

# Curriculum Vitae:

*Dr. Manoj Kumar Mahanta, M.Sc. Ph. D.*  
*Principal,*  
*Pragjyotish College*  
*Guwahati-781009.*

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- 1. Name (in block letters)** : DR. MANOJ KUMAR MAHANTA, M.Sc. Ph.D.
- 2. Present Designation** : **Joined as Principal at Pragjyotish College, Guwahati-9 on 29th June 2018.**
- 3. Date of joining as Principal** : Worked as Principal at Bajali College, Pathsala from 8th December, 2015 to 28th June, 2018.
- 4. Date of Birth** : 01-02-1969.
- 5. Residential Address** : Sourav Nagar, Beltola, House No-178  
Near Nagaland Police Rest House  
P. O. Beltola, Dist- Kamrup,  
PIN-781028.
- 6. Nationality** : Indian
- 7. Caste** : General
- 8. Date of joining as a lecturer** : 01-11-1997 at B.B.K. College, Nagaon, Barpeta till 16/2/2006. Joined at Arya Vidyapeeth College on 16-02-2006 (A/N) and worked till 7/12/20015.
- 9. Academic Qualifications** : **M.Sc. (Physics), Ph.D.**
- 10. Research Degree (s):**

Degrees	Title	Date of Award	Univeristy
M. Phil	NIL		
Ph.D./ D. Phil (PHYSICS)	Studies of the Pre-Sheath and Sheath Regions of a Plasma	07-06-2003 vide E.C. Resolution No. 2003/7/66	Gauhati University

- 11. Specialization** : Theoretical Physics, Plasma Physics.
- 12. Research Paper Published**  
(National/International) : **11 (International-07, National-04)**  
(Enclosed in **Annexure-I**)
- 13. Articles** : **14** (Enclosed in **Annexure-II**)
- 14. Book Published** : Two Books
- (i) *A Handbook on Statistical Physics & Thermodynamics*. By V.S. Bhatia, M.K. Mahanta & K.K. Pathak. (ISBN-978-93-82956-92-1), Published by **Vishal Publishing Co.**, Jalandhar-144008, India.
- (ii) *Energy : The Key To Development and Its Related Issues*. By M.K. Mahanta (ISBN-978-9382956-45-7), Published by **Vishal Publishing Co.**, Jalandhar-144008, India.
- 15. Patent** : Nil
- 16. Award/ Scholarship obtained** : National Merit Scholarship from H.S. to M.Sc.
- 17. Research Project/ Guide Ship** : Yes, have completed one **Minor Research Project** sanctioned by UGC NERO vide Letter **No. F. 5-209/2011-12/MRP/NERO/10817** Dated 1<sup>st</sup> December, 2011 for the project entitled "The Plasma wall boundary region in negatively charged dusty plasma".

**Guide ship : Two Ph.D. Scholars are perusing Ph.D. at GU.**

Have got approval as Ph.D. Research Guide under Gauhati University vide EC Resolution No. R/EC-02/2015/22 Dated 21/01/2015 and Letter No GU/AC/Ph.D/Guide-Recog/2014-15/4651 dated 11/02/15.

**Linkage** : Have linkage with **Centre of Plasma Physics- IPR, Sonapur (An autonomous Research Institute under DAE, Govt. of India)** to perform collaborative research. Have linkage with Physics Academy of North East

(PANE), IAPT (Indian Association of Physics Teachers) and Assam Physical Society (APS) to discuss about various physics relate issues. Have linkage with IGNOU, KKHSOU, IDOL (GU) as officer in charge at Bajali College Study Centre and Pragjyotish College Study Centre.

**18. Community Service** : Related to different organisations  
(Annexure-III)

**19. Seminar/ Conference/**

**Workshop attended** : Yes. Copy Enclosed (Annexure-IV)

**20. Research Experience** :

I am actively involved with research work since 1996 in the field of Plasma Physics. I am doing collaborative research work with **Centre of Plasma Physics (CPP-IPR)**, an Autonomous Institute of **Department of Atomic Energy, Govt. Of India** after completing my Ph.D. degree. I have attended “**8<sup>th</sup> Carolus Magnus Summer School on Plasma and Fusion Energy Physics**” an International Workshop organised by the **Trilateral Euregio Cluster (European Association)** at Bad Honnef, **Germany** from 3<sup>rd</sup> to 14<sup>th</sup> September, 2007 and presented a paper in the poster session entitled “*Studies of Dust Particles in a Collisional Plasma*”. At present I am having two research scholars enrolled for Ph.D. under my supervision.

### **Membership:**

- i. Life member of PSSI (Plasma Science Society of India)**
- ii. Life member of PANE (Physics Academy of North-East India)**
- iii. Life member of Assam Physical Society (APS).**
- iv. Life member of IAPT (Indian Academy of Physics Teachers).**

## Annexure-I

### Research Articles published in International/ National Journals:

1. Theory of Sheath in a Collisional Multi-Component Plasma, *Pramana*, (a journal of Physics), **56(4)**, p579, 2001, by M.K. Mahanta and K.S. Goswami.
2. Theory of Sheath in a Multi-Component Plasma, *Phys. Of Plasmas*, (American Journal of Physics), **6(12)**, p4781, 1999, by M.K. Mahanta and K.S. Goswami.
3. Theory of Dusty plasma near a conducting boundary with Dust-Neutral collision, *Phys. Of Plasmas*, (American Journal of Physics), **8(2)**, p665, 2001, by M.K. Mahanta and K.S. Goswami.
4. Theory of dust acoustic double layer in presence of reflected particles, M.K. Mahanta and K.S. Goswami *Proceedings of PANE, 2002*.
5. Wind Energy, It's Prospect and Development in India with a special reference to North east India, by M.K. Mahanta and S. Dutta published in the book "*Thoughts on Environment with reference to North-East India*" in 2013 **Page No. 107-123**. Publisher- Global Publishing House (India), Visakhapattanam-2, A.P. **ISBN-978-93-81563-16-8**.
6. Sustainable Development and Usage of Non-Conventional Energy Sources with Special Emphasis to Wind Energy in India, by M.K. Mahanta and S. Dutta *Proceeding Volume (ISBN-978-81-925299-0-5) page 191-201* of International Seminar and Workshop on Energy, Sustainability and Development organised by Sibsagar College, Joysagar, in collaboration with CSIR-NEIST, Jorhat, October 12<sup>th</sup> to 14<sup>th</sup>, 2012.
7. Fluid Simulation of Electrostatic Sheath with Negatively Charged Dust, published in the proceeding volume of 27<sup>th</sup> PSSI National Symposium on Plasma Science & Technology (**Plasma-2012**) at Pondicherry University, by R. Moulick, M. K. Mahanta and K. S. Goswami. **ISBN-978-93-82062-82-0**, p143-147.
8. Effect of collision parameters in electronegative plasma sheath with two species of positive ions, R. Moulick, M.K. Mahanta and K. S. Goswami, *Physics of Plasmas*, (American Journal of Physics), **20**, **094501**, published online 6 September **2013**.
9. Studies of Dust Acoustic Double Layer in presence of Trapped Particles, *Journal of Korean Physical Society (JKPS)*, **Vol. 64, No. 2. January 2014, pp. 232-237**, M.K. Mahanta, R. Moulick and K.S. Goswami.
10. Global Climate Change and Its Impact on Migration: A case study in the Char Areas of Lower Assam, *Research Journal of Contemporary Concern*, CCRC, Vol. 9(Spl.) 2014, pp-124-135 (**ISSN 0972-7922**), MK Mahanta and S. Dutta.

11. Flux enhancement of cellulose nitrate membrane nitrate membrane through plasma assisted route for waste and mud water treatment. *Polymer Advance Technology*, 2023, 1-17. Tonmoi Hazarika, Prince Das, Jefin Jose, Bharat Kakati, Dipankar Pal, Rimlee Saikia, Manoj Kumar Mahanta.

## Annexure-II

### Article Published in different News Paper/ Magazine/ Periodicals:

1. Bishnu Rabbar Dristit Kristi, *Smritigrantha* Published by Rabha Diwas Udjapan Samity, Nalbari, **June 1995**.
2. Plasma, Apekshikatabad Aru Manab Samaj, Published in *Janakantha* an Assamese Quarterly, **May, 1998**.
3. Adhunik Bignyan Aru Manab Sabhyata, *Smritigrantha*, **Silver Jubilee Celebration of LJJ Sangha, Nalbari, 2002**.
4. Plasma, the Fourth State of Matter and its Applications, published in BANEE, the annual magazine of B.B.K. College Teachers Association.
5. “Sikshak Basani Aru Kisu Byaktigata Anubhab” (Teacher’s Selection Process and personal feelings)- An article published in the Assamese Daily “**Amar Asom**” on 7<sup>th</sup> September, 2006, **Vol. 10, Issue No. 138**.
6. “Quality of India’s higher Education System”- An article published in the English Daily “**The Assam Tribune**” on 8<sup>th</sup> May, 2013 **Vol. 75, No. 122**.
7. “Necessity of Quality Education at school level”, an article published in the Assamese Monthly Educational Newsletter “**KOLAZ**” in its complementary issue, **May, 2013**.
8. “Some positive and negative aspects of HSLC and HS results-2013”, published in **KOLAZ**, an Assamese Monthly Educational Newsletter, First Issue, No. 1, **June, 2013**.
9. “Present Education System and the future of our society”, published in **KOLAZ**, an Assamese Monthly Educational Newsletter, Second Issue, No. 2, **July, 2013**.
10. “Mid-Day Meal- an obstruction to our Education System”, published in **KOLAZ**, an Assamese Monthly Educational Newsletter, Third Issue, No. 3, **August, 2013**.
11. “The Primary Education Scenario in Assam”, published in **KOLAZ**, an Assamese Monthly Educational Newsletter, Fourth Issue, No. 4, **September, 2013**.
12. “Education Scenario of Assam-an analysis”, published in **KOLAZ**, an Assamese Monthly Educational Newsletter, Fifth Issue, No. 5, **October, 2013**.
13. “Influence of Mother-tongue on Education”, published in **KOLAZ**, an Assamese Monthly Educational Newsletter, Sixth Issue, No. 6, **November, 2013**.
14. “Higher Education in India-A Changing Trend” An article published in the English Daily “**The Assam Tribune**” on 30<sup>th</sup> July, 2015 **Vol. 77, No. 205**.

## Annexure-III

### Contribution to the Corporate Life/ Community Services:

1. **Member, Committee of Uniform Fee Structure in the Colleges of Assam** constituted by DHE vide letter No. PC/HE/Plan/24/2014/94 dated 7<sup>th</sup> March 2017 in pursuance of Govt. of Assam letter NO. AHE. 624/2016/34 dated 4<sup>th</sup> March, 2017.
2. **Member, Governing Body, Barkhetri College, Mukalmua, Nalbari** from 2016 as University Representative of GU.
3. **Member, Governing Body, Arya Vidyapeeth College** for the session 2011-12 as Teacher's Representative.
4. **President, Assam Science Society (Bajali Branch) from 2016.**
5. **Member, Infra Structure Development of Arya Vidyapeeth College** implemented under SPA vide Govt. of Assam Letter No. PDP 109/2011/10 from 2012 to 2015.
6. **Zonal Officer, HS Final Examination 2016, Bajali College Zone.**
7. **Zonal Officer, HS Final Examination 2017, Bajali College Zone.**
8. **Zonal Officer, B.Sc. First Semester Examination 2016, Bajali College Zone.**
9. **Zonal Officer, B.Sc. Fourth Semester Examination 2016, Bajali College Zone.**
10. **Zonal Officer, B.A., B. Com. First Semester Examination 2016 (KKHSOU).**
11. **Zonal Officer, B.A., B.Com. Fifth Semester Examination 2017 (KKHSOU).**
12. **Officer In Charge, IDOL, GU, Bajali College Centre.**
13. **Convener, Admission Committee for Science and Commerce 2015-16, AV College.**
14. **Assistant Officer-in Charge of the "Examination Branch", Arya Vidyapeeth College** from November 2010 to 2013 December.
15. **Assistant Zonal officer, BA 3<sup>rd</sup> Semester Zone of Gauhati University, 2014, at AV College.**
16. **Member, IQAC, Arya Vidyapeeth College, from 2008 to December 2013.**
17. **Chairman, District Level Selection Committee (DLSC), Elementary Education, Nalbari District** from January, 2006 to 2008 to select the Teachers to appoint in the LP and ME Schools of the District.
18. **Convener, "Disciplinary Committee", Arya Vidyapeeth College** from 2009 to 2013.
19. **Convener, Supervising Committee** for renovation of statue of Giridhar Sarma in front of the College premises in the year 2014.
20. **Member, "Grievance Redress Cell", Arya Vidyapeeth College** from January, 2014.
21. **Member, "Publication Cell", Arya Vidyapeeth College** from January, 2014 to December 2015.
22. **Secretary, Arya Vidyapeeth College Teacher's Unit** for the session 2009-2010.
23. **President, Arya Vidyapeeth College Teacher's Unit** for the session 2015-16.
24. **Member, Executive Committee of Golden Jubilee Celebration** of A. V. College in the year 2009.
25. **Convener, Fund Collection Committee of Golden Jubilee Celebration** of A.V. College, 2009
26. Performed the duties of **In-Charge Teacher** of A.V. College Union Body (Gymnastic Section) in the year 2007.
27. Sincerely co-operating the Admission process of the college as a member from 2007.

28. **Member, Construction Committee** of Arya Vidyapeeth College.
29. **Member, “Purchase Committee for Laboratory Equipments”** of the college.
30. **Member, Sub-Committee** constituted for preparation of NAAC inspection.
31. Worked as a member in the committee for “Ceremonial Distribution of Cheques to all Institutions of Higher & Technical Education” on 2<sup>nd</sup> May, 2012 vide appointment letter **EC/HE/Plan-20/2012/53** issued by Director of Higher Education, Assam.
32. Associated with **Assam Public Service Commission** for different examination related matters.
33. Worked as **Jury Member** for evaluation of different competitions on various topics of Science and Technology organised by Arya Bhatta Science Centre, Kamrup (Metro), Govt of Assam, held at Guwahati Planetarium on 24<sup>th</sup> March, 2013.
34. Worked as a **Jury Member** for evaluation of project presentation of 21<sup>st</sup> National Children’s Science Congress organised by ASTEC and NCSTC at Guwahati on 15<sup>th</sup> September, 2013.
35. Worked as **Observer for JEE (Main)-2013** conducted by CBSE, Govt. of India, Ministry of HRD on 7<sup>th</sup> April, 2013 vide letter No. CBSE/RO(G):JEE (MAIN)/2013.
36. Worked as a **Jury Member** for evaluation of project presentation of National Children’s Science Congress organised by ASTEC and NCSTC at Guwahati on 12<sup>th</sup> September, 2010.
37. Worked as **Jury Member** for evaluation of project presentation of National Children’s Science Congress organised by ASTEC and NCSTC at Guwahati on 4<sup>th</sup> September, 2011.
38. Worked as a **Member of Centre Committee** to conduct HS and TDC Examinations, 2006 at B.B.K. College, Nagaon, Barpeta.
39. **Secretary, B.B.K. College Teacher’s Unit** for the session 2005-2006.
40. **Member, Governing Body, B.B.K. College** for the session 2005-2006 as Teachers’ Representative.
41. **Co-ordinator, Career Counselling Cell, B.B.K. College** from 2003-2005.
42. **Member, Extension Education Cell, B.B.K. College** from 2003-2005.
43. **Member, School Managing Committee of RNCHS School, Mukalmua, Nalbari** from 2001 to 2003.
44. **President, Managing Committee** of Sankar Madhab High School, Jaysagar, Nalbari from 2006 to 2010 vide Memo No. GN-10?NDC/MC/0/2266-69 dated 9/9/2006.
45. **Member, Managing Committee** of Narayanpur High School, Mukalmua, Nalbari from 2002 to 2005 Vide Memo No. NDC/3928-30 dated 18/04/2002.
46. **Member, Governing Body, Barkhetri College, Mukalmua, Nalbari** as University Representative from 2017 till date.
47. Working as **President/Secretary** of different NGO’s involved in the socio-economic development of the backward section of the society.

## Annexure-IV

### Participation in International/ National/ Regional/ Local Seminar & Workshop:

#### International Seminar/Workshop/ School :

1. Attended “ **8<sup>th</sup> Carolus Magnus Summer School on Plasma and Fusion Energy Physics**” organised by the **Trilateral Euregio Cluster** at Bad Honnef, **Germany** from 3<sup>rd</sup> to 14<sup>th</sup> September, 2007 and presented a paper in the poster session entitled “*Studies of Dust Particles in a Collisional Plasma*”.
2. Attended **International Seminar and Workshop** on “Energy, Sustainability and Development” organised by Physics Department, Sibsagar College in collaboration with CSIR-NEIST, Jorhat from 12<sup>th</sup> to 14<sup>th</sup> October, 2012 and presented a paper titled “*Sustainable Development and usage of Non-Conventional Energy Sources with Special emphasis to Wind Energy in India*”.
3. Attended **International Conference** on “Harnessing Natural Resources for Sustainable Development: Global Trend” organised by Department of Chemistry, Cotton College in collaboration with DST from 29<sup>th</sup> to 31<sup>st</sup> January, 2014 and presented a paper titled “*Global Climate Change and Its Impact on Migration: A Case study in the Char areas of lower Assam*”.

#### National Seminar/ Workshop:

1. Participated in 10<sup>th</sup> National symposium on “Plasma Science and Technology” organised by Banaras Hindu University (BHU) from 16<sup>th</sup> to 19<sup>th</sup> October, 1995.
2. Participated in XVII National Annual Meeting of “Astronomical Society of India” organised by Gauhati University from 17<sup>th</sup> to 20<sup>th</sup> Jan, 1996.
3. Participated in 13<sup>th</sup> National symposium on “Plasma Science and Technology” organised by Saurashtra University, Rajkot, Gujrat from 27<sup>th</sup> to 30<sup>th</sup> October, 1998.
4. Participated in 14<sup>th</sup> National symposium on “Plasma Science and Technology” organised by Guru Nanak Dev University from 21<sup>st</sup> to 24<sup>th</sup> December, 1999.
5. Participated in 16<sup>th</sup> National symposium on “Plasma Science and Technology” organised by Centre of Plasma Physics, Guwahati from 17<sup>th</sup> to 20<sup>th</sup> December, 2001.
6. Participated in UGC sponsored National Seminar on “Recent Trends in Environmental Studies” at B.B.K. College, Nagaon, Barpeta from **24<sup>th</sup> & 25<sup>th</sup> May, 2005** and presented a paper entitled “Non Conventional Energy Sources”.



7. Participated in UGC sponsored National Seminar on “ Population, Environment and Development in North-East India” at Arya Vidyapeeth College from **20<sup>th</sup> to 21<sup>st</sup> October, 2009** and presented a paper entitled “ Wind Energy, It’s Prospect and Development in India with a special reference to North east India”.
8. Participated in the DAE-BRNS sponsored three day School on “Foundation of Plasma Physics and Technology for young researchers of North-East India” from **30<sup>th</sup> October to 1<sup>st</sup> November, 2009 at Physics Department of Dibrugarh University.**
9. Participated in one day UGC-SAP National Seminar on **New Frontiers in Physics** organised by Department of Physics, Guwahati University held on **11<sup>th</sup> May, 2012.**
10. Participated in the National Conference on Contemporary Issues in High Energy Physics & Cosmology organised by Department of Physics, Gauhati University during **12<sup>th</sup> to 14<sup>th</sup> February, 2013.**
11. Attended UGC sponsored National Seminar on “*Migration and Assam from pre historic to present day*” organised by Dispur College in collaboration with ACTA, Kamrup Zone from 23<sup>rd</sup> to 24<sup>th</sup> September, 2013 and presented a paper titled “ *Climate change and Migration: a micro level case study of the lower Assam with special reference to Nalbari District*”.
12. Participated in the UGC Sponsored National Seminar on “*Environment and Civil Societies: Issues, Problems and Remedies*” organised by S. B. Deorah College in Collaboration with Aranyak, Guwahti from **29<sup>th</sup> to 30<sup>th</sup> August, 2014.**
13. Participated in the CPP-IPR National Workshop on Linear Tokamak Divertor Simulations for PSI Studies held at Centre of Plasma Physics-Institute for Plasma Research, Nazirakhat, Sonapur, Assam during 24<sup>th</sup> to 26<sup>th</sup> November, 2014.
14. Participated in the UGC Sponsored National Seminar on “*Role and Importance of Educational Technology in the field of Teaching and Learning*” as a Resource Person organised by Department of Education, Bhawanipur Anchalik College, Bhawanipur, Barpeta from **10<sup>th</sup> to 11<sup>th</sup> February, 2017.**
15. Participated in the MNRE, Govt. of India Sponsored National Seminar on “*Renewable Energy: Uses and Management*” as a Resource person organised by Environmental Watch and Management Institute, Guwahti from **22<sup>nd</sup> to 23<sup>rd</sup> February, 2017.**
16. Participated in the National Seminar on “*Need of Teachers’ Training for Enhancement of Quality Education in Secondary Level*” as a Resource person organised by Bajali Teachers’ Training College, Patachatkuchi, Barpeta from **15<sup>th</sup> to 16<sup>th</sup> March, 2017.**
17. Participated in the UGC Sponsored National Seminar on “*Human Rights Violation against Women- Causes and Consequences with Special Reference to North East India*” as a Resource person organised by Department of Philosophy, B.H.B College, Sarupeta, Barpeta, Assam from **24<sup>th</sup> to 25<sup>th</sup> June, 2016.**

### **Regional Seminar/ Workshop :**

1. Participated in the “School of Plasma Physics” organised by IASST, Guwahati from 20<sup>th</sup> to 30<sup>th</sup> April, 1998.
2. Participated in the workshop titled “North Eastern Regional Workshop on Severe Thunderstorms- Observation and regional Modelling (STORM), organised by ASTEC on 17<sup>th</sup> November, 2006.
3. Participated in the “Faculty Development Program” organised by ICFAI at Guwahati on 1<sup>st</sup> February, 2007.
4. Participated as a resource person in the workshop on “Environment Awareness Campaign” organised by Assam Science Society as a Resource Person at Sankar Madhab High School, Jaysagar, Nalbari on 1<sup>st</sup> July, 2003.
5. Participated as a Resource Person in the workshop on “Information Technology” organised by the Third Eye Computer Education at Mukalmua, Nalbari on 3<sup>rd</sup> October, 2004.
6. Participated in the Training cum Workshop on “Electronics and Computer Laboratory Applications” for the College Teachers organised by IDSC in Collaboration with ASTEC (Govt. of Assam) and Department of Physics, Cotton College from **16<sup>th</sup> to 18<sup>th</sup> June, 2011**.
7. Participated in the one day Orientation Programme on “Mechanism to Enhance Quality Control of Evaluation” held at IGNOU Regional Centre, Guwahati on 19<sup>th</sup> October, 2012.
8. Participated in the Faculty Development Program on “Instructional Objectives-Teaching Science as Science” organised by ICFAI University, Tripura on 5<sup>th</sup> December, 2014.
9. Participated in the Workshop on “Assam College Management Rules and UGC Regulations” organised by Pandu College Teachers’ Unit in Collaboration with ACTA Kamrup Metro Zone held on 30<sup>th</sup> June, 2015.

### **Orientation/ Refresher Courses/Short Term Course:**

1. Participated in the “Orientation Course” organised by UGC Academic Staff College, **Gauhati University** from 3<sup>rd</sup> to 30<sup>th</sup> May, 1999.
2. Participated in UGC Sponsored Refresher Course in Physics at **Jawaharlal Nehru University**, New Delhi from 29<sup>th</sup> January to 23<sup>rd</sup> February, 2001.
3. Participated in the UGC Sponsored Refresher Course in Computer Science at Academic Staff College of **Burdwan University**, West Bengal from 24<sup>th</sup> December to 13<sup>th</sup> January, 2005.
4. Participated in the UGC Sponsored Refresher Course in Environmental Studies organised by Academic Staff College, **Gauhati University** from 10<sup>th</sup> March to 30<sup>th</sup> March, 2008.
5. Participated in the UGC Sponsored Short Term Course on “ICT and Soft Skill Development” at Academic Staff College, Gauhati University from 24<sup>th</sup> February to 2<sup>nd</sup> March, 2014.

Dr. M.K. Mahanta  
Principal,

