

## BIO-DATA

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### ACADEMIC PERFORMANCE

Exam.	YEAR	Percentage/Div
M.P	1996	85.1(1 <sup>st</sup> )
H.S	1998	76.4(1 <sup>st</sup> )
B.Sc (Physics)	2001	64.5(1 <sup>st</sup> )
M.Sc (spl-Electronics)	2003	72.58(1 <sup>st</sup> )
C.S.I.R NET	June, 2003	-----
Ph.D	Sep, 2015	-----

### TEACHING EXPERIENCE

14 Years and above

- (i) 2004 to 2007 in PG Dept. of B.B.College, Asansol as Guest Lecturer.
- (ii) 2008 to till date in UG at B.C.College, Asansol, as Permanent Faculty.
- (iii) September, 2015 to January, 2016 in PG Dept. of KNU, Asansol as Guest Faculty.

### TEACHING ACTIVITIES

**UG:** GPM, Electrodynamics, Electronics, Quantum Physics, Nuclear Physics etc.

**PG:** Nuclear Physics, Mathematical Methods, Experiment related theory, Computer programming and numerical analysis etc.

### RESEARCH EXPERIENCE RESEARCH AREA

10 yrs and above

Circuits & Systems, Nonlinear dynamics & Chaos in Electronic circuits, PLL etc.

Scholarship

Scholarship (in M. Sc.)

Membership

Life member of IETE

Other activity

Reviewer of

1. International Journal of Electronics (Taylor & Francis)
2. International Journal of Circuit Theory and Applications (Wiley)
3. International Journal of Dynamics and Control (Springer)
4. IEEE access

List of Publications

Please see annexure - I (Book Chapter-1, Journal - 10, Conference -13)

## Annexure – I List of Publications

### Book Chapter:

B. C. Sarkar, S. Sarkar, **S. Chakraborty** "*Unstable PLL-Controller as FM Modulator and Detection of Modulating Self-Oscillations*", Springer Book edited by Dr. Sundarapandian Vaidyanathan and Dr. Christos Volos Manuscript ID: 2015-B1-SCI-Control-C17

**Series:** Studies in Computational Intelligence (SCI)

**Book Title:** Advances and Applications in Nonlinear Control Systems

### Journal Publications:

1. **S. Chakraborty**, ManajDandapathak, S.S. De Sarkar, *Effect of self feedback on mean-field coupled oscillators: revival and quenching of oscillations*, accepted in **International journal of Chaos and Bifurcation**, World Scientific, DOI:10.1142/S0218127421500784
2. **S. Chakraborty**, "*Creation of Oscillation Death from Amplitude Death in Non-Identical Dual Channel Coupled Chua Circuit*" Volume 4 - Issue 1 ( 85 - 91 ) - January - February 2018, **International Journal of Engineering and Techniques (IJET)** , ISSN: 2395 - 1303.DOI 10.29126/23951303/IJET-V4I1P13
3. S S De Sarkar,**S Chakraborty**, "*Nonlinear dynamics of a class of derivative controlled Chua's circuit*", International Journal of Dynamics and Control, Vol.6, No.2, **June** 2017, Pages 129-140. DOI 10.1007/s40435-017-0346-2, ISSN 2195-268X
4. **S Chakraborty** , M Dandapathak, B C Sarkar, "*Oscillation quenching in third order phase locked loop coupled by mean field diffusive coupling*", Chaos (AIP), Volume **26**, Issue **11**, **Nov** 2016, 113106. 1054-1500
5. **S Chakraborty** , B C Sarkar, "*Enhanced dynamical response of derivative controlled third order phase locked loops*",Communication in Nonlinear Science and Numerical Simulation (CNSNS) (Elsevier) , Volume 36, Issue C, July 2016, Pages 129-140.**1007-5704doi:10.1016/j.cnsns.2015.11.010**
6. B. C. Sarkar, **S. Chakraborty** "*Chaotic Oscillations in a Third Order PLL in the Face of Two Co-Channel Signals and Its Control*", Journal of Engineering Science and Technology Review 8 (2) (2015) 68 – 73 , Special Issue on Synchronization and Control of Chaos: Theory, Methods and Applications.ISSN: 1791-2377.
7. **S Chakraborty** , B C Sarkar, "*Synchronization Response of an Indirectly Coupled Nonlinear Digital Resonator -A Simulation Study*", American International Journal of Research in Science, Technology, Engineering & Mathematics (AIJRSTEM), Issue 6, Volume 1, pp. 83-91, March-May, 2014

8. BC Sarkar, **S Chakraborty**, “*Self-oscillations of a third order PLL in periodic and chaotic mode and its tracking in a slave PLL*”, Communication in Nonlinear Science and Numerical Simulation (CNSNS) (Elsevier) , Volume 19, Issue 3, March 2014, Pages 738–749 <http://dx.doi.org/10.1016/j.cnsns.2013.07.003>
9. **SaumenChakraborty** and BishnuCharan Sarkar, “*Dynamics of a nonlinear digital resonator in free running and injection synchronized mode: A simulation study*”, International Journal of Engineering and Advanced Technology (IJEAT), ISSN: 2249 – 8958, Volume-1, Issue-6, pages 94- 98, August 2012.
10. BishnuCharan Sarkar, **SaumenChakraborty**, “*Chaotic Dynamics of a Third Order PLL with Resonant Low Pass Filter in Face of CW and FM Input Signals*”, ACEEE Int. J. on Communications, ISSN 2158-7558, Vol. 03, No. 01, pages 62- 66, DOI: 01.IJCOM.3.1.6, March 2012.

#### Conference Publications:

1. **S. Chakraborty** and S. S. De Sarkar, “*Dynamic Behavior of a Van der Pol Oscillator Circuit with Internal Delay*”, 2<sup>nd</sup> International Conference on Smart Automation in Computer, Electrical, Electronics and Communication Engineering (ICSA-2021), SRM Valliammai engineering College, Kattankulathur-603203, India, April 10, 2021. (**Oral Presentation**)
2. **S. Chakraborty** “*Effect of additional direct coupling on the hysteresis loop of mean field diffusively coupled oscillators*”, National Seminar On Recent Trends in Physics (NSRTP-19), Department of Physics, Bidhan Chandra College, Asansol, 713304, India, January 19, 2019 (**Abstract Only-Poster Presentation**).
3. Manaj Dandapathak and **S. Chakraborty**, “*Studies on Nonlinear Dynamics of optical Costas Loop Having High Frequency Gain*”, National Conference On Nonlinear Dynamics and its applications (CNDA-16), Department of Physics, Durgapur Govt. College and Michael Madhusudan Memorial College, Durgapur, 713214, India, February 07-09, 2017 (**Abstract Only**).
4. **S. Chakraborty** and S. S. De Sarkar, “*Regeneration of Oscillation in Chua Circuit under mean field diffusive coupling using derivative control*”, National Conference On Nonlinear Dynamics and its applications (CNDA-16), Department of Physics, Durgapur Govt. College and Michael Madhusudan Memorial College, Durgapur, 713214, India, February 07-09, 2017 (**Abstract Only**).
5. **S.Chakraborty** , B.C.Sarkar, “*Effect of additional time delay on the dynamics of a class of third order Phase Locked Loop* ”, National Conference on Materials, Devices and Circuits in Communication Technology 2016(MDCCT 2016), IETE Burdwan Sub Centre

and Department of Physics, The University of Burdwan, Burdwan, West Bengal, February 19 - 20, 2016. **ISBN 978-93-80663-20-3**

6. **S.Chakraborty** , B.C.Sarkar, “*Indirect Synchronization Response of a Nonlinear Digital Resonator -A Simulation Study*”, National Conference on Materials, Devices and Circuits in Communication Technology 2014(MDCCT 2014), IETE Burdwan Sub Centre and Department of Physics, The University of Burdwan, Burdwan, West Bengal, February 7 - 8, 2014. **ISBN 978-93-80663-20-3**
7. **Saumen Chakraborty** , Bishnu Charan Sarkar, “*Generalized Synchronization of chaos in third order PLL*”, National Conference on Materials, Devices and Circuits in Communication Technology 2012(MDCCT 2012), IETE Burdwan Sub Centre and Department of Physics, The University of Burdwan, Burdwan, West Bengal, February 6 - 7, 2012. **ISBN 978-93-80663-36-4**
8. Bishnu Charan Sarkar, **Saumen Chakraborty**, “*Nonlinear Dynamics of a Class of Third Order PLLs with CW and FM Input Signals*”, International Conference on Engineering Education in the New Century (E2NC-2012), February 03 -04, 2012. **ISBN 978-93-80663-35-7**
9. B. C. Sarkar, D. Sarkar, **S. Chakraborty**, P. Sarkar and J. Mondal, “*Study on Chaos-Synchronization in a PLL System*”, National Conference on Information, Communication and Intelligent Systems (IETE), Cochin, Kerala, India, 2011.
10. **Saumen Chakraborty** , Bishnu Charan Sarkar , “*Dynamics of a new class of nonlinear digital resonators: A simulation study*”, National Conference on Materials, Devices and Circuits in Communication Technology (MDCCT 2010), IETE Burdwan Sub-Center and Dept of Physics, The University of Burdwan, March 27-28, 2010.
11. **Saumen Chakraborty**, Bishnu Charan Sarkar, “*Dynamics of a nonlinear digital resonator in free running and injection synchronized mode: A simulation study*”, INTERNATIONAL CONFERENCE ON RADIATION PHYSICS AND ITS APPLICATIONS (ICRPA 2010), DEPARTMENT OF PHYSICS, THE UNIVERSITY OF BURDWAN , JANUARY 16-17, 2010. **(Abstract Only)**
12. **Saumen Chakraborty**, Bishnu Charan Sarkar, “ *A Novel Nonlinear Digital Resonator*”, 16th West Bengal State Science and Technology Congress, West Bengal State Science and Technology Council and The University of Burdwan, February 28 – March 1, 2009. **(Abstract Only)**
13. R.Banerjee, **S.Chakraborty**, A.K.Mukherjee, “*Elt. Studies of Thermoluminescence of “Earth Soil” Collected from Coal Mines of Different Depths Surrounding Asansol-Raniganj Industrial Belt*”, National Seminar on Environmental Management (NASSEM-2007), Asansol Engineering College, July 26<sup>th</sup> – 28<sup>th</sup> , 2007. **(Abstract Only)**