




University Faculty Details Page on DU

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INCREMENT CERTIFICATE(PIC))**

Title	Dr.	First Name	Awadhesh	Last Name	Prasad	Photograph
Designation	Associate Professor					
Department	Department of Physics & Astrophysics					
Address (Residence)	North Campus University of Delhi, Delhi-D-9/8, Cavalary Lane, University of Delhi Delhi -110007					
Phone No (Residence)	91 - 11 - 2766 2752,					
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Email	Awadhesh@physics.du.ac.in					
Web-Page	http://people.du.ac.in/~awadhesh/					
Education						
Subject	Institution	Year	Details			
Ph.D	JNU, New Delhi		Thesis topic: <i>Strange Nonchaotic Attractors: Global stability, local instability</i>			
M.Sc	JNU, New Delhi	1999				
B.Sc	BU, Muzzafarpur, Bihar	1995	Subjects: Physics			
		1992	Subjects: Physics			
Career Profile						
Organisation / Institution	Designation	Duration	Role			
Arizona Sate University, Tempe, USA	Post Doctoral Fellow	2000-2003	Research			
University of Delhi	Lecturer	2003- 2015	Research & Teaching			
University of Delhi	Associate Prof.	2015-present	Research & Teaching			
MPI-PKS, Dresden, Germany	Guest Scientist	July 2011-June 2012	Research			
Research Interests / Specialization						
<ul style="list-style-type: none"> * Instantaneous or delayed interacting nonlinear oscillators. (phenomena of hysteresis, synchronization, amplitude death etc.). * Strange chaotic & nonchaotic attractors. * Bifurcation theory. * Nonlinear time-series analysis -- application to Physical/Astrophysical/Biological/Ecological data. 						
Teaching Experience (Subjects/Courses Taught)						
<ul style="list-style-type: none"> * Advanced Mathematical Physics I * Advanced Mathematical Physics II * Classical Mechanics * Nuclear and Particle physics * Wave & Optics lab. * Computational lab. 						

- * Nonlinear Dynamics
- * Statistics and Computer Applications
- * Mathematical Physics

Honors & Awards

Editor: Chaos, Solitons and Fractals (Elsevier Science)

Editorial Board Member: Pramana -J. Physics. (Indian Academy of Science)

Publications (LAST FIVE YEARS)

Conferences/book chapters

- * *Memristor emulator causes dissimilarity on a coupled memristive systems*
S. Sabarathinam and AWADHESH PRASAD
AIP Conference Proceedings 1942, 060025 (2018)
- * *Understanding the some aspects of Alternate Bearing Phenomenon: cycle of three years*
AWADHESH PRASAD, K. Sakai and Y. Hoshino
2016 International Symposium on Nonlinear Theory and Its Applications, NOLTA2016, Yugawara, Japan, November 27th-30th, 2016; Page 511.
- **Theoretical Study of the Effect of Quantum Noise on the Nonlinear Dynamics of a Semiconductor Laser Subject to Two Filter Optical Feedbacks*
J. Suelzer, R. Ghosh, AWADHESH PRASAD, and G.Vemuri
Laser Science 2015, San Jose, California, USA, 18-22 October 2015.
(in Frontiers in Optics 2015, OSA Technical Digest (Optical Society of America, 2015), paper JW2A.15).
- * *Characterization of order-to-chaos-to- order transition in co-axial DC discharge plasma of different inter-electrode distances*
R. Kumar, R. Narayanan, R. D. Tarey and AWADHESH PRASAD
32nd ICPIG, July 26-31, 2015, Iasi, Romania
(<http://www.icpig2015.net/Content/Posters/id182-Rahul-KUMAR.pd>)
- * *Effect of Counter Rotation of Oscillations on Surface Acoustic Wave (SAW) Coupled Synchronized Oscillators Sensor*
S. S. Jha, AWADHESH PRASAD, and R. D. S. Yadava
Proceedings of the 2015 2nd International Symposium on Physics and Technology of Sensors,
8-10th March, 2015, Pune, India
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=\&arnumber=7220076>

In Indexed/ Peer Reviewed Journals

- * Dynamics of nonlinear oscillator with transient feedback
S. Dixit, A. Sharma, AWADHESH PRASAD, and M. D. Shrimali
International Journal of Dynamics and Control, (2019) -In Press
- * Chaotic behaviour of ionic transportation through synthetic ion channels
S. Negi, AWADHESH PRASAD, and A. Chandra
International Journal of Bifurcation and Chaos, (2019) -In Press
- * New topological tool for multistable dynamical systems
P. Godara, D. Dudkowski, AWADHESH PRASAD, and T. Kapitaniak
CHAOS, 28, 111101 (2018).
- * Generalized synchronization in a conservative and nearly conservative systems of star network
S. Sabarathinam and AWADHESH PRASAD
CHAOS, 28, 113107 (2018).
- * *Control of coexisting attractors via temporal feedback*
K. Yadava, AWADHESH PRASAD, and M. D. Shrimali
Phys. Lett. A 382, 2127 (2018).
- * Dynamical effects of breaking rotational symmetry in coupled Stuart-Landau oscillators
N. Punetha, V. Varshney, S. Sahoo, G. Saxena, \ap, and R. Ramaswamy
Phys. Rev. E 98, 022212 (2018).
- * *Investigation on unconventional synthesis of astroinformatic data classifier powered by irregular dynamics*
L. Kojecky, I. Zelinka, AWADHESH PRASAD, T. Vantuch, and L. Tomaszek
IEEE Intelligent Systems (2018)--In Press.
- * *Infinite number of hidden attractors in Memristor based autonomous Duffing oscillator*
V. Varshney, S. Sabarathinam, AWADHESH PRASAD, and K. Thamilmaran
International Journal of Bifurcation and Chaos 28, 1850013 (2018).
- * *Finite-time Lyapunov dimension and hidden attractor of the Rabinovich system*
N. V. Kuznetsov, G. A. Leonov, T. N. Mokaev, AWADHESH PRASAD, and M. D. Shrimali
Nonlinear Dynamics 92, 267 (2018).
- * *Shadowing in Hidden Attractors*

N. K. Kamal, V. Varshney, M. D. Shrimali, AWADHESH PRASAD, N. V. Kuznetsov, G. A. Leonov
Nonlinear Dynamics 91, 2429 (2018).

* *Describing chaotic attractors: Regular and perpetual points*

D. Dudkowski, AWADHESH PRASAD, and T. Kapitaniak
CHAOS, 28, 033604 (2018).

* *Bright optical spatial solitons in photorefractive waveguides having both the linear and quadratic electro-optic effect*

A. Katti, R. A. Yadav, and AWADHESH PRASAD
Wave Motion 77, 64 (2017).

* *Targeting periodic solutions of chaotic systems*

V. Varshney, P. R. sharma, M. D. Shrimali, B. Biswal, and AWADHESH PRASAD
International Journal of Nonlinear Science (2017).

* *Oscillation Death and revival by coupling with Damped Harmonic Oscillator*

V. Varshney, G. Saxena, B. Biswal, and AWADHESH PRASAD
CHAOS (2017).

* *Direct coupling: a possible strategy to control fruit production in alternate bearing*

AWADHESH PRASAD, K. Sakai and Y. Hoshino
Scientific Reports 7, 39890 (2017).

* *Perpetual points: New tool for localization of co-existing attractors in dynamical systems*

D. Dudkowski, AWADHESH PRASAD, and T. Kapitaniak
International Journal of Bifurcation and Chaos 27, 1750063 (2017).

* *Emergence of chimeras through induced multistability*

S. R. Ujjwal, N. Punetha, AWADHESH PRASAD, and R. Ramaswamy
Phys. Rev. E 95, 032203 (2017).

* *Perpetual points and periodic perpetual loci in maps*

D. Dudkowski, AWADHESH PRASAD, and T. Kapitaniak
CHAOS 26, 103103 (2016).

* *Effects of quasiperiodic forcing in epidemic models*

S. Bilal, B. K. Singh, AWADHESH PRASAD, and E. Michael
CHAOS 26, 093115 (2016).

* *Driving-induced multistability in coupled chaotic oscillators: Symmetries and riddled basins*

S. R. Ujjwal, N. Punetha, R. Ramaswamy, M. Agrawal, and AWADHESH PRASAD
CHAOS 26, 063111 (2016)

- * *Hidden Attractors in Dynamical Systems*
D. Dudkowski, S. Jafar, T. Kapitaniak, N. V. Kuznetsov, G. A. Leonov, and AWADHESH PRASAD
Physics Reports 637, 1 (2016).
- * *Effects of quantum noise on the nonlinear dynamics of a semiconductor laser subject to two spectrally filtered, time-delayed optical feedbacks*
J. S. Suelzer, AWADHESH PRASAD, R. Ghosh, and G. Vemuri
Optics Communications 370, 209 (2016)
- * *Exact Solutions of Certain Nonlinear Chemotaxis-Diffusion-Reaction Equations*
A. Mishra, R. S. Kaushal and AWADHESH PRASAD
Pramana- J. Phys. 86, 1043 (2016)
- * *Understanding the Alternate Bearing Phenomenon: Resource Budget Model*
AWADHESH PRASAD and K. Sakai
CHAOS, 25, 123102 (2015).
- * *A Note On Topological Conjugacy For Perpetual Points*
AWADHESH PRASAD
International Journal of Nonlinear Science 21, 60 (2016).
- * *Perpetual points and hidden attractors in dynamical systems*
D. Dudkowski, AWADHESH PRASAD, and T. Kapitaniak
Phys. Letter A. 379, 2591 (2015)
- * *Control of multistability in hidden attractors*
P. R. Sharma, M. D. Shrimali, AWADHESH PRASAD, N. V. Kuznetsov and G. A. Leonov
Eur. Phys. J. Special Topics 224, 1485 (2015).
- * *Analytical study and experimental confirmation of SNA through poincare maps in a quasiperiodically forced electronic circuit*
A. Arulgnanam, AWADHESH PRASAD, K. Thamilmaran and M. Daniel
International Journal of Bifurcation and Chaos 25, 1530020 (2015).
- * *Multilayered bubbling route to SNA in a quasiperiodically forced electronic circuit with experimental and analytical confirmation*
A. Arulgnanam, AWADHESH PRASAD, K. Thamilmaran and M. Daniel
Chaos, Solitons & Fractals 75, 96 (2015).
- * *Multilayered bubbling route to SNA in a quasiperiodically forced electronic circuit with a simple nonlinear element*
A. Arulgnanam, AWADHESH PRASAD, K. Thamilmaran, and M. Daniel
Intern. J. Dynamics and Control (10.1007/s40435-015-0154-5) (2015)

- * *Controlling the Dynamics of Hidden Attractors*
P. R. Sharma, M. D. Shrimali, AWADHESH PRASAD, N. V. Kuznetsov and
G. A. Leonov
International Journal of Bifurcation and Chaos 4, 1550061 (2015).
- * *Existence of perpetual points in nonlinear dynamical systems and its applications*
AWADHESH PRASAD
International Journal of Bifurcation and Chaos 2, 1530005 (2015).

Articles: **Nil**

Conference Presentations (last five years)

International Symposium on Complex Dynamical System and Application
March 10-13, 2014
Indian Statistical Institute, Kolkata

Contemporary Aspects of Chaotic Dynamics
Saint-Petersburg State University, Russia
May 26-28, 2014

Dynamics Day Asia-Pacific 08
IIT & IMSc, Chennai
July 21-24, 2014

Dynamics Day Rajasthan 2014
Department of Physics, Central University of Rajasthan, Kishangarh
Nov. 29, 2014

Interdisciplinary Conference on the Science and Applications on Networks
Shiv Nadar University, Dadri, U.P.
March 20-22, 2015

An introduction to alternate bearing phenomenon
Dynamics Day Aligarh
Nov. 28, 2015

Existence of perpetual points in nonlinear dynamical systems and its applications
International Conference on Complex Dynamical Systems and Applications, 2016 (CDSA 2016)
NIT Durgapur, Feb. 15-17 February, 2016.

An introduction to perpetual points in nonlinear dynamical systems and its applications
Statphys-Taiwan, Taipei, Sept. 6-8, 2016.

Understanding the some aspects of Alternate Bearing Phenomenon: cycle of three years
International Symposium on Nonlinear Theory and Its Applications (NOLTA-2016)
Yugwara, Japan, Nov. 27-30, 2016.

An introduction to alternate bearing phenomenon
National conference on Current advancement in Physics
Feb. 3-4, 2017, St.John's College. The Department of Physics, Palayamkottai, Tamil Nadu

Use of nonlinear dynamics in plant science
Physics and Applied Mathematics Researchers' Meet 2017
Indian Statistical Institute, Kolkata, March 14-16, 2017

Understanding some aspects of alternate bearing phenomenon
15th Experimental Chaos & Complexity Conference
URJC, Madrid, June 4-7, 2018

Use of Synchronization in Ecological Systems
The 5th International Conference on Advanced
Engineering - Theory and Applications 2018 (AETA2018)
11 - 13 September, 2018
Technical University of Ostrava, Czech Republic.

Synchronization and its application in plant sciences
National Workshop on Emerging Applications of Nonlinear Dynamics and Chaos in Science and
Engineering
IIT Jodhpur
December 13-15, 2018

Existence of Perpetual Points in Nonlinear Dynamical Systems And its Applications
National Workshop on Emerging Applications of Nonlinear Dynamics and Chaos in Science and
Engineering
IIT Jodhpur
December 13-15, 2018

An introduction to perpetual points in nonlinear dynamical systems and its applications
Recent Advances in Nonlinear Mechanics
Lodz University of Technology, Lodz, Poland, May 7-10, 2019.

Total Publication Profile optional

Books: 0

In Indexed/ Peer Reviewed Journals: **118**

Conference : 23

Articles: 0

Conference Presentations: **38**

Public Service / University Service / Consulting Activity

Professional Societies Memberships

Editor : **Chaos, Solitons & Fractals**

(Published by Elsevier Science)

Editorial Board Member: **Pramana -J. Physics.**

(Published by Indian Academy of Science)

Projects (Major Grants / Collaborations)

(1) **Fast Track Scheme for young scientist, DST, Gov. of India (Rs. 6.16L), 2005-2008.**

(2) Regular Project, DST, Gov. of India (Rs. 20L) 2008-20012

(3) DU-DST-PURSE Grant (Co-PI) (2 Crores) 2009-2012

(4) Regular Project, DST, Govt. of India (Rs.31L) 2013-2016

(5) Network Project, DST, Govt. of India (co-coordinator)(Rs.41L) 2013-2016

(6) Regular Project, DST Gov. of Inida (23 Lakhs) 2017-ongoing

(7) DST-SERB-RFBR-Russia Project (Co-PI) 24 Lkahs, 2016-ongoing

Other Details

Arunesh Bared

(Signature of Faculty Member)

(Signature & Stamp of HOD)