

Personal Details

Name: DESAI, Nishita Dattatray Post: Institut für Theoretische Physik,
Date of birth: February 14, 1983 Philosophenweg 16,
Place of birth: Mumbai, India 69120 Heidelberg, Germany.
Citizenship: Indian Phone: +49 6221 54 9424

Home page: <http://www.thphys.uni-heidelberg.de/~desai/>
Email: n.desai@thphys.uni-heidelberg.de

Employment

Postdoc	Institut für Theoretische Physik, Heidelberg (Humboldt Fellow Oct 2013 – Sep 2015)	Oct 2013 - now
Postdoc	University College London	Oct 2012 - Sep 2013
ESR	CERN (Marie Curie Actions Early Stage Researcher)	Aug 2010 - Dec 2010

Education

Ph. D.	Harish-Chandra Research Institute. Thesis: Signals of Supersymmetry and Higgs at the Large Hadron Collider Advisor: Prof. Biswarup Mukhopadhyaya.	2012
M. Sc.	Indian Institution of Technology Roorkee	2006
B. Sc.	Fergusson College, University of Pune	2004

Awards

<i>Humboldt Research Fellowship</i> , Alexander von Humboldt Foundation	2013
<i>MCNet Short-term Studentship</i> , Marie Curie Actions of EU Research Network.	2010
<i>Junior Research Fellowship</i> . Top 20%. Council of Scientific and Industrial Research [Declined]	2006
<i>National Graduate Physics Examination</i> . National 1%. Indian Association of Physics Teachers.	2004

Codes

PYTHIA 8 I am a contributor to Pythia 8 and responsible mainly for implementation of SUSY processes and decays. (<http://home.thep.lu.se/Pythia/>)

CHECKMATE The CheckMATE program tests the effect of direct search constraints from the LHC on models of new physics (<http://checkmate.hepforge.org>). I am responsible for linking with Pythia8 and MadGraph to extend the capabilities to test any arbitrary new physics model.

Professional Activities

Referee Frontiers in Physics, European Physics Journal C (EPJC), Physical Review D

Publications and preprints

1. *Prompt and displaced searches at the LHC for Next-to-Minimal Gauge Mediated Supersymmetry Breaking*
B. C. Allanach, Marcin Badziak, Giovanna Cottin, Nishita Desai, Cyril Hugonie and Robert Ziegler
Preprint [arXiv:1606.03099]. Accepted in Eur. Phys. J. C
2. *Towards a Final Word on Neutralino Dark Matter*
Joseph Bramante, Nishita Desai, Patrick Fox, Adam Martin, Bryan Ostdiek, and Tilman Plehn
Phys.Rev. D93 (2016), 063525

3. *An Introduction to PYTHIA 8.2*
Torbjörn Sjöstrand, Stefan Ask, Jesper R. Christiansen, Richard Corke, [Nishita Desai](#), Philip Ilten, Stephen Mrenna, Stefan Prestel, Christine O. Rasmussen, Peter Z. Skands;
Comp. Phys. Comm. 191 (2015) 159-177
4. *Closing in on the tip of the CMSSM co-annihilation strip*
[Nishita Desai](#), John Ellis, Feng Luo, Jad Marrouche; Phys. Rev. D90, (2014) 055031
5. *Compressed and Split Spectra in Minimal SUSY SO(10)*
Frank F. Deppisch, [Nishita Desai](#), Tomas E. Gonzalo; Front. Phys. 2 (2014) 00027
6. *Is charged lepton flavour violation a high energy phenomenon?*
Frank F. Deppisch, [Nishita Desai](#), Jose W. F. Valle; Phys. Rev. D89 (2014) 051302
7. *An updated analysis of radion-higgs mixing in the light of LHC data*
[Nishita Desai](#), Ushoshi Maitra, Biswarup Mukhopadhyaya, JHEP 2013:93.
8. *Supersymmetry and Generic BSM Models in PYTHIA 8*
[Nishita Desai](#) and Peter Skands; Eur. Phys. J. C72 (2012) 2238
9. *Constraints on supersymmetry with light third family from LHC data*
[Nishita Desai](#), Biswarup Mukhopadhyaya; JHEP 1205 (2012) 057
10. *Constraints on Invisible Higgs Decay in MSSM in the Light of Diphoton Rates from the LHC*
[Nishita Desai](#), Biswarup Mukhopadhyaya, Saurabh Niyogi; Preprint [arXiv:1202.5190]
11. *CP-violating HWW couplings at the Large Hadron Collider*
[Nishita Desai](#), Dilip Kumar Ghosh, Biswarup Mukhopadhyaya; Phys. Rev. D 83, 113004 (2011)
12. *R-parity violating resonant stop production at the Large Hadron Collider*
[Nishita Desai](#), Biswarup Mukhopadhyaya; JHEP 1010 (2010) 060.
13. *Signals of supersymmetry with inaccessible first two families at the Large Hadron Collider.*
[Nishita Desai](#), Biswarup Mukhopadhyaya; Phys. Rev. D 80, 055019 (2009)

Work in Preparation

1. *CheckMATE 2: From the model to the limit*
[Nishita Desai](#), Herbi Dreiner, Jong Soo Kim, Daniel Schmeier, Krzysztof Rolbiecki, Jamie Tattersall

Workshops, Conference talks and Invited Seminars

<i>Talk</i> , Tutorial on Monte Carlo tools for Colliders, Madrid, Spain	Sep 2015
<i>Workshop</i> , Physics at TeV Colliders, Les Houches, France.	Jun 2015
<i>Talk</i> , Monte-Carlo for Beyond Standard Model 2015 (MC4BSM), Fermilab, USA	May 18, 2015
<i>Seminar</i> , Cavendish Laboratory, Cambridge, UK	Dec 5, 2014
<i>Talk</i> , SUSY 2014, Manchester, UK	Jul 21, 2014
<i>Seminar</i> , IISER, Pune, India	Apr 22, 2014
<i>Seminar</i> , Harish-Chandra Research Institute, Allahabad, India	Apr 17, 2014
<i>Talk</i> , Monte-Carlo for Beyond Standard Model 2013 (MC4BSM), DESY, Germany	Apr 18, 2013
<i>Seminar</i> , Valencia University, Spain.	Apr 4, 2013
<i>Seminar</i> , Imperial College London.	Mar 20, 2013
<i>Seminar</i> , Lund University, Sweden.	Feb 28, 2013
<i>Seminar</i> , University College London.	Dec 17, 2012
<i>Seminar</i> , Karlsruhe Institute of Technology, Germany.	Nov 8, 2011
<i>Talk</i> , Bethe Forum, Universität Bonn, Germany.	Nov 4, 2011
<i>Poster</i> , Lepton-Photon 2011, Mumbai, India.	Aug 2011
<i>Talk</i> , LHC Discussion Meeting, Shantiniketan, India.	Jan 29, 2011
<i>Seminar</i> , University of Wisconsin-Madison, USA.	Dec 6, 2010
<i>Seminar</i> , Northeastern University, Boston, USA.	Dec 6, 2010
<i>Talk</i> , LHC Tools meeting, IACS, Kolkata.	Mar 3, 2010

Other Schools and Conferences

<i>LHC Discussion Meeting</i> , Shantiniketan, India.	Jan, 2011
<i>Conference on LHC First Data</i> , Ann Arbor, USA.	Dec 2010
<i>Data to theory approach at the LHC</i> , Shimla, India.	Dec 2009
<i>Joint ICTP-INFN-SISSA Conference: Topical Issues in LHC Physics</i> , Trieste, Italy.	Jul 2009
<i>PSI Summer School on Particle Physics</i> , Zuz, Switzerland.	Aug 2010
<i>Summer School on Particle Physics</i> , Trieste, Italy.	Jul 2009
<i>CERN-Fermilab Hadron Collider Physics Summer School 2009</i> , Geneva.	Jun 2009

Teaching Experience

Tutor, <i>British Universities Summer School for Theoretical Elementary Particle Physics (BUSSTEPP)</i>	Aug – Sep 2015
Tutor, <i>Statistical Physics</i>	Oct 2014 - Feb 2015
Tutor, <i>Mathematical Methods for Physics.</i>	Feb – Apr 2012
Teaching Assistant, <i>Quantum Field Theory II.</i>	Aug – Dec 2009
Teaching Assistant, <i>Statistical Mechanics.</i>	Jan – May 2009
Teaching Assistant, <i>Computational Methods in Physics.</i>	Aug – Dec 2008

Skills

Programming Languages	Python, C, C++, Fortran 77/90
Operating Systems	Linux, BSD, Windows, Mac OS X
Language skills	Fluent in English, Marathi, Hindi. B1 in German.