


Faculty Profile

Name of Faculty	Dr. Krishnamurthy G.N	
Department	Information Science & Engineering	
Qualification	B.E, M.E, Ph.D.	
Designation	Principal	
Area of specialization	<ul style="list-style-type: none"> • Cryptography: Block Ciphers design and performance analysis • Operating Systems • Computer Architecture • Logic Design 	
Date of Joining BNMIT	11-January-2010	
Nature of Association (Regular/Contractual/Adjunct)	Regular	
e-mail	principal@bnmit.in, bnmitprincipal@gmail.com	
No. of years of Experience	Teaching: 21 years Research: 14 years	

Academic Qualifications

Ph.D.	2009	Computer/ Information Science & Engineering.	VTU, India.
M.Tech	2000	Computer Science & Engineering.	VTU, India.
B.E.	1996	Electronics and Communication Engineering.	VTU, India.

Working Experience Details

- Principal, BNMIT, Bangalore, India, (June 2015 – Till date)
- Professor & HOD, Dept. of ISE, BNMIT, Bangalore, India, (June 2010 - June 2015) (Deputed to VTU twice for 2 years and 2 months)
- Professor, Dept. of CSE, BNMIT, Bangalore, India, (Jan 2010 - May 2010)
- Professor, Dept. of CSE, Cambridge Institute of Technology, Bangalore, India, (Sep 2009 - Jan 2010)
- Assistant professor, Dept. of ISE, Bapuji Institute of Engg. & Tech., Davangere, India, (March 2006 - Sep 2009)
- Lecturer, Dept. of ISE, Bapuji Institute of Engg. & Tech., Davangere, India, (April 1997 - Feb 2006)
- Lecturer, Dept. of ECE/CSE, Bapuji Institute of Engg. & Tech., Davangere, India, (Sep 1997 - Mar 2001)
- Faculty, NIIT, Davangere, India, (Nov 1996 – Aug 1997)

Courses taught

Agile Technologies – Principles and Practice, Wireless and Mobile Networks, Wireless Sensor Networks, Advanced Computer Architecture, Computer Systems Design and Architecture, Operating Systems, Computer System Performance Analysis, Distributed Systems, Computer Networks, Management and Entrepreneurship, Graph Theory and Combinatorics, Object Oriented programming in C++, Data Structures, Basic Electronics, Analog Electronic Circuits, Electronic Circuits, Logic Design, Mobile

Communications, Mobile Computing, Software Engineering, Computer Communications, Computer Concepts and C Programming, Distributed Operating Systems.

Research Experience Details:

Cryptography provides security for the information which is very much required in the fast evolution of digital data exchange. There has been a tremendous enhancement in the field of cryptography, which tries to manipulate the plaintext so that it becomes unreadable, less prone to hacker and crackers, and again obtain the plaintext back by manipulating this unreadable text in some way. The main emphasis of the research work was to enhance the security of AES and other well-known block ciphers such as Blowfish and CAST algorithms.

- AES algorithm was made stronger by making the S-Box key dependent without changing the basic operations of AES.
- The performance of Blowfish and CAST128 was improved by modifying its function.
- A new algorithm Blow-CAST-Fish is introduced by combining Blowfish and CAST128.
- All the above algorithms were tested for security through Encryption quality, Key sensitivity, Histogram and Correlation coefficient analysis using digital images.
- Effect of removal of Shiftrows stage and Mixcolumns stage was demonstrated.

Now, the emphasis is on design and analysis of key scheduling algorithm and low area FPGA implementation.

Ph.D.:

Research Supervision

Sl.No.	Name of the student	Ph.D/M.Phil	University	Status	Title of Research Topic
1	Sharada Y Yalavigi	Ph.D	VTU	Pursuing	Security Issues in distributed sensor Networks
2	Shailaja A	Ph.D	VTU	Pursuing	Design and Analysis of Light weight Block Ciphers
3	Rekha C	Ph.D	VTU	Pursuing	Design of key scheduling algorithm for block ciphers
4	Jyothi R	Ph.D	VTU	Pursuing	Multi-Objective Optimization for the performance of predictive algorithms on the given data set and Predictive data analytics
6	Varun C R	Ph.D	VTU	Pursuing	Efficient Cyber Crime Prediction Module by applying Machine Learning Technique
7	Girija J	Ph.D	JNTU	Pursuing	Design, Implementation and Analysis of Novel Registration Algorithms for 4D Medical Images.
8	Harini S	Ph.D	VTU	Pursuing	Intelligent System for Analysis of Indian Food Grains

Academic Positions and other Responsibilities (University Level):

1. Implemented complete automation process of examination activities covering all the 193 Engineering colleges coming under VTU by introducing Digital Evaluation, online question paper delivery, online application entry, online attendance entry, online IA marks entry, online resume entry, Online M.Tech Thesis evaluation etc., which has benefited all the students and staff of all the disciplines of UG, PG, Ph.D.
2. Administering the Pre-examination preparations like Setting, Printing and Supply of Question Papers for the University Examinations.
3. Administering the smooth conduct of Engineering (both UG and PG) Examinations throughout the state, spread over 193 Engineering colleges and conduct of course work examinations for research scholars of Ph.D. / M.Sc. Engineering by research and evaluation of thesis.
4. Announcement of results throughout the Karnataka state Engineering institutions before the starting of next semester classes.
5. Member Convener for the preparation of regulations in various examination matters.
6. Revamping of Infrastructure facilities required for the Examination Section with a view to meet the requirement for next 10 years.
7. Establishment of World Class Data Centre at the University – *first of its kind in Indian Universities*.
8. Establishment of Disaster Recovery System.
9. Implementation of automation process of admission, monitoring and Evaluation of M.Sc.(Engg. by Research) / Ph.D. course students.
10. Implementation of automation process of M.Tech. thesis evaluation.

Implementation of online Question paper delivery system has eliminated leakages of question papers as papers get printed at the examination centers half an hour before the commencement of examinations. Implementation of Digital Evaluation has eliminated possible totaling errors and has helped in achieving error free evaluation for UG, PG and Ph.D. answer scripts and hence speedy announcement of results. They are first of their kind in Karnataka Universities.

Was member for the following committees constituted to improve the examination process.

- Committee to review the remuneration for the teachers involved in various examination duties.
- Committee constituted to prepare the Guidelines for Digital Valuation.
- Committee constituted to review the performance and to suggest improvements in digital valuation and QPDS.
- Committee constituted to suggest modalities for the conduct of examinations for higher semester students of UBDTCE, Davangere.
- Committee constituted to discuss about the procurement of secured evidencing solutions from M/s. Pitney Bowes Ltd.
- Committee constituted for the verification of Ph.D. Thesis.
- Malpractice Cases inquiry committee.

Awards/ Achievements/Memberships:

1. Honored by Honorable Governor of Karnataka Sri Vajubhai Rudabhai Vala, Minister for Higher Education, Government of Karnataka Sri G T Deve Gowda, and Vice Chancellor of Visveswaraya Technological University, in recognition of contribution of services to VTU as Registrar of Evaluation on 29th April 2018 on occasion of VTU Foundation day celebrations at VTU Campus.
2. Received **National Global Leadership Award for Environment, Education and Social work**, in the presence of Sri D.H Shankara Murthy, Honorable Chairman for Legislative Council, and Dr. Ramachandra Gowda, Chairman of Planning Commission, Government of Karnataka, during March 2011, awarded by Power Development and Energy Research Institute.
3. Received the **Best Citizen of India** Award from the International publishing house, New Delhi.
4. Received excellent teacher's award during 2005, 2006 and 2007 from Management, BIET, Davangere.

Professional Memberships:

1. International Association of Engineers
2. Indian Society for Technical Education

Workshops /Seminars Organized:

1. Organized one week Faculty Development Program on "IT Infrastructure Management Services" held at BNMIT, Bangalore from 5th to 9th January 2015.
2. Organized Faculty Development Program on "Cryptography and Network Security Issues" sponsored by VGST, Bangalore held at VTU Campus, Jnana Sangama, Belgaum during April 2012.
3. Worked as one of the organizer for the International conference on "Biomedical Instrumentation" jointly organized by VTU, Belgaum and Instrumentation Society of India, IISc, Bangalore.
4. Organized a National conference on "Recent Trends in Cryptography" on 1st and 2nd April 2009 at BIET, Davangere.

Research Publications:

I. In National & International Journals

International Journals:

1. Harini S, Dr.Saritha Chakrasali, Dr.Krishnamurthy G N, "A Survey on Food Grain Identification Techniques", International Journal of Innovative Research in Science, Engineering and Technology, Volume 7, Issue 6, June 2018, p-ISSN 2347-6710, e-ISSN : 2319-8753.
2. Shailaja A and Dr Krishnamurthy G N, "LOW AREA FPGA IMPLEMENTATION OF DROMCSLA-QTL ARCHITECTURE FOR CRYPTOGRAPHIC APPLICATIONS" International Journal of Network Security & Its Applications (IJNSA) Vol. 10, No.3, May 2018

3. Sharada Y. Yalavigi, Dr. Krishnamurthy G. N, Dr. Nandini Sidnal, “Security Schemes to Resolve Wormhole Attack in Distributed Sensor Networks”, Volume 4 Issue 2, February 2015, International Journal of Science and Research (IJSR), 1422-1430.
4. Shailaja S, Dr Krishnamurthy G N, ”Comparison of Blowfish and Cast-128 Algorithms Using Encryption Quality, Key Sensitivity and Correlation Coefficient Analysis”, American Journal of Engineering Research (AJER) e-ISSN : 2320-0847 p-ISSN : 2320-0936 Volume-3, Issue-7, pp-161-166.
5. Krishnamurthy G N and Dr. V Ramaswamy, “Performance Analysis of Blowfish and its modified version using Encryption quality, Key sensitivity, Histogram and Correlation coefficient analysis”, International Joint Journal Conference in Recent Trends in Engineering, Vol. 1, No. 2, India 2009.
6. Krishnamurthy G N, Dr. V Ramaswamy, “Encryption Quality Analysis and Security Evaluation of CAST-128 Algorithm and its modified version using digital images”, International Journal of Network Security and Applications, 2009.
7. Krishnamurthy G N, V Ramaswamy, “Making AES Stronger: AES with Key Dependent S-Box”, IJCSNS International Journal of Computer Science and Network Security, VOL.8 No.9, September 2008, pp 388-398, Korea.
8. Krishnamurthy G.N, Dr. V. Ramaswamy, Leela G.H and Ashalatha M.E, “Blow-CAST-Fish, a New 64-bit Block Cipher”, IJCSNS, ISSN: 1738-7906, Vol. 8, No.4, pp 282-290, April -2008, Korea.
9. Krishnamurthy G.N, Dr. V. Ramaswamy , Leela G.H and Ashalatha M.E, “Performance enhancement of Blowfish and CAST-128 algorithms and Security analysis of modified Blowfish algorithm using Avalanche effect”, Journal ISSN: 1738-7906, Vol Number: Vol.8, No.3, pp 244-250, March -2008, Korea.

Papers presented in International/National Conferences

International

1. Girija J, Dr.Krishnamurthy G N, Dr. P. Chenna Reddy, “4D Medical Image Registration : A Survey” International conference on Intelligent Sustainable Systems organized by SCAD Institute of Technology, Palladam, Tamil Nadu, 7th and 8th December 2017.
2. Girija J, Dr.Krishnamurthy G N, Dr. P. Chenna Reddy, “Gradient analysis of 3D image sequence using DTCWT and DD DTCWT” International conference on Science, Technology & Management, at Institute of Electronics and Telecommunication Engineers, Bengaluru, on 24th September 2017.
3. Krishnamurthy G N, Dr. V Ramaswamy, “Encryption quality analysis and Security Evaluation of Blow-CAST-Fish using digital images”, International Conference on Computer, Electrical, and Systems Sciences, and Engineering, Amsterdam, The Netherlands, held during July 25-26, 2012.
4. Krishnamurthy G N, V Ramaswamy, “Study of effect of removal of Shiftrows and Mixcolumns stages of AES and AES-KDS on their Encryption Quality and hence Security”, International conference on Computer, Electrical, & Systems Science, & Engineering, Organized by World Academy of Science, Engineering and Technology, Penang, Malaysia, during 22nd to 24th February 2011.
5. Krishnamurthy G.N, Ramaswamy V, Leela G.H, Ashalatha M.E, “Performance enhancement of CAST-128 algorithm by modifying its function” International Joint Conferences on Computer, Information and Systems Sciences and Engineering (CISSE 07), December 3, 2007 to December 14,

2007, Technically Co-Sponsored by Institute of Electrical and Electronic Engineers (IEEE), University of Bridgeport, Bridgeport, CT, 06610, USA, published in Springer Series.

6. Prof. Krishnamurthy G.N, DR. V. Ramaswamy and Mrs. Leela G.H, "Performance enhancement of blowfish algorithm by modifying its function and demonstrate the same with VHDL simulation" International Joint Conferences on Computer, Information and Systems Sciences and Engineering (CISSE 06), December 4, 2006 to December 14, 2006, which is Technically Co-Sponsored by Institute of Electrical and Electronic Engineers(IEEE), University of Bridgeport, Bridgeport, CT, 06610, USA, published in Springer Series.

National

1. Krishnamurthy G N, V Ramaswamy, "Enhancing the performance of Blowfish algorithm by modification to its function" in the on "Cryptology" JNNCE, Shimoga, 12th – 14th Aug 2005.

Session Chair at International Conference:

1. Chaired a session in the International Conference on Computer, Electrical, and Systems Sciences, and Engineering, Amsterdam, The Netherlands, held during July 25-26, 2012.
2. Chaired a session in the international conference on Computer, Electrical, & Systems Science, & Engineering organized by World Academy of Science, Engineering and Technology, at Penang, Malaysia, during 22nd to 24th February 2011.
3. Member of Technical Committee of World Academy of Science, Engineering & Technology for the year 2014, 2015 & 2016.

Participation in Training courses/Seminars/Workshops

1. Attended AICTE / ISTE sponsored STTP on "Recent trends in Computer Graphics and Vision Methodology" conducted by Pondechery Engg College, held at Pondechery, from 14-05-2001 to 25-05-2001.
2. Attended AICTE / ISTE sponsored STTP on "Fuzzy logic and its applications to power systems" conducted at BIET, Davangere, from 15-03-2004 to 26-03-2004.
3. Delivered a lecture on "Shell programming" in the STTP on "Power Linux - unleash the full potentials of linux" during 14 -02 -2004 to 25 - 02 - 2004.
4. Participated in the '.NET train the trainer' workshop, organized by board for IT Education standards(BITES) in association with Microsoft Corporation(India) Pvt. Ltd., conducted from 07th to 11th June, 2004 at BIET, Davangere.
5. Attended a workshop on "QOS on Internet" from 4th to 9th July 2005 at BIET, Davangere.
6. Attended KSCST 23rd Sponsored Project cum Exhibition on 12th and 13th Jan 2001.
7. Attended one day Workshop on "Model Question Papers and Guidelines preparation" for 6th sem BE CSE/ISE of VTU at BMS College of Engineering on 12-04-2001.
8. Attended one day Seminar on "Building and Managing Computer Resources of an Organization" held on 14th July 2001 at SDM College of Engineering, Dharwad.
9. Attended Workshop on "DB2 " conducted at BMS College of Engineering, conducted by IBM/VTU from 13-08-2001 to 18-08-2001.

10. Participated in the 15th CSI Karnataka Student Convention held at PES Institute of Technology, Bangalore during Dec 07, 2001 to Dec 09, 2001.
11. Participated in one day Orientation Program on 18-01-2002 Organized by IGNOU Regional Center, Bangalore at BIET, Davanagere.
12. Attended One day meeting at Bangalore regarding Mahithi Sindhu Program.
13. Attended Fifth State level ISTE convention and National Seminar on “Role of Technical Education in meeting the challenges of Globalization” on 12th and 13th Nov. 2002, at University B.D.T College of Engineering, Davangere.
14. Attended one day conference on “Microsoft TechEd” at JRD Tata auditorium, IISc complex, Bangalore, on 15 Sept 2003.
15. Attended International conference on “Software Agents” held at Bapuji Institute of Engg. & Technology, Davangere on 5th and 6th Sept. 2003.
16. Attended Infosys initiated “Campus Connect Programme” workshop from 16-12-2004 to 18-12-2004 at Infosys, Mysore.
17. Attend the Faculty Enablement program at Infosys, Technologies, Bangalore from 13th March to 17th March 2006.
18. Attended Infosys initiated Soft Skills training program Infosys, Technologies, Bangalore from 7th August 2006 to 11th August 2006.
19. Attended the Intel Multi-Core Training Programming for academia conducted by VTU-Intel India Private Limited, Bangalore at RV College of Engineering, Bangalore, held from 28th to 30th March 2007.
20. Represented BIET for the Placement officers meet from leading Institutions from different parts of the country to discuss the strategies of placement, organized by Mahindra British Telecom, held at Pune, during 2007.

Visits Abroad:

I have worked as Deputy Chief Superintendent of VTU examinations at JSSATE, **Mauritius** from 25th Dec 2009 to 4th Jan 2010 and presented a paper in an International conference at **Penang, Malaysia**, during 22nd to 24th February 2011 and another in an International conference at **Amsterdam, The Netherlands**, held during July 25-26, 2012. I have also visited **Germany, Austria, Italy, Switzerland, France and Vatican City. Visited European (Belgium, Netherlands) Universities (University of Ghent, Gronongen and Antwerp)** as a part of delegation team to explore the possibilities of collaboration with those Universities during October 2013.

Personal Details:

- **Date of Birth:** 15-03-1974
- **Sex:** Male
- **Family Details: Wife:** Swetha M.B
Daughters: Aisiri. N K & Akshara N K
- **Passport number:** K2650741 (valid upto 15th March 2022)

11th August 2018

Dr. Krishnamurthy G N