Faculty Profile- Physics

1. Personal Details:

a. Name of the Faculty: **Dr. Tapas Kumar Ghosh**
b. Academic Degrees: **Ph.D**
c. Department: **Physics**
d. Designation: **Professor**
e. Email id: **tapaskrgg@gmail.com**
f. Courses Taught: **At & Mol Physics, Quantum Mech, Electronics, CMP, etc.**
g. Area of Research Interests: **Atomic & Molecular Physics**
h. Teaching Experience [substantive post only]: **7 years**
i. Administrative Experience: **HOD (2 yr) & Member of diff. Adm/Acad coms.**

2. Research Publications [Last 5 Years]:

Serial No.	Title of the Research Paper	Level [international/ national/state]	ISBN/ISSN	Name of the Publishing Agency	Year of Publication
1.	An examination of the reaction pathways of $XO+O \rightarrow X+O_2$ (X= Br and I) reaction	International	2210-271X	Elsevier - Comp. Theo. Chem.	2022
2.	Ab initio study of the reaction mechanism of $O+ClO \rightarrow Cl+O$	International	2594-0317	Chemical Society of Mexico - J. Mexican Chemical Society	2022
3.	Spectroscopic properties and bond dissociation energy of PbX, $PbX^{\pm}$, PbX_2 and $PbX_2^{\pm}$ (X = F, Cl, Br, I)	International	0019-4522	Elsevier - J. Indian Chemical Society	2022
4.	Theoretical study of spectroscopic constants and molecular properties of rare gas hydride ions HeH^+, NeH^+, ArH^+, KrH^+, XeH^+ and RnH^+	International	2617-1163	Clausius Scientific Press - J. Physics through Computation	2021
5.	Theoretical investigation on the reaction mechanism of ozone with chlorine, bromine and iodine atoms	International	2210-271X	Elsevier - Comp. Theo. Chem.	2021

6.	Ab initio study of the ground and first excited states of ArHF and a possibility of negative ions from the excited state	International	2617-1163	Clausius Scientific Press - J. Physics through Computation	2019
7.	Ab initio study of the IOOBr isomers and reaction pathways of IO+BrO reaction	National	2248-9649	Open Access – Int. J. Res. Chem. Envir.	2019
8.	Theoretical study of the spectroscopic constants of the van der Waals complex ArHF and a possibility of fluorine anion from an excited state.	National	2248-9649	Open Access – Int. J. Res. Chem. Envir.	2018
9.	Ab initio study of the IOOCl isomers and reaction pathways of IO+ClO reaction.	National	2248-9649	Open Access – Int. J. Res. Chem. Envir.	2018

3. Research papers presented in conferences/seminars [Last 5 years]:

Serial No	Title of the Paper Presented	Title of the seminar/ conference	Level [international/ national/state]	Name of the organiser	Date
1.	Ozone Depleting Systems OXO, XOO, $OXO^{\pm}$ and $XOO^{\pm}$ (X= Cl, Br,I) having Potential Impact on Environment: Structure and Properties	One day International Conference on "Non-Conventional Renewable Energy: Impact on Environment"	International	Bangabasi Col, RKMRC Narendrapur, AM College, JCBose Col & City Col., WB	April 8, 2023
2.	A comparative study of the mechanism of the reaction ClO+O→ $Cl+O_2$	International Conference On "Chemistry in Daily Life" (ICCDL-2022)	International	Dept. of Chemistry, DHWU, WB	Nov 24, 2022
3.	Invited Talk: Spectroscopic constants & thermochemistry of some Ozone depleting systems	8th Tropical conference (TC-2020) on Atomic and Molecular Collisions for Plasma appls. at IIT, Roorkee, WB	National	IIT, Roorkee & ISAMP, India	March 3-5, 2020
4.	Reaction kinetics and thermochemistry of	One day International	International	Dept. of Chemistry,	Jan 10, 2020

	IO+BrO reaction	Symposium on Current Trends in Chemistry		DHWU, WB	
5.	Atmospheric ozone depletion: Impact of halogen oxide radicals	National Conference on Environmental Radiation: Impact on Society and its Implications (ERISI-2019	National	Jadavpur Univ., WB	Nov 15-16, 2019
6.	A possibility of negative ion generation from ArHF van der Waal complex	"National Conference on Atomic, Molecular and Nano Sciences" (NCAMNS-2019)	National	Aliah Univ., WB	April 3-4, 2019
7.	Theoretical study of spectroscopic constants and thermo-chemical data of the Ozone depleting complexes IO and BrO	National Conference on "Future India: Science and Technology"	National	Indian Science Cong. Ass. & City College, WB	Feb 27-28, 2019
8.	A possibility of negative ion from ionic dissociation of the van der Waals complex ArHF	3rd Regional Science Congress 2018 (S- Region)	National	DSTB, Govt. of WB	Dec 18-19, 2018
9.	Reaction pathways of a potentially important ozone depleting reaction	National seminar on "Recent trends in chemical sciences"	National	DSTB, Govt. of WB & Surendranath Col	Oct 5-6, 2018
10.	Ab initio calculation and reaction pathways of IO+BrO reaction	International Conference on Advancement in Science & Technology (ICAST-2018)	International	JSPS, Japan & Visva Bharati, WB	Sept 3-5, 2018
11.	Ab inito study of the ground & excited states of the van Der Waals complex ArHF and a possibility of fluorine anion from the excited state	National conference on "Frontiers in Modern Physics" (NCFMP'18)	National	Adamas Univ & American Inst. of Phys.	Aug 16-17, 2018

4. Research Projects:

Serial No.	Title of the Research Project(s)	Funding Agency	Date of Award	Duration of the Project	Research Grants Amount	Status of the Project
1.	On the role of halogenated molecules in atmospheric ozone depletion	DSTB, Govt. of West Bengal	01.06.2019	3 yrs	7,24,000/-	One year extended (without scholarship)

5. E-learning material, if any:

Course Details	Name of the Institution	Date/year of uploading	Quadrant I, II, III, IV	Link
	Nil			

6. Research Supervision (Ph.D./M.Phil.)

Serial No.	Name of the student	Research Topic	Name of the institution	Date of Registration	Year of Award of the Degree
1.	G. Nandi	Ab initio calculation of the spectroscopic constants and reaction kinetics of the compounds important in atmospheric ozone depletion	DHWU	2018	Not yet submitted
2.	S. Naskar	Quantum chemical study of the reaction kinetics of some halogenated molecules responsible for atmospheric ozone depletion	DHWU	2019	Not yet submitted
3.	S. Ghosh	Quantum chemical prediction for the structure and properties of semiconducting halide molecules	DHWU	2019	Not yet submitted

7. Programmes Conducted / Organised as Convenor / Organising Secretary at DHWU [Last Five Years]

Serial No.	Date	Name of the Programme	Sponsored By	Activity
1.	Nov 20,2022	International Webinar on "Perovskites as an efficient optoelectronic material"	DHWU	Organising member
2.	Oct 15, 2020	A Webinar on "Virus, Violence and Gender: Combating Gender-Based Violence in the Time of Pandemic"	DHWU	Organising member
3.	Jan 31-Feb 1, 2020	Workshop on astrophysics and astronomy for women in India	DHWU	Organising member
4.	April 29, 2019	One day Seminar on "Dr. B.R. Ahmedkar's 128th Birth Day"	DHWU	Joint Convener
5.	Nov 28 2018	One day Seminar on "S. N. Bose and M. N. Saha: 125th Birth Anniversary"	DHWU	Convener
6.	March 8, 2018	Commemoration of "International Women's Day 2018"	DHWU	Organising member
7.	March 8, 2018	Special Seminar on "Women's Empowerment in Science"	DHWU	Joint Director
8.	Dec 4-22, 2017	SERC School on "Atomic and Molecular Physics: Electron collisions with atomic systems"	SERB, DST, Govt. of India	Joint Director

8. Other Relevant Information, if any:

Serial No.	Achievements / Awards	Assignment Details [Membership of Professional Bodies/Editorial Board/BOS/BORS etc.]
1.	Life Member	The Indian Physical Society (IPS)
2.	Life Member	Indian Association of Physics Teacher (IAPT)
3.	Life Member	Indian Society of Atomic & Molecular Physics (IAMP)

Date: *April, 2023*