



# SHAHEED CAPTAIN RIPUDAMAN SINGH GOVERNMENT COLLEGE SAWAI MADHOPUR

## PROFILE

**Name : Dr Jai Kumar Singhal**

**Designation : Associate Professor**

**Subject : Physics**

**Date of Birth : 24/10/1964**

### 1. Educational Qualification:

Level	Name of University/Board	Year	Grade/Division/Remark
UG	Univ. of Rajasthan, Jaipur	1984	I
PG	Univ. of Rajasthan, Jaipur	1986	I
M. Phil	Univ. of Rajasthan, Jaipur	1987	I
Ph. D	Univ. of Rajasthan, Jaipur	2003	

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## 2. Teaching/Research Experience:

Level	Experience in Year
UG	34
PG	
Research	

## 3. Academic courses (Orientation/Refresher/Short term/FDP/FTP) attended/participated:

Name of the Course	Sponsoring Agency	Place	From	To
Refresher Course	UGC	ASC, UOR, Jaipur	24/11/1997	13/12/1997
Orientation Course	UGC	ASC, J N V Univ., Jodhpur	20/01/2003	15/02/2003
Refresher Course	UGC	ASC, UOR, Jaipur	15/01/2004	04/02/2004
XIX Main SERC School in THEP	SERC, DST, Govt. of India	CDPE, Physics Deptt, UOR, Jaipur	09/02/2004	28/02/2004
Refresher Course	UGC	ASC, UOR, Jaipur	17/07/2004	05/08/2004
FDP on Quantum Science and Technology 2019	RCST, DST, Govt. of Rajasthan	I I T Jodhpur	19/08/2019	30/08/2019

#### 4.Seminars/Conferences/Workshops/Symposiums etc:

Title of Paper Presented	Title of Conference / Seminar	Organized by
On possibility of Higgs boson search in the process $\tau^+ \tau^- \rightarrow W^+ W^-$	XIV DAE Symposium on High Energy Physics, Dec. 18-22, 2000	University of Hyderabad, Hyderabad,
Effects of the Z - Z' and $\nu$ - N mixing in the process $\mu^+ \mu^- \rightarrow W^+ W^-$	XIV DAE Symposium on High Energy Physics, Dec. 18-22, 2000	University of Hyderabad, Hyderabad,
Neutrino mixing effects in the process $\mu^+ \mu^- \rightarrow W^+ W^-$	88 <sup>th</sup> Indian Science Congress, Jan. 3-7, 2001	Indian Agriculture Research Institute, New Delhi,
Effects of the Higgs boson mass in the process $\tau^+ \tau^- \rightarrow W_L^+ W_L^-$	88 <sup>th</sup> Indian Science Congress, Jan. 3-7, 2001	Indian Agriculture Research Institute, New Delhi,
Signature of the Higgs boson at muon collider with polarized beam	89 <sup>th</sup> Indian Science Congress, Jan. 3-7, 2002	Lucknow University, Lucknow,
Constraints on heavy singlet neutrino mixing	89 <sup>th</sup> Indian Science Congress, Jan. 3-7, 2002	Lucknow University, Lucknow,
Mixing induced lepton flavor violating process $e^+ \mu^- \rightarrow W^+ W^-$	90 <sup>th</sup> Indian Science Congress, Jan. 3-7, 2003	Bangalore University, Bangalore
Distinguishing a SM-like MSSM Higgs boson from SM Higgs boson at muon collider	93 <sup>rd</sup> Indian Science Congress, Jan. 3-7, 2006	ANG Ranga Agricultural University Hyderabad

ON THE STATE OF PRACTICALS AND PRACTICAL EXAMINATION IN SCHOOLS AT +2 LEVEL	NSINNPE 2006, 02 - 04 November 2006.	SGTBK College, Jabalpur (MP)
Implications of $\mu \rightarrow e \gamma$ on exotic neutral lepton mixing	94 <sup>th</sup> Indian Science Congress, Jan. 3 -7, 2007	Annamalai University, Chidambaram
New heavy charged lepton and process $l^+l^- \rightarrow ZZ$	94 <sup>th</sup> Indian Science Congress, Jan. 3 -7, 2007	Annamalai University, Chidambaram

## 5. Research Publication:

Title of paper	Name of Journal	ISSN/ISBN No.
Distinguishing a SM-like MSSM Higgs boson from SM Higgs boson at muon collider  Pramana J. Phys. 68, 931 -941 (2007)	Pramana J. Phys.	ISSN 0304-4289
Bounds on charged lepton mixing with exotic charged leptons  Pramana J. Phys. 62, 1029 - 1040 (2004).	Pramana J. Phys.	ISSN 0304-4289
Bounds on neutrino mixing with exotic singlet neutrinos  Pramana J. Phys. 59, 465 - 477 (2002)	Pramana J. Phys.	ISSN 0304-4289

<p><b>Higgs boson mass effects in the process</b>  <math>\mu_{R(L)}^+ \mu_{R(L)}^- \rightarrow W_L^+ W_L^-</math>  <b>Phys. Rev. D 64, 013007 (01- 08) (2001)</b></p>	<p><b>Phys. Rev. D</b></p>	<p><b>ISSN 2470-0010</b></p>
<p><b>Heavy neutrino mixing effects in helicity amplitudes for the process</b>  <math>\mu^+ \mu^- \rightarrow W^+ W^-</math>  <b>Phys. Rev. D 63, 017302 901-04) (2001)</b></p>	<p><b>Phys. Rev. D 63</b></p>	<p><b>ISSN 2470-0010</b></p>
<p><b>WHY DID DIRAC NEED DELTA FUNCTION?</b>  <b>Vol. 27 No. 1 (Jan-March 2010) Page 5 – 12</b></p>	<p><b>Physics Education</b></p>	<p><b>ISSN 0970-5953</b></p>
<p><b>Possible exotic neutrino signature in electron muon collisions</b>  <b>arXiv:hep-ph/ 0703136 (21pages)</b></p>	<p><b>High Energy Physics – Phenomenology</b>  <b>arXiv.org:hep-ph/</b></p>	<p><b>Online available Cornell University Library</b></p>
<p><b>JAN JAN TAK VIGYAN HAR MAN TAK VIGYAN</b>  <b>February 2007 PAGE 23-25, 41 – 46, 22</b></p>	<p><b>Vigayn Pragti</b></p>	<p><b>ISSN 0042-6075</b></p>
<p><b>S I Units</b>  <b>September 2006 Page 37 – 40, 46-47</b></p>	<p><b>Vigayn Pragti</b></p>	<p><b>ISSN 0042-6075</b></p>
<p><b>Geometry and Structure of Electron: A Discussion</b>  <b>Vol. 20 (12), 402 - 404 (December 2003).</b></p>	<p><b>IAPT Bulletin</b></p>	<p><b>ISSN 2277-8950</b></p>

## 6. Books Publication:

Title of Book	ISBN/ISSN No.	Name of Publisher with place	Year of Publication

## 7. Chapters in Books:

Title of Chapter	Title of Book	ISBN/ISSN No.	Name of Publisher with place	Year of Publication

## 8. Research Projects:

Title	Agency	Period	Grant/Amount Mobilized

<b>STUDIES OF EXOTIC LEPTONS AND THEIR EFFECTS IN SOME PROCESSES IN MODELS BEYOND THE STANDARD MODEL</b>	<b>UGC</b>	<b>2005 – 2007</b>	<b>0.40 Lakh</b>
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### 9. Research Supervision:

Area of research work : .....

Affiliated University : .....

Name of Student	Title of thesis(Ph.D.)	Present status	Date and Year of Award ,if so

### 10. Organizing Sec./Convenor of Seminar/Conference/Workshop/etc:

Organizing Sec/Convenor/Co-convenor etc	Title of Seminar/Conference/Workshop/etc:	Organized by	Date


### 11.Resource Person/ Session Chaired/Session Judged etc:

Resource Person/ Session Chaired/Session Judged	Title of Seminar/Conference/Workshop/etc:	Organized by	Date

### 12.Membership of Academic/Research Bodies/Council etc:

#### Life Member of

- (1) Indian Physics Association (GEN/ LM/11932)
- (2) Indian Science Congress Association (L-8982) and
- (3) Indian Association of Physics Teachers (L-3570).
- (4) Member Board of Studies in Physics, University of Kota, Kota.



### 13.Award / Achievements/Recognition:

Type of Award/Achievement	Name of Agency	Remark
<b>ISCA BEST POSTER PRESENTATION AWARD 2003</b>	<b>Indian Science Congress Association</b>	

### 14.M.O.O.C (Developed by Faculty)

Please provide detail (if any):-

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### 15.Development of e-content:

Provide YouTube Channel Link :

<https://www.youtube.com/channel/UC8QbAr9zLEMhucUCNVFWojQ>

### 16.College level activities (academic/sports/students centric etc):

Please mention some of special duties/activities performed (last 5 years) by you at college level.

(i)

(ii)

(iii)

**17.Extra Curricular Activities (last 5 years):**

(i)

(ii)

(iii)

**18.Any other Relevant information/Contribution:**

**Attended:**

**(1) Seminar of MSME ministry of India Government, Jaipur (03-04, Jan. 2014).**

**(2) Orientation Training Program, RPSC, Ajmer (15/02/2016).**