> to 28<sup>th</sup> Research Centre Imarat, Hyderabad Nov, (2009).
- iv. "Acoustic studies of binary mixture of diacetone alcohol with chloro benzene at different temperature. S Sahu, G Nath and \***R. Paikaray**", Presented in **National Symposium on acoustics** 26<sup>th</sup> to 28<sup>th</sup> **Research Centre Imarat**, Hyderabad Nov, (2009).
- v. "A comparative ultrasonic study of binary mixture of acetone with bromo benzene and chloro benzene at different frequencies. G Nath, S Sahu and \***R Paikaray** presented in **National Symposium on acoustics** 26<sup>th</sup> to 28<sup>th</sup> Research Centre Imarat, Hyderabad Nov, (2009).
- vi. "Study of nonlinearity parameter B/A and thermo acoustic parameter of binary mixture at different frequencies". G. Nath & \***R. Paikaray**, **Proceeding of NSA 2010**, Govt P.G. College, Rishikesh, Nov 11-13, (2010).
- viii. "Ultrasonic study of molecular interaction in binary mixture of di-n-butyl phth" N. Mohanty & \***R. Paikaray**, **Proceeding of NSA 2010**, Govt P.G. College, Rishikesh, Nov 11-13, 2010.

- ix. "Ultrasonic study of molecular interaction in binary mixture of di-n-butyl phth  
"S.Mishra & **\*R.Paikaray**, **Proceeding of NSA 2010** ,Govt  
P.G.College, Rishikesh,Nov 11-13 ,(2010).
- x. "Electron temperature and plasma density measurements of pulsed plasma  
produced inside a curved vacuum chamber using double probe" N Sasini, **\*R  
Paikaray**, G Sahoo, D C Patra, J Ghosh, A. Sanyasi & A Mishra **Proc. of 24th  
National Symposium on Plasma Science and Technology**, NIT, Hamirpur 8-  
11 Dec (2009).
- xi. "On radial density profile of plasma blob injected into a curved vacuum chamber".  
G Sahoo, **\*R Paikaray**, N C Sasini, D C Patra, S Samantaray, J Ghosh & A  
Sanyasi. **Proc. of 25<sup>th</sup> National Symposium on Plasma Science and  
Technology, CPP-IPR, Guwahati**, 8-11 Dec (2010).

### International and National Conferences Attended:

#### 1. International:

Name of Conference	Conference Paper/Poster	Place of Conference	Date of Conference
1.International Symposium on Wave Coherent Structures and Turbulence Plasma(KawFest) at IIT Gandhinagar, India 12-15 Jan (2009).	"Density and magnetic fluctuation studies in magnetized plasma projected by a wall plasma gun into a curved vacuum chamber."	Institute for Plasma Research, Bhat Gandhinagar, Gujarat, India	12-15 Jan (2010)
2.6 <sup>th</sup> International Conference on Physics and Astrophysics of Quasars and Gluon Plasma (ICPAQG) 2010	1. "Simulation of magnetic storm generated from solar flares in a laboratory set up." 2. "Simulation of solar astrophysical process in a laboratory set using Plasma Gun"	Goa, India	6-10 Dec (2010)

#### 2.National:

Name of Conference	Place of Conference	Date of Conference
1..Astrophysics and Cosmology	Rama Devi Women's College, Bhubaneswar, India	February 5-6, 2005
2. Impact of Information technology in Physics Education	Rama Devi Women's College, Bhubaneswar, India	October 21-23, 2005
3. Physics Education and Research Challenges Ahead	Ispat College, Rourkela	February 10-11, 2006
4. National Symposium on Acoustics, NSA	National Physical Laboratory, New Delhi.	November 16-17, 2006
5. 22 <sup>nd</sup> National Symposium on Plasma Science and Technology	Institute for Plasma Research, Bhat, Gandhinagar, Gujarat	December 6-10, 2008
6. Silver Jubilee Convention of OPS and National Conference on Recent Developments and Prospects of Physics	Stewart Science College, Cuttack	February 2-3, 2008

7. 23 <sup>rd</sup> National Symposium on Plasma Science and Technology	Bhaba Atomic Research Centre, Anushakinagar, Mumbai, India	December 10-13, 2008
8. National Symposium on Acoustics, NSA	Naval Science and Technological Laboratory, Visakhapatnam	December 23-24, 2008
9. 24 <sup>th</sup> National Symposium on Plasma Science and Technology	National Institute of Technology, Hamirpur, Himachal Pradesh	December 8-11, 2009
10. National Symposium on Acoustics, NSA	Govt P.G.College, Rishikesh	November 11-13, 2010
11. 25 <sup>th</sup> National Symposium on Plasma Science and Technology	CPP-IPR, Guwahati, Assam	December 8-11, 2009

**Conferences/ Workshops/ Training Programs Organized:** (Five major & recent ones)

**Organized Autumn School of Chemistry & Physics of Plasmas (SCAPP)** from 26th September-29<sup>th</sup> September 2010 at Ravenshaw University

**Research Projects, Evaluation Research, Consultancies:** (Five major & recent ones)

**a) Project Completed:-**

- i. "Development of effective models of demonstrating teaching of selected Physics concepts in rural access sponsored by NCERT-1995-98.
- ii. "To study the molecular interaction of acetone & depha with various polar & non polar liquids using ultrasonic probes at different frequencies." Sponsored by UGC Ref No-F.Pso.017/04-05, 2005-07.

**b) R & D Programs and Projects in progress:-**

Working as the Principal Investigator of the **BRFST sponsored NFP project**, entitled "**PLASMA BLOB MOTION ACROSS NON UNIFORM MAGNETIC FIELD**" (Ref No- NFP/DIAG/03).

- i. Year in which started: 2007.
- ii. Budgeted Project Cost sanctioned till date : Rs 20,45,063/-

**Advisory & Editorial Boards:**

**Honours, Fellowships:**

**Membership in Professional Bodies:**

1. PSSI (Plasma Science Society of India)
2. ASI (Acoustic Society of India)
3. OPS (Orissa Physical Society)
4. ARPA (Alumni of Ravenshaw Physics Association)

## Personal Information:

### Other Special Trainings:-

- a) Attended **Regional Attached Program with Plasma Research Laboratory**:-Organised by Asian African Association for Plasma Training(**AAAPT**)at Delhi University from dt3.3.97to dt8.3.97
- b) Orientation Program -**Physics(Physics through experiments)**:-Organised by Indian Association of Physics Teachers at Ravenshaw College from 3.3.97 to 8.3.97
- c) Completed training in **Maintainance of Laboratory electronic instruments**:-Organised by USIC, Dept. of Physics, Wric, Mumbai from 11.11.04 to 16.11.04.
- d) Attended **three refresher courses** at IOP, BBSR, Sambalpur University, & Utkal University.
- e) Completed **DCA** at Ravenshaw Autonomous College in the year 2002.
- f) Attended workshop on **Finance Management & Audit Sensitisation in Scientific Organisation for Woman Scientists** from dt15.02.2010 to 20.02.2010. Organised by D.S.T. at Xavier Institute of Management, Bhubaneswar.

### Other achievements:

- a) **Superintendent** in Parija Womens Hostel, Ravenshaw University.
- b) **Received the best Research Paper Award** on Physical Acoustics at the joint meeting between MIRC-ASA & ASI on 11-13 November 2010 held at Rishikesh, Uttarakhand.  
Paper title- "Study of nonlinearity parameter B/A and thermo acoustic parameter of binary mixture at different frequencies". G. Nath & **\*R. Paikaray**, **Proceeding of NSA 2010**, Govt P.G. College, Rishikesh, Nov 11-13, (2010).
- c) **Executive member of IAPT** (Indian Association of Physics Teachers)

**Candidates awarded Ph.D- 01**

**Candidates awarded M.Phil- 15**

### Literary Articles:

- a) L H C, **R Paikaray** and G Sahoo Digbalaya, Magazine of Orissa Physical Society, Feb 2009.
- b) Prachina Bharatiya Byomajan Sastra, Katha O Byathaa, **R Paikaray** and G Sahoo, Digbalaya, Magazine of Orissa Physical Society, Feb 2010.