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**Personal Details:**

Father's Name : Bashir Ahmad  
Date of Birth : 05/02/1955  
Marital Status : Married  
Residential Address : B-113, Jamia Enclave, Jamia Nagar, New Delhi-110025

**Academic Qualifications:**

- Moscow State University Moscow, Ph.D. "Higgs Boson Production in lepton-lepton and hadron-hadron Collisions" (1983).
- People's Friendship University, Moscow, M. Sc Physics, in Theoretical Physics, 1973 to 1978.
- People's Friendship University, Moscow, Research Associate, Worked on the Construction of Measures in Functional Spaces, July 1978 to 1979.

**Academic Employment:**

• Pool Officer, Dept. of Physics, University of Pune, India.	1983 to 1985
• Lecturer, Dept. of Physics, Jamia Millia University, New Delhi, India.	1985 to 1994
• Reader, Dept. of Physics, Jamia Millia University, New Delhi, India.	Nov 1994 to Nov 2006
• Visiting Fellow of IUCAA.	With effect from Nov. 2006
• Professor, Centre for Theoretical Physics, Jamia Millia University, New Delhi, India	With effect from Nov. 2006

**Administrative Responsibilities:**

• Director of Centre for Theoretical Physics at Jamia Millia University, New Delhi	With effect from Nov. 2006
• Provost, Boy's Hostels, Jamia Millia University, New Delhi	1999 to 2000

**Teaching Experience:**

- Teaching various courses at undergraduate, graduate and post graduate levels since 1983.
- Taught Thermal Physics, Modern Physics, Nuclear Physics, Electricity and Magnetism and Mechanics at the undergraduate level, at the Department of Physics, Jamia Millia University, New Delhi, India.
- Taught Classical Mechanics, Quantum Mechanics, Mathematical Physics, Statistical Mechanics, Electrodynamics and Quantum Field Theory at the graduate level at the department of Physics, University of Pune (India) and Jamia Millia University.
- Taught a course on "Quantum Statistics" to the post graduate students at IUCAA in 2002 and 2003.

### Awards & Fellowships:

- Fellow of Indian Academy of Science (F.A.Sc.) – elected in 2009
- Fellow of National Academy of Science (F.N.A.Sc) – elected in 2009
- JSPS fellowship for a period from 2007 – 2008.
- ICTP Senior Associateship from 2006 to 2011.
- IUCAA Visiting Fellowship from 2002 to 2005
- National Merit Scholarship (1970), High School U.P. Board.

### Membership of Academic Bodies/Professional Bodies:

- Member, Governing Council, IUCAA, Pune, India (2009 – 2012)
- Council Member, IAGRG

### Collaborations:

N. Dadhich, . V. Sahni, T. Padmanabhan , B. C. Paul , A. A. Majumdar , A. Mofazzal, S. Panda, R. Maartens, J. E. Lidsey, J-F, Dufaux, Shinji Tsujikawa, M. R. Garousi , E. J. Copeland, T. Shiromizu, Shin'ich Nojiri, S. D. Odintsov, G. Calcagni, John Ward, L. Amendolla, Roy Maartens, R. Gannouji, A. A. Sen, S. Jhingan, H. Nandan and U. Goswami

### Research Interests:

- String inspired cosmology, brane worlds.
- Models of dark energy and inflation.
- Cosmological Perturbations.
- D-brane inflation, reheating problem.

### Recent Publications / Preprints :

- **Inflation with improved D3-brane potential and the fine tunings associated with the model**  
Amna Ali, Atri Deshamukhya, Sudhakar Panda, M. Sami  
e-Print: arXiv:1010.1407
- **Bounds on Tensor wave and Twisted Inflation**  
Sudhakar Panda, M. Sami, John Ward  
e-Print: arXiv:1008.1957
- **Formation of caustics in Dirac-Born-Infeld type scalar field systems**  
U. D. Goswami, H. Nandan, M. Sami  
e-Print: arXiv:1006.3659
- **Modified gravity a la Galileon: Late time cosmic acceleration and observational constraints**  
Amna Ali, Radouane Gannouji, M. Sami  
e-Print: arXiv:1008.1588v1
- **Galileon gravity and its relevance to late time cosmic acceleration.**  
Radouane Gannouji, M. Sami  
Phys.Rev.D82:024011, 2010.
- **Background cosmological dynamics in  $f(R)$  gravity and observational constraints.**  
Amna Ali, Radouane Gannouji, M. Sami, Anjan A. Sen  
Phys.Rev.D81:104029, 2010.
- **How delicate are the  $f(R)$  gravity models with disappearing cosmological constant?**  
I. Thongkool, M. Sami, S. Rai Choudhury  
Phys. Rev. D 80, 127501 (2009) arXiv:0908.1693

- **The thawing dark energy dynamics: Can we detect it?**  
S. Sen, A.A. Sen, M. Sami  
Phys.Lett.B686:1-5, 2010
- **Reheating the D-brane universe via instant preheating**  
Sudhakar Panda, M. Sami, I. Thongkool  
Phys.Rev.D81:103506, 2010
- **A primer on problems and prospects of dark energy**  
M. Sami  
Curr. Sci. 97,887 (2009) arXiv:0904.3445.
- **The transient and the late time attractor tachyon dark energy: Can we distinguish it from quintessence ?**  
Amna Ali, M. Sami, A.A. Sen  
Rev.D79:123501, 2009
- **Dark energy and possible alternatives**  
M. Sami  
Published in the book, The Problem of Modern Cosmology, Tomsk State Pedagogical University Press, 2009, pp. 303
- **Prospects of inflation with perturbed throat geometry**  
Amna Ali, R. Chingangbam, Sudhakar Panda, M. Sami  
Phys.Lett.B674:131-136, 2009
- **Delicate  $f(R)$  gravity models with disappearing cosmological constant and observational constraints on the model parameters**  
Dev, D. Jain, S. Jhingan, S. Nojiri, M. Sami, I. Thongkool  
Phys.Rev.D78:083515, 2008
- **Phantom and non-phantom dark energy: The Cosmological relevance of non-locally corrected gravity**  
S. Jhingan, S. Nojiri, S.D. Odintsov, M. Sami, I Thongkool , S. Zerbini  
Phys.Lett.B663:424-428,2008
- **Proposal for an experiment to search for Randall-Sundrum-type corrections to Newton's law of gravitation**  
Mofazzal Azam, M. Sami, C.S. Unnikrishnan, T. Shiromizu  
Phys.Rev.D77:101101,2008
- **A Note on the viability of Gauss-Bonnet cosmology**  
Chingangbam, M. Sami, P.V. Tretyakov, A.V. Toporensky  
Phys.Lett.B661:162-166,2008
- **Prospects of inflation in delicate D-brane cosmology**  
Sudhakar Panda, M. Sami, Shinji Tsujikawa  
Phys.Rev.D76:103512,2007
- **Dark energy generated from a (super)string effective action with higher order curvature corrections and a dynamical dilaton**  
E. Elizalde, S. Jhingan, S. Nojiri, S. D. Odintsov, M. Sami, I. Thongkool  
Eur.Phys.J.C53:447-457,2008
- **UV stable, Lorentz-violating dark energy with transient phantom era.**  
Maxim Libanov, Eleftherios Papantonopoulos, Valery Rubakov, M. Sami, Shinji Tsujikawa.  
JCAP 0708:010,2007
- **String-inspired cosmology: Late time transition from scaling matter era to dark energy universe caused by a Gauss-Bonnet coupling.**  
*Shinji Tsujikawa, M. Sami.*  
JCAP01, 006(2007)[hep-th/0608178].
- **Avoidance of future singularities in loop quantum cosmology.**  
*M. Sami,, Parampreet Singh, Shinji Tsujikawa.*  
Phys. Rev. D 74, 043514 (2006)[gr-qc/0605113].
- **Dark energy cosmology from higher-order, string-inspired gravity and its reconstruction.**  
*Shin'ichi Nojiri, Sergei D. Odintsov, M. Sami.*  
Phys.Rev.D74:046004,2006[hep-th/0605039].
- **Submillimeter corrections to gravity and the metastability of white dwarf and neutron stars.**  
*Mofazzal Azam, M. Sami.*  
Mod.Phys.Lett.A22:1265,2007

- **Dynamics of Dark Energy**  
Edmund J. Copeland, M. Sami, Shinji Tsujikawa.  
*JMPD* 15, 1753(2006)[hep-th/0603057].
- **Inflation from D3-brane motion in the background of D5-branes**  
Sudhakar Panda, M. Sami, Shinji Tsujikawa, John Ward.  
*Phys.Rev. D73* (2006) 083512.
- **Inflation and Dark Energy arising from Geometrical Tachyons.**  
Sudhakar Panda, M. Sami, Shinji Tsujikawa.  
*Phys.Rev. D73* (2006) 023515[ hep-th/0510112] .
- **Phantom damping of matter perturbations**  
Luca Amendola, Shinji Tsujikawa, M. Sami.  
*Phys.Lett. B632* (2006) 155-158 [astro-ph/0506222].
- **Dark energy and cosmological solutions in second-order string gravity.**  
Gianluca Calcagni, Shinji Tsujikawa, M Sami.  
*Class.Quant.Grav.* 22 (2005) 3977-4006[hep-th/0505193].  
M. Sami, Alexey Toporensky, Peter V. Tretjakov, Shinji Tsujikawa.  
*Phys.Lett. B619* (2005) 193[hep-th/0504154].
- **Coupled dark energy: Towards a general description of the dynamics**  
Burin Gumjudpai, Tapan Naskar, M. Sami, Shinji Tsujikawa.  
*JCAP* 0506 (2005) 007[hep-th/0502191].
- **Manybody treatment of white dwarf and neutron stars on the brane**  
Mofazzal Azam, M. Sami.  
*Phys.Rev. D72* (2005) 024024[ gr-qc/0502026].
- **Constraints on Dirac-Born-Infeld type dark energy models from varying alpha**  
Mohammad R. Garousi, M. Sami, Shinji Tsujikawa  
*Phys.Rev. D71* (2005) 083005[hep-th/0412002].
- **What is needed of a tachyon if it is to be the dark energy?**  
Edmund J.Copeland, Mohammad R.Garousi, M.Sami, Shinji Tsujikawa  
*Phys. Rev. D 71* (2005) 043003[hep-th/0411192].
- **Aspects of scalar field dynamics in Gauss-Bonnet brane worlds.**  
M. Sami, N. Savchenko, A. Toporensky  
*Phys.Rev. D70* (2004) 123528[hep-th/0408140].
- **Observational constraints on braneworld inflation: the effect of a Gauss-Bonnet term.**  
Shinji Tsujikawa, M. Sami, Roy Maartens.  
*Phys. Rev. D 70* (2004)063525[ astro-ph/0406078].
- **Unifying brane world inflation with quintessence.**  
M. Sami, N. Dadhich (IUCAA, Pune)  
Invited review, *Vestnik TSPU, Vol.7* (2004) pp. 25-36[hep-th/0405016] , Ed. by S. Odintsov.
- **Generation of electromagnetic fields in string cosmology with a massive scalar field on the anti d-brane.**  
Mohammad R. Garousi, M. Sami, Shinji Tsujikawa  
*Phys. Lett. B606* (2005) 1[ hep-th/0405012].
- **Cosmological perturbations from brane inflation with a Gauss-Bonnet term.**  
Jean-Francois Dufaux (Orsay), James E. Lidsey (Queen Mary, U. of London, Math. Sci.), Roy Maartens (Portsmouth U., ICG), M. Sami (IUCAA, Pune)  
*Phys. Rev. D70* 083525 (2004)[hep-th/0404161].
- **A unified approach to scaling solutions in a general cosmological back- ground**  
Shinji Tsujikawa, M. Sami  
*Phys. Lett. B 603* (2004) 113[hep-th/0409212]
- **Quintessential Inflation on the Brane and the Relic Gravity Wave Back ground hep-th/0402086**  
M. Sami, V. Sahni  
*Phys. Rev. D 70* (2004) 083513[ hep-th/0402086]
- **Cosmology from Rolling Massive Scalar Field on the anti-D3 Brane of de Sitter Vacua**  
Mohammad R. Garousi, M. Sami, Shinji Tsujikawa  
*Phys. Rev. D 70* (2004) 043536.
- **Note on inflation with a tachyon rolling on the Gauss-Bonnet brane**  
B. C. Paul and M. Sami  
*Phys. Rev. D 70* (2004) 027301[hep-th/0312081]

- **Phantom Field and the Fate of Universe**  
M. Sami and A. Toporensky  
*Mod. Phys. Lett. A* 19 (2004) 1509[gr-qc/0312009]
- **Cosmological aspects of rolling tachyon**  
M. Sami, Pravabati Chingangbam, Tabish Qureshi  
*Pramana – J. Phys.* 62 (2004) 765[hep-th/0301140]
- **Cosmological Dynamics of Phantom Field**  
P. Singh, M. Sami, N. Dadhich  
*Phys.Rev.D* 68, 023522 (2003)[hep-th/0305110].
- **Steep Inflation followed by Born-Infeld Reheating**  
M. Sami, N. Dadhich  
*Phys.Lett.B* 568, 118-126 (2003)[hep-th/0304187].
- **A Viable Cosmology with a Scalar Field Coupled to the Trace of the Stress-Tensor**  
M. Sami, T. Padmanabhan  
*Phys.Rev. D* 67 (2003) 083509; Erratum-*ibid. D* 67 (2003) 109901 hep-th/0212317
- **A Note on the Cosmological Dynamics in Finite-Range Gravity**  
M. Sami  
*Int.J.Mod.Phys. D* 12 (2003) 689,[hep-th/0205179].
- **Implementing Power Law Inflation with Tachyon Rolling on the Brane**  
M. Sami  
*Mod.Phys.Lett. A* 18 (2003) 691[hep-th/0205146].
- **Inflation with Oscillations**  
Sami M.  
*Grav.Cosmol.* 8 (2003) 309-312[gr-qc/0106074].
- **Aspects of Tachyonic Inflation with Exponential Potential**  
Sami M., P. Chingangbam, T. Qureshi  
*Phys.Rev. D* 66 (2002) 043530 hep-th/0205179
- **Relic Gravity Waves from Braneworld Inflation**  
Sahni V., Sami M. and Souradeep T. Souradeep  
*Phys. Rev. D.* 65, 023518 (2002),[gr-qc/01051211].
- **An exact Inflationary Solution on the brane**  
Sami M.  
*Gravitation and Cosmology*, 27 (2001) 228-230[gr-qc/0105052]