




**DESHBANDHU COLLEGE**  
(UNIVERSITY OF DELHI)  
KALKAJI, NEW DELHI - 110019  
FACULTY DETAILS PROFORMA FOR COLLEGE WEBSITE

<b>TITLE</b>	<b>Dr.</b>	<b>FIRST NAME</b>	<b>MD CHAND</b>	<b>LAST NAME</b>	<b>ASIQUE</b>	<b>PHOTOGRAPH</b>
<b>DESIGNATION</b>	<b>Assistant Professor</b>					
<b>ADDRESS</b>	Department of Physics, Deshbandhu College, University of Delhi, New Delhi, Delhi-110017					
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<b>EDUCATIONAL QUALIFICATIONS</b>						
<b>DEGREE</b>	<b>INSTITUTION</b>	<b>SUBJECTS</b>		<b>YEAR</b>	<b>DIVISION</b>	<b>%</b>
PH.D.	T.M.B.U Bhagalpur	Physics		2018		
M.SC	T.M.B.U Bhagalpur	Physics		2011	1st	72.13
B.SC (HONS.)	T.M.B.U Bhagalpur	Mathematics, Physics(Hons.), Chemistry		2009	1st	67.38
INTERMEDIATE	B.I.E.C Patna	Mathematics,	Physics,	2006	2nd	57.55
		Chemistry				
MATRIC	B.S.E.B, Patna	Mathematics, Science, Social Studies, English, Hindi		2003	Ist	66.10
<b>TITLE OF THESIS</b>	<b>On the restricted four-body problem</b>					
<b>CAREER PROFILE</b>						
<b>COLLEGE NAME</b>			<b>FROM</b>		<b>TO</b>	
DESHBANDHU COLLEGE			17 AUG 2019		TILL DATE	
<b>SUBJECT TAUGHT</b>						
Element of Modern Physics, Astronomy, Classical Mechanics, Solid State Physics						
<b>AREAS OF RESEARCH</b>						
CELESTIAL MECHANICS, SPACE DYNAMICS, ASTROPHYSICS AND SPACE SCIENCE						
<b>LIST OF PUBLICATION: 28 PAPERS</b>						
<b>SCIENCE CITATION INDEXED (SCI) LISTED/ PEER-REVIEWED JOURNALS</b>						
<b>Name of Journals</b>	<b>IF</b>	<b>Papers</b>	<b>Publishers</b>	<b>SCI</b>		
Astrophysics and Space Sciences	1.909	6	Springer	Yes		
New Astronomy	2.096	9	Elsevier	Yes		
Chaos, Solitons and Fractals	9.900	2	Elsevier	Yes		
International Journal of Non-linear Mechanics	3.336	1	Elsevier	Yes		
Non-Linear Dynamics	5.741	2	Springer	Yes		
Planetary and space science	2.085	1	Elsevier	Yes		
Astronomical Notes	0.954	2	Wiley	Yes		
The Journals of Astronautical Sciences	1.560	2	Springer	Yes		
Computational and Mathematical methods	0.000	2	Wiley	Yes		

Astronomical and Astrophysical Transactions	0.030	1	CSP	Yes
Total		28		

## PUBLICATIONS PROFILE

### List of publication:

#### 1. Science Citation Indexed (SCI) listed journals

### Year-2022

**P28.** O.P., Meena, Md Sanam Suraj, Rajiv Aggarwal, Amit Mittal, **Md Chand Asique\***:

The study of periodic orbits in the spatial collinear restricted four-body problem with non-spherical primaries. **Non-Linear Dynamics**, by Springer.

**P27:** Md Sanam Suraj, Sawsan Alhawaity, Rajiv Aggarwal, **Md Chand Asique\***. Orbit classification in the restricted three-body problem with the effect of three-body interaction. *New Astronomy*, (Available online 21 July 2022), 101894.

<https://doi.org/10.1016/j.newast.2022.101894>.

**P26:** Md Sanam Suraj, Sawsan Alhawaity, Rajiv Aggarwal, **Md Chand Asique**, Amani Alahmadi. [On the rhomboidal restricted five-body problem: Analysis of the basins of convergence](#). *New Astronomy*, Volume 97, 101893, November 2022,

<https://doi.org/10.1016/j.newast.2022.101893>

**P25:** Md Sanam Suraj, F.L. Dubeibe, Rajiv Aggarwal, **Md Chand Asique\***: On the beyond-Newtonian collinear circular restricted (3+1)-body problem with spinning primaries. **Astrophysics and Space Science**. Volume 367, 1-13, June 2022,

<https://doi.org/10.1007/s10509-022-04081-2>

**P24:** Md Sanam Suraj\*, Sawsan Alhawaity, Rajiv Aggarwal, **Md Chand Asique**, Amit Mittal, and Mamta Jain: [On the topology of basins of convergence linked to libration points in the modified R3BP](#). **New Astronomy**, Volume 94, 101776, (Available online 3 February 2022) <https://doi.org/10.1016/j.newast.2022.101776>

**P23:** Md Sanam Suraj, Rajiv Aggarwal, **Md Chand Asique\***, Amit Mittal: [The influence of third order term on basins of convergence in the Henon-Heiles type system](#), **New Astronomy**. Volume, 94, 101761 (Available online 1 February 2022)

<https://doi.org/10.1016/j.newast.2021.101761>

### Year-2021

**P22** Md Sanam Suraj\*, Rajiv Aggarwal, **Md Chand Asique**, Kumari Shalini.: [The study of Newton-Raphson basins of convergence in the three-dipole problem](#). Online published, **Nonlinear Dynamics**, 107, pages 829–854 (2022). **IF.: 5.022**, <https://link.springer.com/article/10.1007/s11071-021-07029-3>, Published by-Springer.

**P21** Prachi Sachan, Md Sanam Suraj\*, Rajiv Aggarwal, Amit Mittal, **Md Chand Asique**: [On the axis-symmetric restricted five-body problem within the frame of variable mass: the convex case](#). **New Astronomy**, Volume 92, April 2022, 101697 (Available online 14 October 2021).

<https://www.sciencedirect.com/science/article/abs/pii/S1384107621001226>

**P20.** Md Sanam Suraj\*, Rajiv Aggarwal, Vipin Kumar Aggarwal, **Md Chand Asique**, Amit Mittal: [On the Sitnikov-like N-Body Problem with quasi-homogeneous potential](#). **Computational and Mathematical Methods**. Online 27 June 2021, ISSN: 2577-7408. <https://doi.org/10.1002/cmm4.1180>

**P19.** Md Sanam Suraj\*, Rajiv Aggarwal, **Md Chand Asique**, Amit Mittal, Mamta Jain, Vinod Kumar Paliwal: [Effect of three-body interaction on the topology of basins of convergence linked to the libration points in the R3BP](#). **V-205**, 105281, Online 14 June 2021, **Planetary and Space Science**. (**IF: 1.782**), ISSN: 1384-1076.

<https://doi.org/10.1016/j.pss.2021.105281>

**P18.** Md Sanam Suraj\*, Rajiv Aggarwal, Vipin Kumar Aggarwal, **Md Chand Asique**: Combined effect of small perturbations in the Coriolis and centrifugal forces and three-body interaction on the existence of libration points in the R3BP. *New Astronomy*, V-89, 101630, (Nov. 2021) (online 01 June, 2021). (IF: 1.058), ISSN: 0032-0633. <https://doi.org/10.1016/j.newast.2021.101630>

**P17.** Md Sanam Suraj\*, Rajiv Aggarwal, **Md Chand Asique**, Amit Mittal: The Basins of Convergence in the Magnetic-Binary Problem with Angular Velocity. *Computational and Mathematical Methods*, 2021(3) e1161, online 24 March 2021. Online ISSN: 2577-7408. <https://doi.org/10.1002/cmm4.1161>

## Year-2020

**P16.** Md Sanam Suraj, Rajiv Aggarwal, **Md Chand Asique**, Amit Mittal: On the modified circular restricted three-body problem with variable mass. Vol-84, 2021, 101510, *New Astronomy*, (online 30 Sep.2020).(IF:1.058),ISSN:1384-1076. <https://doi.org/10.1016/j.newast.2020.101510>

**P15.** Md Sanam Suraj, Rajiv Aggarwal, Amit Mittal, **Md Chand Asique**: The effect of radiation pressure on the basins of convergence in the restricted four-body problem. *Chaos, Solitons, and Fractals*, Volume 141, December 2020, 110347. (online 16 Oct. 2020) (IF: 3.764), ISSN: 0960-0779 <https://doi.org/10.1016/j.chaos.2020.110347>

**P14.** Rajiv Aggarwal, Md Sanam Suraj\*, **Md Chand Asique**, Amit Mittal: The analysis of basins of convergence in the regular polygon problem of (N+1) bodies system with spheroidal primaries. Volume 85, May 2021, 101530, *New Astronomy*, (online 17 Oct. 2020) (IF: 1.058), ISSN: 1384-1076 <https://doi.org/10.1016/j.newast.2020.101530>

**P13.** Md Sanam Suraj, Rajiv Aggarwal, Amit Mittal, Om Prakash Meena, **Md Chand Asique**: The study of the fractal basins of convergence linked with libration points in the perturbed (N+1)-body ring problem. *Astronomical Notes*, Volume 341, Issue 8, October 2020,Pages 741-761. (online 21 Sep. 2020), (IF:1.064), ISSN: 0004-6337 (print). 1521-3994 (online). <https://doi.org/10.1002/asna.202013789>

## Year-2019

**P12.** Md Sanam Suraj, Rajiv Aggarwal, Amit Mittal, **Md Chand Asique**: The perturbed restricted three-body problem with angular velocity: Analysis of basins of convergence linked to the libration points, *International Journal of Non-Linear Mechanics*, 103494, V-123, April-2020. <https://doi.org/10.1016/j.ijnonlinmec.2020.103494>, (IF: 2.225, Clarivate Analytics, 2019), ISSN: 0020-7462; Published by- Elsevier, (UGC Journal number: 23223)

**P11.** Md Sanam Suraj, Rajiv Aggarwal, Amit Mittal, Om Prakash Meena, **Md Chand Asique**: On the spatial collinear restricted four-body problem with non-spherical primaries. *Chaos, Solitons & Fractals*, 133(2020) 109609. <https://doi.org/10.1016/j.chaos.2020.109609>, ISSN: 0960-0779, (IF-3.064), Published by- Elsevier

**P10.** Md Sanam Suraj, **Md Chand Asique**, Amit Mittal, Rajiv Aggarwal; Divulging the effect of small perturbations in the Coriolis and centrifugal forces in the photogravitational version of autonomous restricted four-body problem with oblate primary, *Astronomical Notes*. <https://doi.org/10.1002/asna.201913629>. 340(5), 413-429, 2019 (IF:1.322); ISSN:1521-3994 (UGC Journal number: 1388)

**P09.** Md Sanam Suraj, Amit Mittal, Rajiv Aggarwal, **Md Chand Asique**, Prachi Sachan; On the perturbed photogravitational restricted five-body problem: the analysis of fractal basins of convergence, *Astrophysics and Space. Sci.*, 364, 87, May-2019, (IF: 1.885, Thomson Reuters via Journal Citation Reports), ISSN: 0004-640X, <https://doi.org/10.1007/s10509-019-3575-3>, Published by- Springer International Publishing, (UGC Journal number: 1409)

**P08.** Md Sanam Suraj, **Md Chand Asique**, Rajiv Aggarwal: [On the restricted four-body problem when primaries are triaxial rigid body](#). *Astronomical and Astrophysical Transactions*, 31(1), 2019. ISSN- 1476-3540.

### Year-2018

**P07.** Suraj, Md Sanam\*, Aggarwal. Rajiv, Shalini, K., Md **Chand Asique**: [Out-of-Plane Equilibrium Points and Regions of Motion in Photogravitational R3BP when the Primaries Are Heterogeneous Spheroid with Three Layers](#). *New Astronomy*. 63:15-26 (August-2018), (**IF: 1.162**), ISSN: 1384-1076. <https://doi.org/10.1016/j.newast.2018.02.005>, Published by- Elsevier (UGC Journal number: 37691).

### Year-2017

**P06.** Suraj, Md Sanam\*, **Asique, M.C.**, Prasad, U., Hassan, M.R., Shalini, K.: [Fractal basins of attraction in the restricted four body problem when the primaries are triaxial rigid bodies](#). *Astrophysics and Space Science*. 362, 211(20-Oct-2017), (**IF:1.885**), ISSN: 0004-640X, 1572-946X. <https://doi.org/10.1007/s10509-017-3188-7>, Published by- Springer International Publishing. (UGC Journal number: 1409)

### Year-2016

**P05.** **Asique, M.C.**, Prasad, U., Hassan, M.R., Suraj, Md Sanam: [On the R4BP when the third primary is an ellipsoid](#). *Journal of the Astronautical Sciences*. 64(3), 231–250 (28 Dec-2016). (**IF: 1.406**), ISSN: 0021-9142. <https://doi.org/10.1007/s40295-016-0104-2>, Published by- Springer International Publishing. (UGC Journal number: 10910)

**P04.** **Asique, M.C.**, Prasad, U., Hassan, M.R., Suraj, Md Sanam: [On the R4BP when the third primary is a triaxial rigid body](#). *Astrophysics and Space Science*, 361(12), 1-18 (Dec-2016). (**IF: 1.885**), ISSN: 0004-640X, 1572-946X. <https://doi.org/10.1007/s10509-016-2959-x>, Published by- Springer International Publishing. (UGC Journal number: 1409)

### Year-2015

**P03.** **Asique, M.C.**, Prasad, U., Hassan, M.R., Suraj, Md Sanam.: [On the photogravitational R4BP when the third primary is oblate/prolate spheroid](#). *Astrophysics and Space Science*, 360, 13(Nov-2015). (**IF: 1.885**), ISSN: 0004-640X, 1572-946X. <https://doi.org/10.1007/s10509-015-2522-1>, Published by- Springer International Publishing. (UGC Journal number: 1409)

**P02.** **Asique, M.C.**, Prasad, U., Hassan, M.R., Suraj, Md Sanam: [On the R4BP when the third primary is an oblate spheroid](#), *Astrophysics and Space Science*, 357:82 (May-2015). (**IF: 1.885**), ISSN: 0004-640X, 1572-946X. <https://doi.org/10.1007/s10509-015-2235-5>, Published by- Springer International Publishing. (UGC Journal number: 1409)

### Year-2014

**P01.** Suraj, Md Sanam\*, **Asique, M.C.**, Shalini, K.: [The Photo-Gravitational R3BP when the Primaries are Heterogeneous Spheroid with Three Layers](#). *Journal of the Astronautical Sciences*, 61(3), 122-155 (June-2014). (**IF: 1.406**), ISSN: 0021-9142, 2195-0571. <https://doi.org/10.1007/s40295-014-0026-9>, Published by- Springer International Publishing. (UGC Journal number: 10910).

#### BOOK

#### ON THE PERTURBED RESTRICTED FOUR-BODY PROBLEM

ISBN-13: 978-620-0-46693-8; ISBN-10: 6200466939

Published By:

Verlag/Publisher:

LAP LAMBERT Academic Publishing, Germany

## COLLABORATORS

1. Dr. Euaggelous E. Zotos (2017--present): Greece
2. Dr. Swasan Alhowaity, (2021-present): KSA
3. Dr. F.L.Dubeibe, (2021-present) Columbia
4. Dr. Umakant Prasad (2015-Present):India
5. Dr. M.R. Hassan (2015--present): India
6. Dr. Rajiv Aggarwal (2018-present): India
7. Dr. Amit Mittal (2019--Present): India
8. Dr. Md Sanam Suraj (2015-Present): India

## PAPER PRESENTED IN CONFERENCES

C4. Organising member of 2nd International conference on "**Natural Products and Human Health-2022 (ICNPHH-2022)**", held at Deshbandhu College, University of Delhi, New Delhi, India, November 04-06,2022.

C3. Participated in the **International conference, Human rights, national and international issues and challenges**, held in Ambedkar International Centre , Delhi, February 22-23, 2020

C2. The Analysis of restricted four-body problem, **International conference on Physics, Society and Technology** held in University of Delhi, New Delhi, Delhi, January 17-19, 2019

C1. The Analysis of Restricted four-body problem when the third primary is an oblate spheroid. **National Conference on Recent Trends in Mathematical and Computational Sciences**, held in Bhagalpur University, 3-4 January 2015.

## FDP AND WORKSHOPS

4. One -Week Online Faculty Development Programme on "**Python: Essentials, Programming and Analytics**" Jointly organized by "**University of Delhi and Guru Angad Dev Teaching Learning Centre, SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT) of Ministry of Education, from 27th October to 03rd November 2022**".

3. Faculty Development Program on "**Development and Delivery of MOOCs and E-content**",organized by **Central University of Haryana, Mahendergarh under the aegis of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT) and IQAC**, Deshbandhu College, University of Delhi, New Delhi, from 26th June, 2020 to 1st July 2020.

2. Faculty Development Program on "**MANAGING ONLINE CLASSES and CO-CREATING MOOCs:2.0**", Organized by Ramanujam College, University of Delhi, sponsored by **MINISTRY OF HUMAN RESOURCE DEVELOPMENT PANDIT MADAN MOHAN MALAVIYA NATIONAL MISSION ON TEACHERS AND TEACHING**, from May 18-June 03, 2020.

1. Short term course on "**DYNAMICAL SYSTEMS: THEORY AND APPLICATIONS**", organized by **Department of Applied Mathematics, Indian School of Mines (ISM) Dhanbad**, from June 26-30, 2016.

## MEMBERSHIP IN INTERNATIONAL/ NATIONAL PROFESSIONAL/ SCIENTIFIC ORGANIZATIONS

1. Individual Member of "**International Astronomical Union**" (IAU), Paris, France.

Affiliation(s) within the IAU

Member of [Division A Fundamental Astronomy](#)

Member of [Division B Facilities, Technologies and Data Science](#)

Member of [Division C Education, Outreach and Heritage](#)

Member of [Division F Planetary System and Astrobiology](#)

Member of [Inter-Division A-F Commission Celestial Mechanics and Dynamical Astrophysics](#)

Member of [Commission B1 Computational Astrophysics](#)

Member of [Commission C1 Astronomy Education and Development](#)

2. Life member of "**Astronomical Society of India (ASI)**", Hyderabad, India, (ID: L2323)

## PERSONAL DETAILS

Date of Birth : 10-Sep-1987

Father's name : Md Irfan

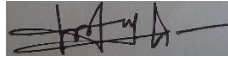
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: PS - Naugachia  
: Dist. - Bhagalpur  
: State - Bihar  
: Pin - 853204

Nationality : Indian  
Language known : English, Hindi, Urdu

#### DECLARATION

I hereby declare that the above furnished information made in this curriculum-vitae are true and correct to the best of my knowledge.

Date: 18 /11 /2022  
Place: Delhi

  
**Md Chand Asique**  
Signature

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**Subject area** : Earth and Planetary Sciences, Physics and Astronomy. Celestial Mechanics

	Scopus	Google Scholar	Web of Sciences	Research Gate
<b>Citations</b>	164	179	147	226
<b>h-index</b>	8	6/i10-index:6	7	

**Publons Page** (Web Of Sciences) : <https://publons.com/researcher/3237722>  
**Scopus page** (Scopus indexed) : <https://www.scopus.com/authid/detail.uri?authorId=56604234500>  
**Research-gate** (Thomson Reuters) : <https://www.researchgate.net/profile/Md-Chand-Asique>  
**Web page** : <https://sites.google.com/db.du.ac.in/chandasique/home>  
**Google Scholar** : <https://scholar.google.com/citations?user=axN8PZMAAAAJ&hl=en>

The above details are as per the website record on the date: 18-11-2022