

# Curriculum Vitae

## DR. DIBAKAR GHOSH

i) Name and full correspondence address:

Name: **Dr. Dibakar Ghosh**

Designation: **Associate Professor**



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Indian Statistical Institute,  
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Contact number(s): (+91) 9830334136 (Mobile), 03325753024 (Office)

iii) Institution

**Indian Statistical Institute,  
203, B. T. Road,  
Kolkata-700108, India**

1. Date of Birth: **6<sup>th</sup> March, 1980**

2. Details of Educational Qualification:

	Degree	Year	Subject	University/Institute
1.	<b>B. Sc.</b>	<b>1999-2002</b>	<b>Mathematics (Hons)</b>	<b>University of Calcutta</b>
2.	<b>M. Sc.</b>	<b>2002-2004</b>	<b>Applied Mathematics</b>	<b>University of Calcutta</b>
3.	<b>Ph.D.</b>	<b>2004-2009</b>	<b>Nonlinear Dynamics</b>	<b>Jadavpur University</b>

### Teaching Experiences:

1. Associate Professor in Physics and Applied mathematics Unit, Indian Statistical Institute, Kolkata  
From August, 2017 to present.
2. Assistant Professor in Physics and Applied mathematics Unit, Indian Statistical Institute, Kolkata  
From August, 2012 to August, 2017.
3. Assistant Professor in Mathematics, University of Kalyani, West Bengal-741235  
From April, 2012 to July, 2012.
4. Assistant Professor in Mathematics, Dinabandhu Andrews College, Garia, Kolkata-700084  
From 2006 to 2012.

**H-index: 32**    **Citation: 3500** (Google Scholar),    **Total published papers: 150**

**A. 1(a) Complete List of publications (List of papers published in SCI Journals, in year wise descending order)**

Sl. No.	Author(s)	Title	Names of Journal	Vol.	Page	Year	Impact factor
1.	<b>Dibakar Ghosh</b> , Mattia Frasca, Alessandro Rizzo, Soumen Majhi, Sarbendu Rakshit, Karin Alfaro-Bittner and Stefano Boccaletti	The synchronized dynamics of time-varying networks	<b>Physics Reports</b>		Accepted	2021	
2.	Iqtadar Hussain, Sajad Jafari, Matjaz Perc and <b>Dibakar Ghosh</b>	Chimera states in a multi-weighted neuronal network	<b>Physics Letters A</b>			2021	
3.	S. Rakshit, F. Parastesh, S. Nag Chowdhury, S. Jafari, J. Kurths, <b>Dibakar Ghosh</b>	Relay interlayer synchronization: Invariance and stability conditions	<b>Nonlinearity</b>			2021	
4.	Md. Sayeed Anwar, <b>Dibakar Ghosh</b> , Nikita Frolov	Relay synchronization in weighted triplex network	<b>Mathematics</b>	9	2135	2021	
5.	Sayantana Nag Chowdhury, Arnob Ray, Arindam Mishra and <b>Dibakar Ghosh</b>	Extreme events in globally coupled chaotic maps	<b>Journal of Physics: Complexity</b>	2	035021	2021	
6.	Sayantana Nag Chowdhury, Srilena Kundu, Matjaz Perc and <b>Dibakar Ghosh</b>	Complex evolutionary dynamics due to punishment and free space in ecological multigames	<b>Proceedings of the Royal Society A</b>	477	20210397	2021	
7.	I. Hussain, <b>Dibakar Ghosh</b> , and S. Jafari	Chimera states in a thermosensitive FitzHugh-Nagumo neuronal network	<b>Applied Mathematics and Computation</b>	410	126461	2021	
8.	G. R. Simo, P. Louodop, <b>Dibakar Ghosh</b> , T. Njoungou, R. Tchitnga, and H. A. Cerdeira	Traveling chimera patterns in a two-dimensional neuronal network	<b>Physics Letters A</b>	409	127519	2021	
9.	S. A. Nasab, S. Panahi, F. Ghassemi, S. Jafari, K. Rajagopal, <b>Dibakar Ghosh</b> and M. Perc	Functional neuronal networks reveal emotional processing differences in children with ADHD	<b>Cognitive Neurodynamics</b>			2021	
10.	S. Ghosh, A. Senapati, A. Mishra, J. Chattopadhyay, S. K. Dana, C. Hens, and <b>Dibakar Ghosh</b>	Reservoir computing on epidemic spreading: A case study on COVID-19 cases	<b>Physical Review E</b>	104	014308	2021	
11.	S. Kundu, P. Muruganandam, Dibakar Ghosh, and M. Lakshmanan	Amplitude mediated spiral chimera pattern in a nonlinear reaction-diffusion system	<b>Physical Review E</b>	103	062209	2021	
12.	S. Nag Chowdhury, S. Rakshit, J. M. Buldu, <b>Dibakar Ghosh</b> , & Chittaranjan Hens	Antiphase synchronization in multiplex networks with attractive and repulsive interactions	<b>Physical Review E</b>	103	032310	2021	
13.	S. Nag Chowdhury, S. Kundu, J. Banerjee, M. Perc & <b>Dibakar Ghosh</b>	Eco-evolutionary dynamics of cooperation in the presence of policing	<b>Journal of Theoretical Biology</b>	518	110606	2021	
14.	Arnob Ray, Tanujit Chakraborty, and <b>Dibakar Ghosh</b>	Optimized ensemble deep learning framework for scalable forecasting of dynamics containing extreme events	<b>Chaos</b>			2021	
15.	Bidesh K. Bera, Srilena Kundu, Paulsamy Muruganandam, <b>Dibakar Ghosh</b> , and M. Lakshmanan	Spiral wave chimeralike transient dynamics in three-dimensional grid of diffusive ecological systems	<b>Chaos</b>	31	083125	2021	
16.	S. Ghosh, A. Senapati, J. Chattopadhyay, C. Hens, & <b>Dibakar Ghosh</b>	Optimal test-kit based intervention strategy of epidemic spreading in heterogeneous complex networks	<b>Chaos</b>	31	071101	2021	
17.	S. Rakshit, S. Majhi, J. Kurths & <b>Dibakar Ghosh</b>	Neuronal synchronization in long-ranged time-varying networks	<b>Chaos</b>	31	073129	2021	
18.	R. Phogat, A. Ray, P. Parmananda, & <b>Dibakar Ghosh</b>	Phase coalescence in a population of heterogeneous Kuramoto oscillators	<b>Chaos</b>	31	041104	2021	
19.	S.Kundu, S. Majhi and Dibakar Ghosh	Persistence in multilayer ecological network consisting of harvested patches	<b>Chaos</b>	31	033154	2021	
20.	A. Ray, A. Pal, <b>Dibakar Ghosh</b> , S.K. Dana, & C. Hens	Mitigating long transient time in deterministic systems by resetting	<b>Chaos</b>	31	011103	2021	
21.	S. Dixit, S. Nag Chowdhury, A. Prasad, <b>Dibakar Ghosh</b> , & M. Dev Shrimali	Emergent rhythms in coupled nonlinear oscillators due to dynamic interactions	<b>Chaos</b>	31	011105	2021	
22.	K. Pal, <b>Dibakar Ghosh</b> , & G. Gangopadhyay	Synchronization and metabolic energy consumption in stochastic Hodgkin-Huxley neurons: patch size and drug blockers	<b>Neurocomputing</b>	422	222-234	2021	4.438

23.	Iqtadar Hussain, Sajad Jafari, and <b>Dibakar Ghosh</b> , and Matjaz Perc	Synchronization and chimera states in FitzHugh-Nagumo neuronal model with photocell	<b>Nonlinear Dynamics</b>	104	2711	2021	
24.	P. Das, R. K. Upadhyay, A. K. Misra, F. A. Rihan, P. Das, <b>Dibakar Ghosh</b>	Mathematical model of COVID-19 with comorbidity and controlling using non-pharmaceutical interventions and vaccination	<b>Nonlinear Dynamics</b>			2021	
25.	M. Hazrati, S. Panahi, F. Parastesh, S. Jafari, & <b>Dibakar Ghosh</b>	Role of links on the structural properties of different network topologies	<b>Europhysics Letters</b>	133	40001	2021	
26.	Shiva Dixit, Sayantan Nag Chowdhury, <b>Dibakar Ghosh</b> , and Manish Dev Shrimali	Dynamic interaction induced explosive death	<b>Europhysics Letters</b>	133	40003	2021	
27.	N. Frolov, S. Rakshit, V. Maksimenko, D. Kirsanov, <b>Dibakar Ghosh</b> , A. Hramov	Coexistence of interdependence and competition in adaptive multilayer network	<b>Chaos, Solitons &amp; Fractals</b>	147	110955	2021	
28.	P. Das, S. Das, P. Das, F. A. Rihan, M. Uzuntarla and <b>Dibakar Ghosh</b>	Optimal control strategy for cancer remission using combinatorial therapy: A mathematical model-based approach	<b>Chaos, Solitons &amp; Fractals</b>	145	110789	2021	
29.	A. Ray, S. Kundu & <b>Dibakar Ghosh</b>	Enhancing synchrony in asymmetrically weighted multiplex networks	<b>Chaos, Solitons &amp; Fractals</b>	142	110476	2021	
30.	K. Oyeleke, O. I. Olusola U. E. Vincent, <b>Dibakar Ghosh</b> , Peter McClintock	Parametric vibrational resonance in a gyroscope driven by dual-frequency forces	<b>Physics Letters A</b>	387	127040	2021	
31.	P. Das, R. K. Upadhyay, P. Das & <b>Dibakar Ghosh</b>	Exploring dynamical complexity in a time-delay tumor-immune model	<b>Chaos</b>	30	123118	2020	
32.	S. Rakshit and <b>Dibakar Ghosh</b>	Generalized synchronization on the onset of auxiliary system approach	<b>Chaos</b>	30	111102	2020	
33.	N. Frolov, V. Maksimenko, S. Majhi, S. Rakshit, <b>Dibakar Ghosh</b> , A Hramov	Chimera-like behavior in a heterogeneous Kuramoto model: The interplay between attractive and repulsive coupling	<b>Chaos</b>	30	081102	2020	
34.	S. Nag Chowdhury, S. Majhi and <b>Dibakar Ghosh</b>	Distance dependent competitive interactions in a frustrated network of mobile agents	<b>IEEE Transactions on Network Science and Engineering</b>	7(4)	3159	2020	5.213
35.	A. Ray & <b>Dibakar Ghosh</b>	Another new chaotic system: bifurcation and chaos control	<b>International Journal of Bifurcation and Chaos</b>	30	2050161	2020	2.145
36.	S. Majhi, S. Nag Chowdhury and <b>Dibakar Ghosh</b>	Perspective on attractive-repulsive interactions in dynamical networks: Progress and future	<b>Europhysics Letters</b>	132	20001	2020	
37.	Z. Wang, S. Baruni, F. Parastesh, S. Jafari, <b>Dibakar Ghosh</b> , M. Perc & I. Hussain	Chimeras in an adaptive neuronal network with burst-timing-dependent plasticity	<b>Neurocomputing</b>	406	117-126	2020	4.438
38.	S. Rakshit, B. K. Bera, E. M. Bollt and <b>Dibakar Ghosh</b>	Intralayer Synchronization in evolving multiplex hypernetworks: Analytical Approach	<b>SIAM J. Applied Dynamical Systems</b>	19	918-963	2020	2.159
39.	S. Rakshit, S. Majhi & <b>Dibakar Ghosh</b>	Synchronization in complex networks with long-range interactions	<b>Journal of Physics A: Mathematical and Theoretical</b>	53	154002	2020	2.110
40.	S.Nag Chowdhury, S. Kundu, M. Duh, M. Perc, <b>Dibakar Ghosh</b>	Cooperation on interdependent networks by means of migration and stochastic imitation	<b>Entropy</b>	22	485	2020	2.429
41.	S. Nag Chowdhury & <b>Dibakar Ghosh</b>	Hidden attractors: A new chaotic system without equilibria	<b>European Physical Journal Special Topics</b>	229	1299	2020	1.66
42.	Md. S. Anwar, G. Sar, A. Ray & <b>Dibakar Ghosh</b>	Behavioral study of a new chaotic system	<b>European Physical Journal Special Topics</b>	229	1343	2020	1.66
43.	A. Ray, S. Kundu & <b>Dibakar Ghosh</b>	Aging transition in weighted homogeneous and heterogeneous networks	<b>Europhysics Letters</b>	128	40002	2020	1.886
44.	A. Ray, S. Rakshit, G. K. Basak, S. K. Dana & <b>Dibakar Ghosh</b>	Understanding the origin of extreme events in El Niño southern oscillation	<b>Physical Review E</b>	101	062210	2020	2.353
45.	A. Ray, A. Mishra, <b>Dibakar Ghosh</b> , T. Kapitaniak, S. K. Dana & C. Hens	Extreme events in a network of heterogeneous Josephson junctions	<b>Physical Review E</b>	101	032209	2020	2.353

46.	S. N. Chowdhury, <b>Dibakar Ghosh</b> & C. Hens	Effect of repulsive links on frustration in attractively coupled networks	<b>Physical Review E</b>	101	022310	2020	2.353
47.	S. Rakshit, B. K. Bera & <b>Dibakar Ghosh</b>	Invariance and stability conditions of interlayer synchronization manifold	<b>Physical Review E</b>	101	012308	2020	2.353
48.	S. Rakshit, Z. Faghani, F. Parastesh, S. Panahi, S. Jafari, <b>Dibakar Ghosh</b> , & M. Perc	Transitions from chimeras to coherence: An analytical approach by means of the coherent stability function	<b>Physical Review E</b>	100	012315	2019	2.353
49.	S. Kundu, B. K Bera, <b>Dibakar Ghosh</b> and M. Lakshmanan	Chimera patterns in three-dimensional locally coupled systems	<b>Physical Review E</b>	99	022204	2019	2.353
50.	S. Majhi, <b>Dibakar Ghosh</b> , and J. Kurths	Emergence of synchronization in multiplex networks of mobile Rossler oscillators	<b>Physical Review E</b>	99	012308	2019	2.353
51.	S. N. Chowdhury, S. Majhi, <b>Dibakar Ghosh</b> , A. Prasad	Convergence of chaotic attractors due to interaction based on closeness	<b>Physics Letters A</b>	383	125997	2019	2.087
52.	L. Khaleghi, S. Panahi, S. N. Chowdhury, S. Bogomolov, <b>Dibakar Ghosh</b> & S Jafari	Chimera states in a ring of map-based neurons	<b>Physica A</b>	536	122596	2019	2.500
53.	S. Kundu, S. Majhi & <b>Dibakar Ghosh</b>	Chemical synaptic multiplexing enhances rhythmicity in neuronal networks	<b>Nonlinear dynamics</b>	98	1659	2019	4.604
54.	S. Rakshit, B. K. Bera, J. Kurths & <b>Dibakar Ghosh</b>	Enhancing synchrony in multiplex network due to rewiring frequency	<b>Proceedings of the Royal Society A</b>	475	20190460	2019	2.818
55.	S. Kundu, S. Majhi & <b>Dibakar Ghosh</b>	From asynchronous to synchronous chimeras in ecological multiplex network	<b>European Physical Journal Special Topics</b>	228	2429	2019	1.66
56.	B. K. Bera, S. Rakshit, & <b>Dibakar Ghosh</b>	Intralayer synchronization in neuronal multiplex network	<b>European Physical Journal Special Topics</b>	228	2441	2019	1.66
57.	S. N. Chowdhury, S. Majhi, M. Ozer, <b>Dibakar Ghosh</b> , M. Perc	Synchronization to extreme events in moving agents	<b>New Journal of Physics</b>	21	073048	2019	3.773
58.	J. Banerjee, R. K. Layek, S. K Sasmal, <b>Dibakar Ghosh</b>	Delayed evolutionary model for public goods competition with policing in phenotypically variant bacterial biofilms	<b>Europhysics Letters</b>	126	18002	2019	1.886
59.	B. K Bera, S. Rakshit, <b>Dibakar Ghosh</b> , J. Kurths	Spike chimera states and firing regularities in neuronal hypernetworks	<b>Chaos</b>	29	053115	2019	2.643
60.	A. Ray, S. Rakshit, <b>Dibakar Ghosh</b> , S. K. Dana	Intermittent large deviation of chaotic trajectory in Ikeda map: Signature of extreme events	<b>Chaos</b>	29	043131	2019	2.643
61.	V. V. Makarov, S. Kundu, D. V. Kirsanov, N. S. Frolov, V. A. Maksimenko, <b>Dibakar Ghosh</b> , S. K. Dana, and A. E. Hramov	Multiscale interaction promotes chimera states in complex networks	<b>Communications in Nonlinear Science and Numerical Simulation</b>	71	118	2019	3.967
62.	P. Kundu, L. Sharma, M. Nandan, <b>Dibakar Ghosh</b> , C. Hens and P. Pal	Emergent dynamics in delayed attractive-repulsively coupled networks	<b>Chaos</b>	29	013112	2019	2.643
63.	S. Majhi, T. Kapitaniak and <b>Dibakar Ghosh</b>	Solitary states in multiplex networks owing to competing interactions	<b>Chaos</b>	29	013108	2019	2.643
64.	S. Nag Chowdhury and <b>Dibakar Ghosh</b>	Synchronization in dynamic network using threshold control approach	<b>Europhysics Letters</b>	125	10011	2019	1.886
65.	S. Majhi, B. K. Bera, <b>Dibakar Ghosh</b> , and M. Perc	Chimera states in neuronal networks: A review	<b>Physics of life reviews</b>	28	100	2018	11.045
66.	S Rakshit, A Ray, BK Bera, <b>Dibakar Ghosh</b>	Synchronization and firing patterns of coupled Rulkov neuronal map	<b>Nonlinear Dynamics</b>	94	785-805	2018	4.604
67.	Z. Wei, F. Parastesh, H. Azarnoush, S. Jafari, <b>Dibakar Ghosh</b> , M. Perc, and M. Slavinec	Nonstationary chimeras in a neuronal network	<b>Europhysics Letters</b>	123	48003	2018	1.886
68.	S. Kundu, S. Majhi, P. Karmakar, <b>Dibakar Ghosh</b> , B. Rakshit	Augmentation of dynamical persistence in networks through asymmetric interaction	<b>Europhysics Letters</b>	123	30001	2018	1.886
69.	S. Majhi, and <b>Dibakar Ghosh</b>	Alternating chimeras in networks of ephaptically coupled bursting neurons	<b>Chaos</b>	28	083113	2018	2.643

70.	S. Khajanchi, M. Perc, and <b>Dibakar Ghosh</b>	The influence of time delay in a chaotic cancer model	<b>Chaos</b>	28	103101	2018	2.643
71.	S. Majhi, and <b>Dibakar Ghosh</b>	Alternating chimeras in networks of ephaptically coupled bursting neurons	<b>Chaos</b>	28	083113	2018	2.643
72.	S. Majhi, P Muruganandam, F. F. Ferreira, <b>Dibakar Ghosh</b> , and S. K Dana	Asymmetry in initial cluster size favors symmetry in a network of oscillators	<b>Chaos</b>	28	081101	2018	2.643
73.	S. Kundu, S. Majhi, P. Muruganandam, and <b>Dibakar Ghosh</b>	Diffusion induced spiral wave chimeras in ecological system	<b>European Physical Journal Special Topics</b>	227	983-993	2018	1.66
74.	S. Rakshit, B. K. Bera, and <b>Dibakar Ghosh</b>	Synchronization in a temporal multiplex neuronal hypernetwork	<b>Physical Review E</b>	98	032305	2018	2.353
75.	S Kundu, S Majhi, and <b>Dibakar Ghosh</b>	Resumption of dynamism in damaged networks of coupled oscillators	<b>Physical Review E</b>	97	052313	2018	2.353
76.	S. Rakshit, B. K. Bera, <b>Dibakar Ghosh</b> , and S. Sinha	Emergence of synchronization and regularity in firing patterns in time-varying neural hypernetworks	<b>Physical Review E</b>	97	052304	2018	2.353
77.	S. Kundu, S. Majhi, B. K Bera, <b>Dibakar Ghosh</b> and M. Lakshmanan	Chimera states in two-dimensional networks of locally coupled oscillators	<b>Physical Review E</b>	97	022201	2018	2.353
78.	S. Kundu, S. Majhi, S. K. Sasmal, <b>Dibakar Ghosh</b> and B. Rakshit	Survivability of a metapopulation under local extinctions	<b>Physical Review E</b>	96	062212	2017	2.353
79.	S. Rakshit, S. Majhi, B. K. Bera, S. Sinha and <b>Dibakar Ghosh</b>	Time-varying multiplex network: Intralayer and interlayer synchronization	<b>Physical Review E</b>	96	062308	2017	2.353
80.	M. V. Goremyko, V. A. Maksimenko, V. V. Makarov, <b>Dibakar Ghosh</b> , B. K. Bera, S. K. Dana, and A. E. Hramov	Interaction of chimera states in a multilayered network of nonlocally coupled oscillators	<b>Technical Physics Letters</b>	43	712	2017	0.808
81.	B. K. Bera, S. Majhi, <b>Dibakar Ghosh</b> and M. Perc	Chimera states: Effects of different coupling topologies	<b>Europhysics Letters</b>	118	10001	2017	1.886
82.	S. Majhi and <b>Dibakar Ghosh</b>	Amplitude death and resurgence of oscillation in network of mobile oscillators	<b>Europhysics Letters</b>	118	40002	2017	1.886
83.	S. Majhi, M. Perc and <b>Dibakar Ghosh</b>	Chimera states in a multilayer network of coupled and uncoupled neurons	<b>Chaos</b>	27	073109	2017	2.643
84.	B. K. Bera, <b>Dibakar Ghosh</b> , P. Parmananda, G.V. Osipov and S. K. Dana	Coexisting synchronous and asynchronous states in locally coupled array of oscillators by partial self-feedback control	<b>Chaos</b>	27	073108	2017	2.643
85.	S. Majhi and <b>Dibakar Ghosh</b>	Synchronization of moving oscillators in three dimensional space	<b>Chaos</b>	27	053115	2017	2.643
86.	S. Rakshit, B. K. Bera, M. Perc and <b>Dibakar Ghosh</b>	Basin stability for chimera states	<b>Scientific Reports</b>	7	2412	2017	4.011
87.	S. Rakshit, B. K. Bera, S. Majhi, C. Hens and <b>Dibakar Ghosh</b>	Basin stability measure of different steady states in coupled oscillators	<b>Scientific Reports</b>	7	45909	2017	4.011
88.	R. Banerjee, B. Bera, <b>Dibakar Ghosh</b> and S.K. Dana	Enhancing Synchronization in Chaotic Oscillators by Heterogeneity	<b>European Physical Journal Special Topics</b>	226	1893	2017	1.66
89.	B. K. Bera, S. Majhi and <b>Dibakar Ghosh</b>	Resurgence of oscillation in coupled oscillators under delayed cyclic interaction	<b>European Physical Journal B</b>	90	132	2017	1.536
90.	<b>Dibakar Ghosh</b> , S. Khajanchi, S. Mangiarotti, F. Denis, S. K. Dana, C. Letellier	How tumor growth can be influenced by delayed interactions between cancer cells and the microenvironment?	<b>Biosystems</b>	158	17-30	2017	1.623
91.	S.K. Sasmal and <b>Dibakar Ghosh</b>	Effect of dispersal in two-patch prey-predator system with positive density dependence growth of preys	<b>Biosystems</b>	151	8-20	2017	1.623
92.	C. Letellier, S.K. Sasmal, C. Draghi, F. Denis and <b>Dibakar Ghosh</b>	A chemotherapy combined with an anti-angiogenic drug applied to a cancer model including angiogenesis	<b>Chaos, Solitons and Fractals</b>	99	297-311	2017	3.064

93.	B.K. Bera, S.K. Bhowmick, <b>Dibakar Ghosh</b>	Mixed lag synchronization in chaotic oscillators and experimental observations	<b>International Journal of Dynamics and Control</b>	5	269-273	2017	1.52
94.	V. A. Maksimenko, M. V. Goremyko, V. V. Makarov, A. E. Hramov, <b>Dibakar Ghosh</b> , B. K. Bera, and S. K. Dana	Excitation and Suppression of Chimeric States in the Multilayer Network of Oscillators with Nonlocal Coupling	<b>Bulletin of the Russian Academy of Sciences: Physics</b>	81	110-113	2017	0.406
95.	A. Mishra, S. Saha, <b>Dibakar Ghosh</b> , G. V. Osipov, S. K. Dana	Traveling chimera pattern in a neuronal network under local gap junctional and nonlocal chemical synaptic interactions	<b>Opera Med Physiol</b>	3	14	2017	0.220
96.	S. Majhi, M. Perc and <b>Dibakar Ghosh</b>	Chimera states in uncoupled neurons induced by a multilayer structure	<b>Scientific Reports</b>	6	39033	2016	4.011
97.	V. A. Maksimenko, V. V. Makarov, B.K. Bera, <b>Dibakar Ghosh</b> , S. K. Dana, M. V. Goremyko, N. S. Frolov, A.A. Koronovskii, and A. E. Hramov	Excitation and suppression of chimera states by multiplexing	<b>Physical Review E</b>	94	052205	2016	2.353
98.	S. Majhi, B. K. Bera, S. K. Bhowmick and <b>Dibakar Ghosh</b>	Restoration of oscillation in network of oscillators in presence of direct and indirect interactions	<b>Physics Letters A</b>	380	3617-24	2016	2.087
99.	B. K. Bera and <b>Dibakar Ghosh</b>	Chimera states in purely local delay-coupled oscillators	<b>Physical Review E</b>	93	052223	2016	2.353
100.	B. K. Bera, <b>Dibakar Ghosh</b> and T. Banerjee	Imperfect traveling chimera states induced by local synaptic gradient coupling	<b>Physical Review E</b>	94	012215	2016	2.353
101.	B. K. Bera, <b>Dibakar Ghosh</b> and M. Lakshmanan	Chimera states in bursting neurons	<b>Physical Review E</b>	93	012205	2016	2.353
102.	S. K. Bhowmick, and <b>Dibakar Ghosh</b>	Targeting engineering synchronization in chaotic systems	<b>International Journal of Modern Physics C</b>	27	1650006	2016	1.260
103.	S. Majhi, B.K. Bera, S. Banerjee and <b>Dibakar Ghosh</b>	Synchronization of chaotic modulated time delay networks in presence of noise	<b>European Physical Journal Special Topics</b>	225	65-74	2016	1.66
104.	B.K. Bera, C. Hens, S.K. Bhowmick, P. Pal and <b>Dibakar Ghosh</b>	Transition from homogeneous to inhomogeneous steady states in oscillators under cyclic coupling	<b>Physics Letters A</b>	380	130-134	2016	2.087
105.	B. K. Bera, C. Hens, and <b>Dibakar Ghosh</b>	Emergence of amplitude death scenario in a network of oscillators under repulsive delay interaction	<b>Physics Letters A</b>	380	2366-2373	2016	2.087
106.	<b>Dibakar Ghosh</b> and Barnana Roy	Nonlinear dynamics of classical counterpart of the generalized quantum nonlinear oscillator driven by position dependent mass	<b>Annals of Physics</b>	353	222-237	2015	2.267
107.	S. K. Bhowmick, B. K. Bera and <b>Dibakar Ghosh</b>	Generalized counter-rotating oscillators: Mixed synchronization	<b>Communication in Nonlinear Science and Numerical Simulations</b>	22	692-701	2015	3.967
108.	S. Khajanchi and <b>Dibakar Ghosh</b>	The combined effects of optimal control in cancer remission	<b>Applied Mathematics and Computation</b>	271	375-388	2015	3.092
109.	S. K. Bhowmick, <b>Dibakar Ghosh</b> , P. Roy, S. K. Dana, K. Murali, and S. Sinha	Targeting temporal patterns in time-delay chaotic systems	<b>International Journal of Bifurcation and Chaos</b>	24	1450014	2014	2.145
110.	P. Saha, <b>Dibakar Ghosh</b> and A. Roy Chowdhury	Modified projective synchronisation of different order chaotic systems with adaptive scaling factor	<b>Int. J. Applied Nonlinear Science</b>	1(3)	230-246	2014	0.261
111.	S. K. Bhowmick, <b>Dibakar Ghosh</b> , P. K. Roy, J. Kurths and S. K. Dana	How to induce multiple delays in coupled chaotic oscillators?"	<b>Chaos</b>	23	043115	2013	2.643
112.	A. Ray, A. Roy Chowdhury and <b>Dibakar Ghosh</b>	Effect of noise on chaos synchronization in time-delayed systems: Numerical and experimental observations	<b>Physica A</b>	392	4837-4849	2013	2.500
113.	<b>Dibakar Ghosh</b> and S. Banerjee	Projective synchronization of time-varying delayed neural network with adaptive scaling factors	<b>Chaos, Solitons &amp; Fractals</b>	53	1-9	2013	3.064
114.	S. K. Bhowmick, C. Hens, <b>Dibakar Ghosh</b> and S.K. Dana	Mixed synchronization in chaotic oscillators using scalar coupling	<b>Physics Letters A</b>	376 (36)	2490-2495	2012	2.087
115.	<b>Dibakar Ghosh</b> , Ioan Grosu and S. K. Dana	Design of coupling for synchronization in time-delayed systems	<b>Chaos</b>	22	033111	2012	2.643

116.	R. Banerjee, <b>Dibakar Ghosh</b> , E. Padmanaban, L.M.Pecora, R. Ramaswamy and S.K.Dana	Enhancing synchrony in chaotic oscillators by dynamical relaying	<b>Physical Review E</b>	85	027201	2012	2.353
117.	<b>Dibakar Ghosh</b> and Bidyut K. Bhattacharyya	Generalized synchronization-based multiparameter estimation in modulated time-delayed systems	<b>AIP Advances</b>	1	032144	2011	1.579
118.	S.K.Bhowmick, <b>Dibakar Ghosh</b> , S. K. Dana	Synchronization in counter-rotating coupled oscillators	<b>Chaos</b>	21	033118	2011	2.643
119.	<b>Dibakar Ghosh</b>	Projective-dual synchronization in delay dynamical systems with time-varying coupling delay	<b>Nonlinear Dynamics</b>	66 (4)	717-730	2011	4.604
120.	S. Banerjee, A. Das, <b>Dibakar Ghosh</b> , M. Mitra and A.Roy Chowdhury	Existence of Hyperchaos and its Control in Kuramoto-Shivashinky Equation	<b>International Journal of Nonlinear Science</b>	11 (3)	338-347	2011	1.033
121.	A. Mukherjee, Dibakar Ghosh, and S. Banerjee	Synchronization of Time Delayed Systems by Common Delay Time Modulations	<b>Applied Mathematics</b>	2011	218458	2011	0.790
122.	<b>Dibakar Ghosh</b>	Nonlinear active observer based generalized synchronization in time delayed systems	<b>Nonlinear Dynamics</b>	59	289-296	2010	4.604
123.	<b>Dibakar Ghosh</b> and S. Bhattacharya	Projective synchronization of new hyperchaotic system with fully unknown parameters	<b>Nonlinear Dynamics</b>	61	11-21	2010	4.604
124.	<b>Dibakar Ghosh</b> and A. Roy Chowdhury	Nonlinear observer-based impulsive synchronization in chaotic systems with multiple attractors	<b>Nonlinear Dynamics</b>	60 (4)	607-613	2010	4.604
125.	<b>Dibakar Ghosh</b>	Projective synchronization in multiple modulated time-delayed systems with adaptive scaling factor	<b>Nonlinear Dynamics</b>	62 (4)	751-759	2010	4.604
126.	<b>Dibakar Ghosh</b> , A. Ray and A. Roy Chowdhury	Heteroclinic orbit, Forced Lorenz system and Chaos	<b>ASME, Journal of Computational and nonlinear dynamics</b>	5	011008	2010	1.996
127.	<b>Dibakar Ghosh</b> , P. Saha and A. Roy Chowdhury	Linear observer based projective synchronization in delay Rossler system	<b>Communication in Nonlinear Sciences and Numerical Simulation</b>	15	1640-47	2010	3.967
128.	<b>Dibakar Ghosh</b> and A. Roy Chowdhury	Lag and anticipatory synchronization based parameter estimation scheme in modulated time delayed systems	<b>Nonlinear Analysis: Real World Applications</b>	11	3059-3065	2010	2.085
129.	<b>Dibakar Ghosh</b> and A. Roy Chowdhury	Parameter estimation of delay dynamical system from a scalar time series under external noise	<b>Applied Mathematics and Computation</b>	216	2069-2076	2010	3.092
130.	<b>Dibakar Ghosh</b> and A. Roy Chowdhury	Dual-anticipating, dual and dual-lag synchronization in modulated time-delayed systems	<b>Physics Letters A</b>	374	3425-3436	2010	2.087
131.	<b>Dibakar Ghosh</b> , Santo Banerjee, and A. Roy Chowdhury	Generalized and projective synchronization in modulated time delayed systems	<b>Physics Letters A</b>	374	2143-2149	2010	2.087
132.	<b>Dibakar Ghosh</b>	Erratum:Generalized projective synchronization in time-delayed systems—Nonlinear observer approach	<b>Chaos</b>	20	029902	2010	2.643
133.	<b>Dibakar Ghosh</b> and S. Banerjee	Exponential stability criterion for chaos-synchronization in modulated time-delayed systems	<b>Nonlinear Analysis Series B: Real World Applications</b>	11	3704-3710	2010	2.085
134.	<b>Dibakar Ghosh</b>	Generalized projective synchronization in time-delayed systems—Nonlinear observer approach	<b>Chaos</b>	19	013102	2009	2.643
135.	<b>Dibakar Ghosh</b>	Stability and projective synchronization in multiple delay Rossler system	<b>International Journal of Nonlinear Science</b>	7	207-214	2009	1.033
136.	<b>Dibakar Ghosh</b>	Time scale synchronization between two Different time-delayed systems	<b>Electronic Journal of Theoretical Physics</b>	6(21)	125-138	2009	0.83
137.	A. Ray, <b>D. Ghosh</b> and A. Roy Chowdhury	Topological study of multiple co-existing attractor in a nonlinear system	<b>Journal of Physics A: Mathematical and Theoretical</b>	42	385102	2009	2.110
138.	<b>Dibakar Ghosh</b>	Nonlinear observer-based synchronization scheme for multiparameter estimation	<b>Europhysics Letters</b>	84	40012	2008	1.886
139.	<b>Dibakar Ghosh</b> and S. Banerjee	Adaptive scheme for synchronization-based multiparameter estimation from a	<b>Physical Review E</b>	78	056211	2008	2.353

		single chaotic time series and its applications					
140.	A. P. Misra, <b>Dibakar Ghosh</b> and A. Roy Chowdhury	A novel Hyperchaos in the quantum Zakharov system for plasmas	<b>Physica Letters A</b>	372	1469-1476	2008	2.087
<b>141.</b>	<b>Dibakar Ghosh</b> , P. Saha and A. Roy Chowdhury	On the study of delay feedback control and adaptive synchronization near sub-critical Hopf bifurcation	<b>International Journal of Modern Physics C</b>	19	169-185	2008	1.017
142.	S. Banerjee, <b>Dibakar Ghosh</b> and A. Roy Chowdhury	Multiplexing synchronization and its applications in cryptography	<b>Physica Scripta</b>	78	015010	2008	2.151
143.	A. Ray, <b>Dibakar Ghosh</b> and A. Roy Chowdhury	On the chaotic aspects of three wave interaction in a magnetized plasma	<b>Physica Letters A</b>	72	5329-5335	2008	2.087
<b>144.</b>	<b>Dibakar Ghosh</b> , A. Roy Chowdhury and P. Saha	Bifurcation continuation, chaos and chaos control in nonlinear Bloch system	<b>Communication in Nonlinear Sciences and Numerical Simulation</b>	13	1461-71	2008	3.967
<b>145.</b>	<b>Dibakar Ghosh</b> , A. Roy Chowdhury and P. Saha	Multiple delay Rossler System - Bifurcation and chaos control	<b>Chaos, Soliton &amp; Fractals</b>	35	472-485	2008	3.064
<b>146.</b>	<b>Dibakar Ghosh</b> , A. Roy Chowdhury and P. Saha	On the various kinds of synchronization in delayed Duffing--Van der Pol system	<b>Communication in Nonlinear Sciences and Numerical Simulation</b>	13	790-803	2008	3.967
<b>147.</b>	<b>Dibakar Ghosh</b> , A. Ray and A. Roy Chowdhury	Generalized and phase synchronization between two different time-delayed systems	<b>Modern Physics Letters B</b>	22	1867-1878	2008	0.731
148.	S. Banerjee, <b>Dibakar Ghosh</b> , A. Ray and A. Roy Chowdhury	Synchronization Between Two Different Time Delayed Systems and Image Encryption	<b>Europhysics Letters</b>	81	20006	2008	1.886
<b>149.</b>	<b>Dibakar Ghosh</b> , S. Banerjee and A. Roy Chowdhury	Synchronization between variable time delayed systems and cryptography	<b>Europhysics Letters</b>	80	30006	2007	1.886
<b>150.</b>	<b>Dibakar Ghosh</b> and A. Roy Chowdhury	On the Bifurcation Pattern and Normal Form in a Modified Predator-Prey Nonlinear System	<b>ASME, Journal of Computational and Nonlinear Dynamics</b>	2	267-273	2007	1.996
<b>151.</b>	<b>Dibakar Ghosh</b> , P. Saha and A. Roy Chowdhury	On synchronization of a forced delay dynamical system via the Galerkin approximation	<b>Communication in Nonlinear Sciences and Numerical Simulation</b>	12	928-41	2007	3.967
<b>152.</b>	<b>Dibakar Ghosh</b> and A. Roy Chowdhury	Various Types of Chaos Synchronization- A Comparative Study of Empirical Mode Decomposition and Wavelet Approach	<b>International Journal of Nonlinear Science</b>	4(1)	52-66	2007	1.033

### **Conference Proceedings:**

1. N. Frolov, V. Maksimenko, D. Ghosh, S. Majhi and S. Rakshit, "Route to Coherence in a Frequency-Heterogeneous Kuramoto Network," *2020 4th Scientific School on Dynamics of Complex Networks and their Application in Intellectual Robotics (DCNAIR)*, Innopolis, Russia, 2020, pp. 82-84, doi: 10.1109/DCNAIR50402.2020.9216818.
2. Alexander E. Hramov Mikhail V. Goremyko, Vladimir A. Maksimenko, Vladimir V. Makarov, Dibakar Ghosh, Bidesh K. Bera, Syamal K. Dana, Numerical analysis of the chimera states in the mul-tilayered network model. In: *Dynamics and Fluctuations in Biomedical Photonics XIV*, vol.10063. International Society for Optics and Photonics; 2017:100631J.

## Guidance of Ph. D. students:

- a) **Dr. Bidesh Kumar Bera** (August 2012 --- December 2018) Awarded  
Current position: Post-doc PBC Fellow at Ben-Gurion University of the Negev, Israel  
Research area: Chimera state in coupled networks
- b) **Dr. Soumen Majhi** (August 2014 --- March 2020) Awarded  
Current position: Post doc PBC Fellow at Bar-Ilan University, Israel  
Research area: Moving oscillators and multiplex network
- c) **Mr. Sarbendu Rakshit** (July 2015 --- present)  
Current position: Senior Research Fellow (ISI funded)  
Research area: Analytical stability condition for synchronization in time-varying networks
- d) **Miss. Srilena Kundu** (July 2015 --- present)  
Current position: Senior Research Fellow (ISI funded)  
Research area: Complex network of biological systems
- e) **Mr. Arnob Roy** (July 2016 --- present)  
Current position: Senior Research Fellow (ISI funded)  
Research area: Understanding of Extreme events in dynamical systems
- f) **Mr. Sayantan Nag Chaudhury** (April 2017 --- present)  
Current position: SRF (DST-SERB project), CSIR Direct SRF  
Research area: Study on time-varying dynamical networks
- g) **Mr. Subrata Ghosh** (January 2019-present) with Dr. Chittaranjan Hens  
Current position: Inspire project  
Research area: Epidemic spreading and population dynamics
- h) **Mr. Gourab Sar** (August 2019 --- present)  
Current position: Senior Research Fellow (ISI funded)  
Research area: Synchronization and swarmalators
- i) **Mr. Sayeed Anwar** (August 2019 --- present)  
Current position: Senior Research Fellow (ISI funded)  
Research area: Analytical study of pairwise and non-pairwise interaction networks
- j) **Mr. Suvam Pal** (December 2020-present)  
Current position: Junior Research Fellow (ISI funded)  
Research area: Dynamics of higher-order interaction networks

## Post-doc Fellow

- a) **Dr. Prosenjit Kundu** (2019-2020)
- b) **Dr. Bidesh Kumar Bera** (2018-2019)
- c) **Dr. Arindam Mishra** (2018-2019)
- d) **Dr. Tamoghna Das** (2017-2018)

## Project supervision:

- a) Mr. Bhawik Jani (M.Sc. Physics student, NIT Rourkela)  
Duration: May 2013---July 2013  
Subject: Nonlinear Dynamics
- b) Mr. Avinash Kumar (M.Sc. Physics student, IISER Mohali)  
Duration: May 2017---July 2017  
Subject: Nonlinear Dynamics: Bifurcation and Chaos

## 1(c) Details of activities under the following heads:

### i) Important professional / editorial work including invited talks and panel discussions:

- (a) Associate Editor, Frontier in Computational Neuroscience (March 2021- present)
- (b) Associate Editor, Frontiers in Network Physiology (March 2021-present)
- (c) Editorial Board Member of the Journal of Nonlinear Dynamics launched by Hindawi Publishing Corporation (from 2013 -- August 2016).

(d) Editorial Board Member of the Journal of Applied Mathematics launched by Hindawi Publishing Corporation (from 2013 -- 2017).

ii) Professional recognition, awards, fellowships received.

(a) **Distinguished Referee** of the journal Europhysics Letters in 2019.

(b) **Distinguished Referee** of the journal Europhysics Letters in 2018.

(c) **Junior Research Fellow** under a UGC-CSIR (NET-2004).

(d) **India Top Cited Author Award 2019** (top 1% most-cited papers in physics published in Europhysics Letters, 118 (2017) 10001).

iii) **Externally funded Project work as Principal investigator:**

#### National Projects:

S.No	Project Title	Sponsoring Agency	Budget	Status
1.	Macroscopic dynamics in ensembles of dynamical systems: some challenging issues	SERB-DST (Department of Science and Technology), Government of India	Rs. 23,83,480/-	Completed March 2020

#### International Projects:

Project no.	Project Title	Name of the Collaborating Scientist & Institute	Sponsoring Agency	Budget	Status
INT/RUS/RFBR/P-181	Synchronization, clustering and death in Networks of Complex systems (Theory and Application to Biology and Neurophysiology)	Prof. Alexander E. Hramov  Saratov State Technical University, 77, Politekhnikeskaya, Saratov, 410054, Russia	SERB-DST (Department of Science and Technology), Government of India and Russian Foundation for Basic Research (RFBR)	Rs. 9,42,400/	Completed March 2017

#### Ongoing project:

Project no.	Project Title	Name of the Collaborating Scientist & Institute	Sponsoring Agency	Budget	Status
INT/RUS/RFBR/360	Emergence of coherent structures in brain neural network during sensory information processing: experiment and theoretical analysis	Nikita S. Frolov  Innopolis University, Tatarstan, Russia	SERB-DST, Government of India and Russian Foundation for Basic Research (RFBR)	Rs. 16,34,200/	Ongoing (2020-2022)