



Nayabad Integrated Social and Environmental Welfare Society
A Not for Profit aims to promote environmental conservation & natural resource management in a sustainable manner to mitigate climate change issues and securing livelihoods
Registration No: S0005896 of 2019-2020
|| Email: info.nisews@gmail.com||Tele: +91 9007093445/ +91

26-02-2020

To

Ananya,

The NISEWS (Nayabad Integrated Social and Environmental Welfare Society), Kolkata is glad to offer you the Summer Internship to pursue a 3-month work on the Arising Ecological Issues of Indian Sundarbans (Work title: **An appraisal on the ecosystem services of mangroves with special focus on Indian Sundarban: Climatic threats and potential mitigation measures**). This program is planned based on the request of Dr. Deep Chandan Chakraborty, Assistant Professor and Mentor of Biodiversity and Ecosystem Function Elective, Department of Zoology, Asutosh College in accordance with the Postgraduate Curriculum of Zoology.

In order to pursue the review work, interns have to bear with the expenses that would incur due to the extension of knowledge, consultancy, outsourcing of data collection and testing as per the requirement of the work concern.

On acceptance of this offer, students are requested to make an initial payment of Rs. 2500/- and later on the second installment of Rs. 2500/- before completion of the internship program in the following account.

Name: Mrs. MALANCHA DEY
Bank: State Bank of India
Branch: Mukundapur
Savings A/C No.: 0000003804797729
IFSC Code: SBIN0011529

(Dr. Sourabh Kumar Dubey)
Secretary

Copy to:

Dr. Deep Chandan Chakraborty, Assistant Professor, Ecology Unit, Postgraduate Department of Zoology,
Asutosh College



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To

Meghna,

The NISEWS (Nayabad Integrated Social and Environmental Welfare Society), Kolkata is glad to offer you the Summer Internship to pursue a 3-month work on the Arising Ecological Issues of Indian Sundarbans (Work title: **Estuarine Morphodynamics and Ecosystem Functions of the Sundarban: Potential role of Macrobenthic Assemblages**). This program is planned based on the request of Dr. Deep Chandan Chakraborty, Assistant Professor and Mentor of Biodiversity and Ecosystem Function Elective, Department of Zoology, Asutosh College in accordance with the Postgraduate Curriculum of Zoology.

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To

Manisha,

The NISEWS (Nayabad Integrated Social and Environmental Welfare Society), Kolkata is glad to offer you the Summer Internship to pursue a 3-month work on the Arising Ecological Issues of Indian Sundarbans (Work title: **Ecosystem Carbon Stocks of Mangrove Ecosystem: Assessment of Carbon Sequestration Potential and Approach towards managing Carbon dioxide emission**). This program is planned based on the request of Dr. Deep Chandan Chakraborty, Assistant Professor and Mentor of Biodiversity and Ecosystem Function Elective, Department of Zoology, Asutosh College in accordance with the Postgraduate Curriculum of Zoology.

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26-02-2020

To

Ankita,

The NISEWS (Nayabad Integrated Social and Environmental Welfare Society), Kolkata is glad to offer you the Summer Internship to pursue a 3-month work on the Arising Ecological Issues of Indian Sundarbans (Work title: **Contribution of NTFPs in the livelihood of forest fringe dwellers of Indian Sundarban with special reference of mangrove blood honey: Conservation implication and sustainable livelihood**). This program is planned based on the request of Dr. Deep Chandan Chakraborty, Assistant Professor and Mentor of Biodiversity and Ecosystem Function Elective, Department of Zoology, Asutosh College in accordance with the Postgraduate Curriculum of Zoology.

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Copy to:

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Asutosh College

Registered office: Premises No. 3036, Nayabad, Flat No 3A, 3rd floor, Ward No-109, Kolkata-700099, West Bengal, India

The society registered under the West Bengal Societies Registration Act, 1961.



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26-02-2020

To

Debolina,

The NISEWS (Nayabad Integrated Social and Environmental Welfare Society), Kolkata is glad to offer you the Summer Internship to pursue a 3-month work on the Arising Ecological Issues of Indian Sundarbans (Work title: **Mangrove afforestation, rehabilitation and restoration: Methodology towards participatory mangrove management, assessment and monitoring**). This program is planned based on the request of Dr. Deep Chandan Chakraborty, Assistant Professor and Mentor of Biodiversity and Ecosystem Function Elective, Department of Zoology, Asutosh College in accordance with the Postgraduate Curriculum of Zoology.

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Copy to:

Dr. Deep Chandan Chakraborty, Assistant Professor, Ecology Unit, Postgraduate Department of Zoology,
Asutosh College

FACULTÉ DES SCIENCES et ÉCOLE POLYTECHNIQUE

Computational Biology and Bioinformatics
Marianne Rooman

Avenue Roosevelt 50, CP 165/61
1050 Bruxelles, Belgium
Tel +32-2-650 2067
Fax +32-2-650 3575
Email Marianne.Rooman@ulb.be

To whom this may concern,

This letter is to certify that Dr. Sankar Chandra Basu (<http://www.scinetmol.in>) worked as a post-doctoral researcher under my supervision in the Computational Biology and Bioinformatics group at the Université Libre de Bruxelles, Brussels, Belgium from February 1st, 2019 to August 14th, 2019. Although the initial contract was for one and a half year, he chose to quit after he was offered a permanent academic position in his hometown, Kolkata, India, as he wanted to be with his parents in their old age. Currently, he is an assistant professor at Asutosh Collage under the University of Calcutta.

During his stay in my group, Sankar worked in the field of structural bioinformatics applied to membrane proteins. More precisely, he derived and combined different statistical potentials for predicting which protein residues are embedded in the lipid membrane and where the membranes are positioned. For this purpose, he developed a prediction pipeline which has recently been integrated and released as a publicly accessible webserver (BRANEart: <http://babylone.3bio.ulb.ac.be/BRANEart/>). After joining his permanent position back home in Kolkata, Sankar continued to work on the project as an external scientific collaborator. The project has just been completed leading to the following publication:

Basu, S.; Assaf, S.S.; Teheux, F.; Rooman, M.; Pucci, F.

BRANEart: Identify Stability Strength and Weakness Regions in Membrane Proteins.

Front. Bioinforma. 2021, 1, 70

<https://doi.org/10.3389/fbinf.2021.742843>

Apart from his main project, he has also contributed to the paper:

Mbaye, M.N., Hou, Q., Basu, S. Teheux, F., Pucci, F., & Rooman, M.

A comprehensive computational study of amino acid interactions in membrane proteins.
Sci Rep 9, 12043 (2019).

<https://doi.org/10.1038/>

Sankar continues to collaborate with my group on extended topics.

Sankar is a passionate researcher, conceptually strong and innovative in his field. More importantly, he makes sincere and dedicated efforts to learn and to extend his research expertise to new topics. For example, it was the first time that he worked with membrane proteins and I am sure that he enjoyed learning about them. I wish him all the best for his future career.

Sincerely yours,



Marianne Rooman
Professor, Research Director

December 19, 2021

**Chancellerie
de l'université**

Service du greffe
Campus du Solbosch
Avenue F.D. Roosevelt 50, CP 130
B-1050 Bruxelles - Belgique
Tél.: +32 (0)2 650 25 44 -23 33
Fax: +32 (0)2 650 40 46
E-mail: greffe@ulb.be
www.ulb.be
0407 626 464 RPM Bruxelles

Monsieur Sankar Chandra BASU
Chaussée d'Ixelles 131/133
1050 Ixelles
Belgique

Bruxelles, le 24 novembre 2020.

Cher Monsieur,

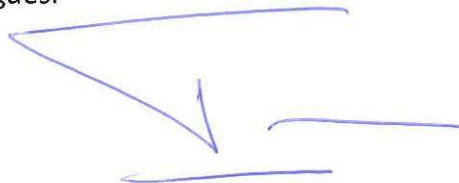
Nous avons l'honneur de porter à votre connaissance que le Conseil académique, en sa séance du 23 novembre 2020, a décidé de suivre la proposition de l'Ecole polytechnique de Bruxelles que vous trouverez en annexe.

Votre mandat implique le respect des conditions en vigueur à l'Université. Elles sont détaillées dans la **Table des modalités relatives à l'engagement dans les corps académique et scientifique à l'ULB**, consultable sur le site <http://www.ulb.be/table-des-modalites> ou sur simple demande au Service du greffe. Vous y trouverez notamment les informations concernant votre charge et, le cas échéant, votre rémunération.

Les recommandations aux chercheurs et aux enseignants en matière de signature des publications et de dépôt institutionnel y sont également reprises.

Nous vous invitons formellement à prendre connaissance de l'ensemble de ces dispositions.

Nous réjouissons de travailler avec vous dans l'intérêt de notre institution, nous vous félicitons et vous prions d'agréer, cher Monsieur, l'expression de nos sentiments très distingués.



Monique TAVERNIER,
Secrétaire de l'Université



Annemie SCHAUS,
Rectrice

Ecole polytechnique de Bruxelles

II.58

Grade : **Collaborateur scientifique**

L'exercice de ce mandat implique de contribuer occasionnellement, de par son expérience professionnelle, à l'enseignement ou à la recherche.

Personne proposée à la nomination : **Monsieur Sankar Chandra BASU**

Période : du 01/12/2020 au 30/09/2022

Diplôme : Doctor of Philosophy (Science) in Biochemistry (Autre université en Inde)

Rattachement :

HH010 Centre de recherche BioControl, BioInfo and BioMatter (Recherche)

Auprès du Directeur de Service (Philippe BOGAERTS)

Instance : Conseil facultaire

Date : 21/10/2020

Vote : 45.00 oui/ 0.00 non/ 0.00 abst

Proposition : H/2020/115

Personal ID : 50012004

Matricule SAP : 20017070

Poste : 51011107

ASUTOSH COLLEGE
(Estd. 1916)
92, S.P. Mukherjee Road,
Kolkata – 700026



Phone: 2455-4504/2486-3912
Fax : (033)2486-3006
Mail : mail@asutoshcollege.in
Web : www.asutoshcollege.in

Ref. No. ENV5 81/19

Date: 08.07.19

To

Dr. Deepchandani Chakraborty
Assistant Professor
Dept. of Zoology
Asutosh College

Sir,

Requesting you to allow one of our Post graduate 2nd year student, to do his project work (during 3rd Semester) according to our M.Sc. Environmental Science Course Curriculum, in your esteemed Institution, under your guidance.

Students generally get 8 weeks time to finish it. The duration is from 15th June 2019 to 15th August 2019. The marks allotted over it, is 70. Students have to submit the hard copy of the same in our Dept., attaching a certificate of their respective guide in the letterhead of the Institute.

Thanking you.

Name of the student:

1. Souvik Deb

sincerely yours,

A handwritten signature in black ink, appearing to read 'Tathagata Ray Chaudhuri'.

Dr. Tathagata Ray Chaudhuri

Coordinator

Dept. of Environmental Science

Asutosh College

Coordinator

Department of Environmental Science
Asutosh College, Kolkata - 700 026

Copy to Dr. Biswajit Thakur



Our Reference: HPLab/Reco/2022/SB1
Date: 2nd March 2022

Letter of support and appreciation for Dr Sankar Basu

To whom it may concern.

This is to state and confirm that Dr Sankar Basu is one of my long-term collaborators for computational structural modelling of proteins and peptides. We have collaborated since 2016 and it was his drive and expertise in protein design studies that could accomplish the computational backup in our experimental work in the area of peptide architectonics to be used as bio-therapeutics (e.g., corneal transplantation). This concept has been patented provisionally and we are in the process of more scholastic development of the systems and methods and for publication on peptide nanoarchitecture. We further collaborated in a perspective review on nano-induced changes in protein conformations and the review published as cover page in the inaugural issue of first ever Science Partner journal 'Research' by the American Association for the Advancement of Science (AAAS), the nonprofit publisher of the Science family of journals – which serves as an exposure for him in material science and engineering as well (details below). Most recently, I have further collaborated to develop plausible blockers of spike RBD in SARS-CoV2 and Sankar performed the molecular design and underlying interaction dynamics from high-level structural descriptors. The MS is now published as stated below.

The most recent collaboration plan we have in place to understand the influenza peptide antigens as vaccine candidates. Dr Basu will be part of this project to better understand the structural side of the peptide antigens through computational modelling.

Inner-view of nanomaterial incited protein conformational changes: Insights in designable interaction. Arka Mukhopadhyay\$, Sankar Basu\$, Santiswarup Singha and Hirak K Patra*
Research (Science partner Journal), 2018, 9712832 (Review Paper)
Publishers: American Association for the Advancement of Science (AAAS) (ISSN: 2639-5274)
Art-work from the paper appeared as the front cover in the inaugural Journal issue.

Plausible Blockers of Spike RBD in SARS-CoV2 – Molecular Design and Underlying Interaction Dynamics from High-Level Structural Descriptors
Sankar Basu*, Devlina Chakravarty, Dhananjay Bhattacharyya, Pampa Saha, Hirak K Patra
Journal of Molecular Modeling, 2021 May 31; 27(6):191
Publishers: Springer Nature (ISSN: 1432-7643)

With best regards,

Hirak Kumar Patra

Hirak K Patra

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92, S.P. Mukherjee Road
Kolkata – 700026



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Web : www.asutoshcollege.in

“It is impossible to be a mathematician without being a poet in soul.” - Sofia Kovalevskaya

I know Dr. Abhirup Bandyopadhyay ever-since we both were bachelor students at colleges under the University of Calcutta, Kolkata, India. He appeared bright and a born-thinker to me from our very first discourse. His early grooming into a mathematician and a logician was much contributed by his formal training at the Department of Mathematics, Presidency College – which, might not have been at its peak those days, but certainly retained a definite reflection of its old glory. A large overlap of our mutual interests and quests have made us deeply bonded friends with time and I find myself extremely privileged to write this letter for him.

Abhirup has deep introspection, outstanding analytical skills, exceptional ability of creative and intuitive thinking, and, more than anything else, a broad uninhibited vision on nature and natural processes. From our long discourses within and outside the scope of ‘Academia’, I always felt that he is a mathematician by heart and by spirit and no less. To complement his analytical skills, he also had a formal training in Computer Applications (a Masters degree) and I myself have witnessed his coding ability improve in leaps and bounds over the years (in MATLAB, C, C++). Among different branches in mathematics that I know of, he has his major interests in stochastic modeling, Probability theory, Fuzzy and non-linear dynamics. He has done extensive research on ecological modeling which now-a-days has been extended to the realm of computational neuro-science. It may not be wise for me to comment on the technical aspects of his particular research endeavors, so, I would rather highlight some other aspects of him which I have experienced more directly.

Ever-since, I got absorbed in my own research into computational biophysics, I had the urge to work together with him. To that line, I am extremely happy to have experienced our long-term friendship eventually turning into productive interdisciplinary science [1, 2]. Over a decade, compiling our spare times, we kept on working on the legendary Hard problem of graph coloring (combinatorics) eventually leading to the innovation of a ‘trailing path’ algorithm [1] that could reset its solution in terms of a cost-efficiency trade-off. Lately, we also had a chance to collaborate on a molecular biophysics problem which explored the scope of structural degeneracy of dynamic biological soft-matters (model system: Intrinsically Disordered Proteins) leading to fractal geometries and self organized criticality [2]. He was particularly instrumental in invoking a statistical mechanical treatment in theorizing the problem. We wish to continue collaborating in the same spirit.

He has always been open to new ideas and extend his territory of expertise across different branches of science, and, I believe, the interdisciplinary exposure through these collaborations is doing him a great favor in that regard. In particular, he has uniquely adapted his ability to conceptualize a biological / biophysical problem of any dimension from a mathematical framework fitting its merit.

He is also an inspiring wanderer in his mind as well as in his life, someone willing to take a risk, happy to make an exception. A spirited, brave and tolerant character, uncompromising in his free thinking, he also preserves great passion and stamina towards his scientific persuasion. He has gone through extreme hardships to combat misfortune, failures, financial and (lately) heavy health issues.

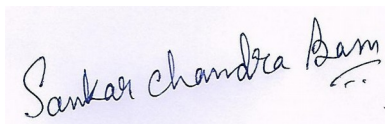
He is informal in attitude, humble, sincere, and an easy-going person. Likewise to any creative thinker, he very much enjoys his own space, but, at the same time, people do enjoy his company and like him for his warm and joyful appearance, and, his down-to-earth nature.

Considering all cardinal qualities of a scholar and a scientist, I can say without a reserve that he would be an asset for any academic institutions inclined towards applied mathematics or interdisciplinary science.

References

1. Bandyopadhyay A, Dhar A kumar, Basu S (2020) Graph coloring: a novel heuristic based on trailing path—properties, perspective and applications in structured networks. *Soft Comput* 24:603–625. <https://doi.org/10.1007/s00500-019-04278-8>
2. Bandyopadhyay A, Basu S (2020) Criticality in the conformational phase transition among self-similar groups in intrinsically disordered proteins: Probed by salt-bridge dynamics. *Biochim Biophys Acta BBA - Proteins Proteomics* 1868:140474. <https://doi.org/10.1016/j.bbapap.2020.140474>

Sincerely yours,



Sankar Chandra Basu

Assistant Professor,
Asutosh College (Under Calcutta University, Kolkata, India)
Department of Microbiology

PhD: Saha Institute of Nuclear Physics, Kolkata, India

Post Docs: FfAME, FL, USA; Linkoping University, Sweden; University of Calcutta, India;
University of Delhi, India; Clemson University, USA; ULB, Brussels, Belgium

Core Area: **Computational Biophysics and Bioinformatics**

Major Interests: **A-to-Z of Proteins, Graph Theory, Evolution, Arts, Music, Philosophy**

Departmental Web-page: https://www.asutoshcollege.in/new_dept_design/microbio.html

Institutional Email: sankarchandra.basu@asutoshcollege.in

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Phone: 2455-4504/2486-3912
Fax : (033) 2486-3006
Mail : mail@asutoshcollege.in
Web : www.asutoshcollege.in

Date: 31.01.2022

To

Dr. Abhirup Bandyopadhyay
Postdoctoral Researcher
Cognitive & Systems Neuroscience Group
SILS, Faculty of Natural Sciences
Mathematics and Informatics
University of Amsterdam
Netherlands

Subject: Invitation for delivering a lecture in one-day international webinar on wetland and carbon sequestration organized by the Eco Club, Asutosh college.

Respected Sir,

You are cordially invited to deliver a talk in one-day international webinar on wetland and carbon sequestration organized by the Eco Club, Asutosh College to be held on 02.02.2022 from 2 p.m. onwards.

Your presence is highly appreciated.

Thanking You,

Vice principal
Asutosh College

Vice-Principal
ASUTOSH COLLEGE
KOLKATA-700 026