Curriculum Vitae

(A) Name: Dr. Kishor Kumar Baruah
(B) Gender: Male
(C) Date of birth: 22nd April,1965.
(D) Professional position (Present) : Retired Officer (as Senior Technical Officer), Department of Physics, Tezpur University, Napaam, Tezpur – 784028, India.
(E) E-Mail: (1) kiba11921@gmail.com (2) kiba@rediffmail.com

(F) Academic Qualifications:

(1) Ph.D. (Topic: Design Considerations of Scanning Optical Microscope (SOM) for specific Applications of Thin Films and Semiconductor Characterization)
(2) M.Sc. in Physics (Specialization in Electronics and Radio Physics).
(3) P.G.Diploma in Instrumentation.

(G) Professional experiences (during the service period)**:**

(1) Teaches (post graduate and under graduate students) Astronomy, Instrumentation and Optics.
(2) Took lab classes of different groups of students in Physics.
(3) In-charge of the Technical group of the department of Physics. Managing all operations and maintenance of sophisticated Instruments.
(4) Teacher in-charge of the astronomical observatory of Tezpur University.
(5) Teacher in-charge of the Astronomy Club of Tezpur University.

(H) Field of research work: Optics, Opto-electronics, Astronomy, Instrumentation.

(I) Research Experience:

(1) Designed and developed a laser based microscope during his Ph.D. research work.
(2) Designed and developed a slit less Spectrogram for specific use of stellar objects.
(3) Designed and developed a face shield for medical use during COVID pandemic.
(4) Involved in a project of designing and developing the Giant Meter Wave Radio Telescope (GMRT) in the year 1991.

(J) (a) Patent received: Face shield for medical use.
(b) Applied for Patent: Slit less Spectrogram for specific use of stellar objects.

(K) Involved in science communication projects/ programme:

(1) Act as the coordinator of Regional Innovation Science Hub for Innovators (RISHI), Tezpur University (from 2016 till date).
(2) Acted as the coordinator of Water Re-discover progrmme of India in collaboration of North Dakota State University, USA (year 2011 and 2013).
(3) Involved as one of the core committee members of National Childrens' Science Congress, India (started in the year 1994).
(4) Involved as one of the core committee members of Brahmaputra Valley Science Promotion Tour (in the year 1997)

(L) Other activities:

(1) Arranging regular sky observation programme for the public in general and student in specific.
(2) Arranging various astronomy activities, astronomy and space science related video show, popular talk for the common people in general and rural people in specific.

(3) Visited various institutions in India to deliver popular talk in Astronomy and Space Science along with Sky observation programme.

(M) Member of some of the NGO / professional organization:

(1) Founder Secretary of the Astronomy and Space Science Association (ASSA), India.
(2) Vice- President (present) and pioneer member of the Pragjyotish Amateur Astronomers Association (PRAG), India.
(3) Life Member of the Optical Society of India
(4) Life member of Laser and Spectroscopy Society, India.
(5) Life member of the Assam Science Society, India.
(6) Life Member of the Instrument Society of India.
(7) Life member of the Indian Academy of Sciences.
(8) Former member of the Planetary Society, USA.

(N) Publications (listed only the selected numbers)**:**

(a) <u>Research Paper:</u>

(1) Manasi Devi, Rupali Das, Dambarudhar Mohanta, Kishor Kumar Baruah & Abhijit Saha : Enhanced magneto-optic activity of magnetic based ferrofluids subjected to gamma irradiation; Applied Physics A; ISSN 0947-8396, Vol. 106, No. 3 ; Appl. Phys.A (2012) 106:757-763 DOI 10.1007/s00339-011-6678-4.
(2) Padma Pani Shahu & Kishor Kr. Baruah ; Improved Laser Probing System by Partial Blocking of Airy Disc ; Proceedings of National Conference on Lasers and Advanced Materials (NCLAM-2012), 29-30 May,2012 p- 100-102.
(3) K.K.Baruah & R.Rajkhowa; Second Harmonic Signal generation by low power laser for the use of harmonic microscope; Journal of Optics ; J Opt (Oct–Dec 2010) 39(4):185–188 DOI 10.1007/s12596-010-0017-6 ; Springer(ISSN 0972-8821).
(4) Sarma, Sweety; Datta, Pranayee; Barua, Kishore Kr. Baruah; Karmakar, Sanjib ; Synthesis, Characterization and Application Of PbS Quantum Dots; RANSPORT AND OPTICAL PROPERTIES OF NANOMATERIALS: Proceedings of the International Conference-ICTOPON-2009. AIP Conference Proceedings, Volume 1147, pp. 436-442 (2009).
(5) Nirmal Misra, Mohendra Roy, Dambarudhar Mohanta, Kishor Kumar Baruah, Amarjyoti Choudhury; Photochromism and magneto-optic response of ZnO:Mn semiconductor quantum dots fabricated by microemulsion route ; Cent. Eur. J. Phys. • 6(1) • 2008 • 109-115 ; DOI: 10.2478/s11534-008-0025-1.
(6) K.Dutta, K.K.Baruah and A. Choudhury "Second Harmonic Imaging in Scanning Optical Microscope ";Proceedings of National Conference on Laser and its application ; p – 214 – 217 ; 2001.
(7) K.K.Baruah, K.C.Sarma and A.Choudhury; " Application of (designed) SOM in surface studies of semiconductor materials " ; Gau. Univ. J. Sc., Golden Jubilee Volume ; pp. 7 – 10 ; 1998.
(8) K.K.Baruah , K.C.Sarma and A.Choudhury : "Research in Design of a Scanning Optical Microscope and its manifold uses" ; Proceedings of Advance Seminar on The Electron ; IITG, 1997.
(9) K.K.Baruah, A.Choudhury and K.C.Sarma ; " Design of SOM for opto-electronic device characterization " ; Journal of Optics, Vol.26, No. 3, pp- 117-122 ; 1997.
(10) K.K.Baruah, K.C.Sarma and A.Choudhury; "Design consideration of SOM for finding thickness and quality of thin films, as well as characterisation of semiconductor devices" ; Romanian Journal of Optoelectronics ; Vol. 5, No. 1; pp – 175 – 177 ; 1997.
(11) K.K.Baruah, K.C.Sarma and A.Choudhury; " Design consideration of Scanning Optical Microscope (SOM) in finding thickness and quality of thin films " ; Journal of Instrument Society of India ; Vol. 26, No. 4 ; pp – 159 - 164 ; 1996.

(12) K.K.Baruah, K.C.Sarma and A.Choudhury; " Application of SOM in monitoring thickness and quality of thin film surface in transmitted and reflected mode " ; Journal of Instrument Society of India ; Vol. 26, No. 3 ; pp – 581 – 585 ; 1996.

(b) Books:

(1) **"Akash Chubaloi"** (To touch the sky), publish by Monikut, 2020.
(2) **"Know your sky"**, published by SSEAEP for Vigyan Prasar, Govt. of India, New Delhi.
(3) **"Hand Book of Telescope"**, published by Assam Science Technology and Environment Council, September, 2013.
(4) The chapter **"Ajir Mahakash Khan"** (The Universe today) of the book : "Bigyan and Pragati", Published by Prakashan Parishad, Assam.
(5) **"Akash Aru Ami"** (The sky and we)– A book in Assamese and Bengali, based on Astronomy, published by BJVJ, 2004.
(6) **"Jon Belir Luka Bhaku Khel – Suryyagrahan"** (Hide and seek of the Moon and the Sun- solar eclipse) a popular science book in Assamese on Solar eclipse , published by Assam Science Technology and Environment Council, 1995.
(7) **"Sabda"** (The sound) – about the sound pollution, published by Assam Science Technology and Environment Council, 1994.

(c) Book Chapter:

(1) K.K. Baruah ; Superresolution Through Application of Annular and Sub-wavelength Aperture ; Contemporary Optics and Optoelectronics ; Tata McGrow-Hill Ltd. pp 414 - 416,2007.
(2) K.K.Baruah & R.Rajkhowa; Second Harmonic Signal generation by low power laser for SOM geometry; Contemporary Optics and Optoelectronics ; Tata McGrow-Hill Ltd. PP411 – 413;2007.
(3) K.K.Baruah, K.C.Sarma and A.Choudhury; " Application of laser based SOM for imaging photo-current generation pattern in semiconductor " Optics and Optoelectronics, Theory, Devices and Applications ; Vol. 2, pp – 1435 – 1438 ; Narosa Publishing House ; 1999.

(O) Conference attended (listed only the selected numbers)**:**

(a) Invited Talk:

(1) International Tropical Conference on "Super-resolution and Photonics", Kolkata, India during 15^{th} to 16^{th} Feb.2005.
(2) The 17th Australian Conference on Electron Microscopy (ACEM17), Adelaide, Australia, 4th - 8th February 2002.
(3) 6^{th} International Conference on Optics Within Life Sciences (OWLS -VI), Sydney, Australia, during 22^{nd} – 24^{th} Feb. 2000.
(4) National Conference on Lasers and Advance Materials (NCLAM-2012), Sant Gadge Baba Amravati University, India, during 29^{th} to 30^{th} May, 2012.

(b) Contributed talk (listed only the selected numbers)**:**

(1) International Tropical Conference on Applied Photonics "Superresolution and Photonics", held at Kolkata, India during 15^{th} to 16^{th} Feb.2005.
(2) International Conference on Optics and Optoelectronics (ICOL-98), at Instrument research and Development, Dehradun, India during 9^{th} – 12^{th} Dec, 1998.
(3) International Conference on Instrumentation (ICI-20) during 8 – 20^{th} August, 1996, at IISc, Bangalore, India.
(4) National Symposium on Instrumentation (NSI-20), during 25^{th} – 28^{th} Sept., 1995. At Hyderabad, India.

(5) International Symposium on Optoelectronics (SIOEL), The paper was presented by the conference committee, During 18th – 20th Sept, 1996, at Institute of Optoelectronics, Romania.
(6) XXIV National Symposium on Optic and Optoelectronics, organized by the Optical Society of India, during 30th Jan – 1st Feb. 1997, at Calcutta University, Calcutta, India.
(7) Annual Technical Section of Assam Science Society, at Tezpur University, Tezpur, India 1994.
(8) Advance Seminar on The Electron, held at the Department of Physics, IITG, India on 21st Nov. 1997.
(9) XXIV National Symposium of OSI, held at Department of Applied Physics, Calcutta University, India during Jan 30 to Feb. 1 , 1997.
(10) National Conference on Laser and its Applications(NCOLA – 201) held at Department of Physics, Dibrugarh University, India during 5th Nov. to 7th Nov. 2001.

(P) Some of the Astronomy related (PG and undergraduate) projects guided (with name of the student):

(1) Design Considerations of a Slitless Spectrograph for Spectroscopic study of Stellar Objects. - Janmejoy Sarkar
(2) Life and Works On Moon. - Madhurrya P. Talukdar
(3) Study of Ancient Chinese Astronomy. - Priyanka Kashyap.
(4) A Brief Study on Ancient Egiptian Astronomy. –Uddesh P. Talukdar.
(5) Study of Ancient Indian Astronomy. – Sani Kr. Bashya.
(6) Study of Ancient Roman Astronomy. - Niki Baruah
(7) Study of Ancient Arabic Astronomy. - Kapil Nath
(8) Study of Babylonian Astronomy - Minam Modi
(9) Study of Ancient Astronomy: Myths, Explanations and Observations with special reference to India. - Trishita Saikia
(10) Some of the special application of Astronomical Coordinate System. - Anupam Deka
(11) Study of Mayan Astronomers. - Harshita Bhuyan
(12) Study of Ancient Greek Astronomy. - Pranab Malakar
(13) Quest for Extraterrestrial Life. -Rajashree Bhuyan

(Q) Public talk delivered in various institutions with name of the topic:
(From May, 2021 to Nov, 2022)

(1) "From Astronomy To Technology" at Darrang College, Tezpur on 15th Nov,2022.
(2) "Astro-photography" at Dept. of Mass Communication ,Tezpur University on 10the Nov. 2022.
(3) "আকাশৰ মনোমোহা কথাবোৰ !" (The facts of the beautiful sky!)through online mode at an Astronomy workshop organised by ASTEC, Bongaigaon Aryaabhatta Science Centre and Birjora College on 30th October,2022.
(4) "মহাকাশখনক শ্রেণীকোঠাৰ মাজলৈ !" (Bring the Universe inside the class room!) at Assam Jatia Bidyalaya, Guwahati on 23rd October, 2022
(5) "From Astronomy To Technology" at JIST, Jorhat on 7th May,2022
(6) "The Universe as we understand" at Nowgoan Girls' College, Nagaon on 5th March, 2022.
(7) "**দৃষ্টিনন্দন আকাশখন** !" (The Fascinating Sky!) at Jorhat Science Centre, Jorhat, through online mode on 2nd March,2022.
(8) "The Universe as we understand" at Pandit Dindayal College, Behali, Assam on 28th February,2022.

(9) “Sailing on the blue sea (The Raman Effect)” at Tezpur University, Assam on 27th February,2022 during inauguration of inSignis of TU.

(10) **“দৃষ্টিনন্দন আকাশখন** !” (The Fascinating Sky!) ; Delivered this talk at Jengraimukh College, Majuli on 18th December, 2021.

(11) “The Universe as we understand” at Prgjyotish College, Guwahati on 4thDecember,2021 along with a sky observation programme.

(12) “The Universe as we understand” Nagaon College on 5th May,2021.

(R) Other Participations:

(1) Participated at the Summer School on " Advanced Microprocessor System and Digital Signal Processing" at Assam Engineering College, during 7th – 12th Aug. 1995.

(2) Workshop on " Accelerator based experimental facilities at NSC" held at Gauhati University, during 23rd-24th June, 1995.

(3) Completed a course of study on "Process control loop and Instrumentation in CDU of BRPL, Bongaigaon" during 5th June to 15th July, 1998.

(4) Introductory Summer School on Astronomy and Astrophysics held at IUCAA, Pune during 4th – 29th June,1990. (Also completed a project work on "Design considerations of the GMRT" during the programme).

(5) Workshop on Introductory Image Processing and Astronomical Application held at Department of Physics, Tezpur University, during 9th to 11th of Feb.1999.

(6) Workshop on National Total Solar Eclipse, 1995 held at Simla , India, during 13th and 14th of April, 1995.

(7) Training Programme for Science Writers / Journalists for enhancing Science Coverage in the media, held at Shillong during 25th to 29th of October, 1994.

(8) Master resource persons’ Training rogramme on "Transit of venus: June 8, 2004" held at Guwahati Planetarium during April 29 to 30, 2004.

(9) NSC Acquaintance Programme at Department of Physics, Tezpur University ,on 21st May, 2001.

(10) Act as Judge in the National Children’s Science Congress from 1993 onwards.

(11) Act as Academic Coordinator, in The National Children’ Science Congress,2004.

****