

DR. PRATAP CHUTIA

CURRICULUM VITAE (CV)

PERSONAL DATA

1. Name : DR. PRATAP CHUTIA
2. Father's name : Sjt. Amal Chutia
3. Date of Birth : 27-09-1975
4. Permanent address: No.1. Gondhkoroi Gaon
P.O.: Gohain Gaon
Dist. Golaghat
P.S.: Sarupathar
Pin: 785601, Assam, INDIA
5. Address for Correspondence : DEPT. OF ENVIRONMENT MANAGEMENT
DIMORIALCOLLEGE, KHETRI
KAMRUP, ASSAM, PIN-782403
Mobile: +919859770070
E-Mail : pratapchutia27@yahoo.co.in
6. Nationality : Indian
7. Sex : Male
8. Marital Status : Married

[1]. EDUCATIONAL:

- (a) Ph.D (*Organometallic Chemistry and Catalysis*) : Dibrugarh University, Dibrugarh, Assam, India, **2006**
- (b) M.Sc (*Inorganic Chemistry* ; 1st class) : Dibrugarh University, Dibrugarh, Assam, India, **2000**
- (c) B.Sc (*Chemistry* ; 2nd class) : D. R. College, Golaghat, Assam, India, under Dibrugarh University, **1997**
- (d) UGC NET (Env. Science) : **2018**

[2]. RESEARCH EXPERIENCE :

Ph.D supervisor : Dr. Dipak Kr. Dutta
Scientist-F
Material Science Division
NEIST (*Formerly RRL, Jorhat*)
Jorhat-785006, Assam, INDIA

Topic of Research :

Synthesis and characterization of Ruthenium(II) and Rhodium(I) carbonyl complexes containing Nitrogen, Phosphorous and Chalcogen donor ligands and reactivity towards small molecules

Brief review of research in Ph.D period

Introduction :

The organometallic chemistry is mainly dealt with transition metals. Amongst the transition metals, rhodium and ruthenium have aroused much attention by the researchers because of their interesting chemical properties such as structural novelty, reactivity and catalytic activity. Rh(I) undergoes two electron oxidation to Rh(III) state. This oxidation process is found to be reversible in many cases. The reversibility of such reactions is responsible for many of the catalytic organic transformations such as carbonylation of methanol or higher alcohols to acetic acid and esters. The carbonylation reaction is one of the most important homogeneously catalyzed industrial processes. So far Monsanto's species, $[\text{Rh}(\text{CO})_2\text{I}_2]^-$ is used as catalyst for commercial production of acetic acid. Research activities continue to modify the catalyst for enhancement of its activity by incorporating different types of ligands in the complex. With the developments of rhodium organometallic chemistry, ruthenium complexes are also drawing parallel attention for their structural novelty and catalytic applicability. With the sophistication of analytical techniques, now one can investigate deep inside the structural phenomenon of the complexes by which several valuable novel characteristics are exploited.

Work carried out for Ph.D degree:

- Synthesis of rhodium and ruthenium starting moieties $[\text{Rh}(\text{CO})_2\text{Cl}]_2$ and $[\text{Ru}(\text{CO})_2\text{X}_2]_n$, $\text{X} = \text{Cl}, \text{Br}, \text{I}$
- Synthesis of different ligands with P, N and chalcogen donor sites with aliphatic and aromatic backbone. E.g. Ph_3MX ($\text{M} = \text{P}, \text{As}, \text{Sb}; \text{X} = \text{O}, \text{S}, \text{Se}$); $\text{Ph}_2\text{P}(\text{CH}_2)_n\text{P}(\text{X})\text{Ph}_2$ ($n = 1-4; \text{X} = \text{O}, \text{S}, \text{Se}$) etc.
- Synthesis of rhodium and ruthenium carbonyl complexes with the above mentioned ligands as well as with some other commercial ligands.
- Evaluation of oxidative reactivities of the above mentioned complexes with electrophiles like CH_3I , $\text{C}_2\text{H}_5\text{I}$, $\text{C}_6\text{H}_5\text{CH}_2\text{Cl}$, I_2 etc.
- Evaluation of catalytic activity of the rhodium complexes towards the carbonylation of methanol.
- Kinetics of the oxidative addition reactions of Rh(I) complexes with CH_3I and $\text{C}_2\text{H}_5\text{I}$ were studied by IR spectroscopy and pseudo-first order rate constants were evaluated.
- The different complexes were characterized by analytical techniques like elemental analysis, IR, NMR (^1H , ^{13}C and ^{31}P) and single crystal X-ray diffraction etc.

Major achievements:

1. Crystal structures of some novel ruthenium complexes were established from where valuable structural information were evaluated.
2. The some of rhodium complexes with N-O donors ligands are efficient catalysts carbonylation of methanol to acetic acid and its ester compared to well known commercial Monsanto's species.

Catalysts	AcOH(%)	AcOMe(%)	Total conversion (%)	TON ^a
[Rh(CO) ₂ I ₂] Monsanto's species	3.34	30.74	34.04	653
[Rh(CO) ₂ (Py-2-COO ⁻)]	6.20	42.80	48.00	923
[Rh(CO) ₂ (Py-3-COOH)Cl]	9.40	47.50	56.90	1094
[Rh(CO) ₂ (Py-4-COOH)Cl]	6.55	35.55	42.10	810

* Reaction conditions-Temperature 130 ± 5 °C, Pressure 35 ± 5 bar CO, Reaction time 1 hr, ^aTON = Mole of product per mole of catalyst.

Key Word: Rhodium and Ruthenium Complexes; Oxidative addition reactions, IR and NMR spectroscopy, monodentate or bidentate chelating and hemilabile ligands; Homogeneous Catalysis; Carbonylation reaction.

PDF experience in Japan: From Sep 24, 2006 to July 12, 2008 (Seikei University, Tokyo, Japan).

Supervisor: Shigeo Satokawa, Prof.

Department of Materials and Life Science,

Faculty of Science and Technology,

Seikei University,

Tokyo, Japan,

Tel: +81-422-37-3749, fax: +81-422-37-379,

E-mail: satokawa@st.seikei.ac.jp

<http://www.ch.seikei.ac.jp/kojima/index.html>

Area: (a) Synthesis and characterization of transition metals complexes supported on various supports like zeolite, alumina, organically modified silica etc. and evaluation of catalytic

activity of such supported materials towards the oxidation of cyclohexene using hydrogen peroxide.

(b) Synthesis and characterization of cobalt and copper coordination polymers using different ligands and evaluation of catalytic activity towards the oxidation of cyclohexene using hydrogen peroxide.

(c) Modification and characterization of synthetic and natural zeolites and their use in environmental clean-up particularly removal of arsenic from aqueous solution.

Key Words: zeolite-Y; alumina; organically modified silica; encapsulation; immobilization; cyclohexene oxidation; natural mordenite; natural clinoptilolite; synthetic zeolites; zeolite modification; arsenic; arsenate; point of zero charge; ion-exchange; adsorption; isotherm models; adsorption isotherm.

PDF experience in Taiwan: From Sep 29, 2008 to March, 31, 2009 (National Taiwan University, Taipei, Taiwan).

Supervisor: Shiuh-Tzung Liu,

Prof. and Associate Dean

Department of Chemistry,

National Taiwan University,

Taipei, Taiwan,

tel:+886-2-3366-1661,

fax:+886-2-2363-6359,

e-mail: stliu@ntu.edu.tw

Area:

Synthesis and characterization of first row transition metal complexes with N₄-donor ligands for catalytic study.

Key Words: oxadiazole, triazole, thiadiazole, metal complex, hexa coordinate, ¹H NMR spectroscopy, UV-Visible spectroscopy.

[3] PRESENT POSITION:(Date of joining: 08/10/2009 continuing) Non-Sanction (Regular)

Asst. Professor & HoD

Dept. of Environment Management

Dimoria College, Khetri

P.O + P.S: Khetri

Pin-782403, Kamrup (M), Assam

Nature of duties:

- i) Teaching in H.S and graduate level
- ii) Teaching of M.Sc students of Environment Management
- iii) Supervision of M.Sc dissertation
- iv) Practical classes of PG and H.S students

UGC sponsored Minor Research Project Completed:

Title: “*Evaluation and Remedial Measure of Arsenic Poisoning in Drinking Water Sources around Dimoria Block of Kamrup District*”

Sanction Amount: 1, 95,000/- (*one lac and ninety five thousand only*)

[4] AWARDS ANS SCHOLARSHIP OWN:

(a). Project Assistant - For one year in a DST sponsored project entitled "*Synthesis of novel Rhodium(I) and Ruthenium(II) complexes of unsymmetrical chelating P-O, P-S and P-Se donors ligands and their reactivity towards small molecules*" **from 2001 June to 2002 June.**

(b). CSIR Senior Research Fellowship (SRF):

Title: `*Synthesis of ruthenium(II) and rhodium(I) carbonyl complexes of chalcogenides Ph₃PX, P-X (X = O, S, Se) and N-O donor ligands and catalytic activity*` **From May, 2004 to Sep, 06.**

(c) Krishna Kanta Handique National Fellowship, 2009 in Environmental Science:
KKHSOU, Assam, India

Title: *Distribution, remediation of Arsenic in unscientifically installed Tube Wells and Deep Wells in Golaghat District, Assam with an approach of set-up arsenic adsorbed filters in affected villages*

[5]. MEMBERSHIP OF ORGANIZATIONS:

1. Sessional Member of Indian Science Congress Association
2. Sessional Member of Indian Chemical society

[6]. INSTRUMENT EXPERTIZE WITH:

(A) Data interpretation

(i) FT-IR spectrophotometer, (ii) NMR (1H, 13C, 31P), (iii) UV-VIS spectrophotometer, (iv) Single crystal X-ray crystallographic data, (v) Gas Chromatography, (vi) XRD (Powder), (vii) SEM, (viii) Surface area analyzer, (ix) EDX, (x) DTG, (xi) ICP-AES, (xii) NC analyzer etc.

(B) Operating knowledge

(i) XRD (Powder), (ii) SEM, (iii) Surface area analyzer, (iv) EDX, (v) FT-IR, (vi)DTG, (vii) ICP-AES, (viii) GC, (ix) NC analyzer, (x) Rotar Vapor, (xi) UV Fluorescence Analysis, (xii) High Pressure Catalytic Reactor, (xiii) UV-VIS, (xiv) NMR-400 MHz etc.

[7]. COMPUTER KNOWLEDGE:

Working experience of Microsoft Environment, Internet Explorer, ISIS Draw, Microsoft Excel, Windows Explorer etc.

Completed six months Diploma in Computer Application (DCA) course.

[8]. LANGUAGE PROFICIENCY:

Assamese, English, Hindi

[9] RESEARCH PUBLICATIONS / PATENTS: Kindly refer **Annexure I.**

[10] OTHER ACTIVITIES:

✓ **Reviewers** of scientific articles of reputed international journals like J. of Colloid and Interface Science, Journal of Structural Chemistry etc.

- √ PI of UGC sponsored minor research project entitled “*Evaluation and Remedial Measure of Arsenic Poisoning in Drinking Water Sources Around Dimoria Block of Kamrup District*”
- √ Guidance of 25 M.Sc dissertation projectworks

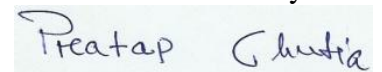
I, **Dr. Pratap Chutia** hereby certify that the statement made by me in regard to the career and inherent qualities and experiences are true in all respects to the best of my knowledge.

I will only be responsible for any falls statements or documents furnished herewith.

Place: ***Khetri***

Date: 26/09/2021

Yours Sincerely

A handwritten signature in blue ink that reads "Pratap Chutia". The signature is written in a cursive style and is placed on a light blue rectangular background.

(Dr. Pratap Chutia)

Détails of Publications/Patents/Seminars
(Dr. Pratap Chutia)

Papers Published: 13
 Proceeding full Papers: 02
 Patent Filed: 08 (Indian)
 Seminar presented: 08 (**Oral presentation**)
 Resource/Chair person Speech: 04
 Seminar attended: 13
 Abstract of seminar paper: 18

Publications in Number	Indian	Foreign	Total
Journals	1	11	12
Proceeding Papers	2	0	2
Abstract published/presented	20	0	20
TOTAL PUBLICATIONS			34
Patents Filed	8	0	8

Détails of Teaching Expérience

SI No	Name of the Institute	Position	From...	Duration
1	Bahona College, Jorhat	Lecturer	20/11/2000 to 6/6/2001	6 months-16 days
2	Dimoria College, Khetri, Kamrup (M)	Assistant Professor (Regular Contractual)	8/10/2009 <i>till date</i> 26/09/2021	11- years-11 months-8 days
Total Duration				12- years -05 month- 24- days

Détails of Research Expérience

SI No	Name of the Institute	Position	From...	Duration
1	RRL, Jorhat	Project Assistant	30/6/2001 to 30/6/2002	1 year
2	RRL, Jorhat	SRF-CSIR	2/5/2004 to 10/9/2006	2 years 4 months 8 days
3	Seikei University, Tokyo, Japan	PDF-Japan	24/9/2006 to 12/7/2008	1 year 9 months 18 days
4	National Taiwan University, Teipei, Taiwan	PDF-Taiwan	29/9/2008 to 31/3/2009	06 months 02 days
Total Duration				5 years 7 months 28 days

(i) **Papers published/communicated in journals:**

During PDF Period

1. Adsorptive removal of As(V) from aqueous solution using natural mordenite and modified forms as media: **Pratap Chutia**, Shigeru Kato, Toshinori Kojima and Shigeo Satokawa, *J. Environ. Res. Dev.*, 2, 2008, 505-512.
2. Adsorption of As(V) on surfactant-modified natural zeolites: **Pratap Chutia**, Shigeru Kato, Toshinori Kojima and Shigeo Satokawa, *Journal of Hazardous Materials*, 162, 2009, 204-211.
3. Arsenic adsorption from aqueous solution on synthetic zeolites: **Pratap Chutia**, Shigeru Kato, Toshinori Kojima and Shigeo Satokawa, *Journal of Hazardous Materials*, 162, 2009, 440-447.
4. Synthesis and characterization of Co(II) and Cu(II) supported complexes of 2-pyrazinecarboxylic acid for cyclohexene oxidation: **Pratap Chutia**, Shigeru Kato, Toshinori Kojima and Shigeo Satokawa: *Polyhedron*, 28, 2009, 370-380.

During Ph.D Period

5. Rhodium carbonyl complexes containing pyridine carboxylic acid ligands: Reactivity towards various electrophiles, catalytic activity: Dipak Kumar Dutta, **Pratap Chutia**, Bhaskar J.Sarmah, Bibek J. Borah, Biswajit Deb, J. Derek Woollins: *Journal of Molecular Catalysis A: Chemical*, 300, 2009, 29-35.
6. Oxidative addition of different electrophiles with rhodium(I) carbonyl complexes of unsymmetrical *bis*-(phosphine)monoselenide ligands : **Pratap Chutia**, Bhaskar Jyoti Sarmah and Dipak Kumar Dutta, *Appl. Organomet. Chem*, 20, 2006, 512-520.
7. A new series of iodocarbonyl ruthenium(II) complexes with unsymmetrical phosphine-phosphine sulfide ligands of the type $\text{Ph}_2\text{P}(\text{CH}_2)_n\text{P}(\text{S})\text{Ph}_2$, $n= 1-4$: Isolation and structural investigation: Dipak Kumar Dutta, **Pratap Chutia**, J Derek Woollins and Alexandra M Z Slawin, *Inorg. Chim Acta*, 359, 2006, 877-882.
8. Oxidative addition reaction of rhodium(I) carbonyl complexes of the pyridine-aldehyde ligands and their catalytic activity in carbonylation reaction: Nandini Kumari, Manab Sharma, **Pratap Chutia** and Dipak Kumar Dutta, *J. Molecular Catalysis A: Chemical*, 222, 2004, 53-58.
9. Ruthenium(II) carbonyl complexes containing tertiary phosphine chalcogenide ligands of the type Ph_3PX ; X=O, S, Se: **Pratap Chutia**, Nandini Kumari, Manab Sharma, J Derek Woollins, Alexandra M Z Slawin and Dipak Kumar Dutta, *Polyhedron*, 23, 2004, 1657-1661.
10. Carbonyl complexes of ruthenium(II) with unsymmetrical phosphine-Phosphine sulfide ligands of the type $\text{Ph}_2\text{P}(\text{CH}_2)_n\text{P}(\text{S})\text{Ph}_2$, $n = 1 - 4$: **Pratap Chutia**, Manab Sharma, Pankaj

Das, Nandini Kumari, John Derek Woollins, Alexandra M Z Slawin and Dipak K Dutta, *Polyhedron*, 22 (19), 2003, 2725-2730.

11. Efficient carbonylation of methanol catalyzed by rhodium(I) cyclooctadiene complexes with triphenyl phosphine chalcogenide ligands: Pankaj Das, **Pratap Chutia** and Dipak Kumar Dutta, *Chem. Lett.*, 766, 2002.
12. Catalytic activity of dicarbonylrhodium complexes of amino benzoic acid ligands on carbonylation of alcohol: Manab Sharma, Nandini Kumari, Pankaj Das, **Pratap Chutia** and Dipak K. Dutta, *J. Molecular Catalysis A: Chemical*, 188, 2002, 25-35.

Proceeding Paper

13. Adsorptive removal of Arsenic from aqueous solution using zeolite adsorbents: **Pratap Chutia**, *Proceedings of National seminar* on ground water contamination, its challenges to human health and mitigation measures, Lakhimpur Girls' College, North Lakhimpur, Assam on December 9 -10, **2011**, 38-44.
14. Geo-environmental studies on Landslides occurring in Kamakhya Area, Guwahati, Assam: Ankur Jyoti Borah, Dhruba Jyoti Deka, Mausam Kumar Paul and **Pratap Chutia**; *Proceedings of National seminar* on Disaster Management: Challenges and Issues, Organized by Girl's Polytechnique, Bamunimaidam, Guwahati on 3-4 Nov, **2015**, 165-171.
15. Ethnobotanical Plants traditionally practiced by *Tiwa* and *Karbi* Communities inhabited in Khetri, Dimoria Development Block, Kamrup (M), Assam: M. Kumar Paul, U. Bezbaruah, D.Jyoti. Deka & **P. Chutia**, Proceedings of UGC Sponsored National Seminar on Molecular Biology and Biotechnology Research in NE India (MBBRNEI), Aug (19-21), **2015**, Pub-Kamrup College, Baihata Chariali, Kamrup (M), Assam. **Abs. Page number: 07, Technical Session-II.**

(ii) Patents (Indian): Filed

1. A process for the preparation of novel rhodium carbonyl complexes containing nitrogen-oxygen donors based ligands (**Appl. No. 1425 / DEL / 2004**); Dipak Kumar Dutta, **Pratap Chutia**, Nandini Kumari and Manab Sharma.
2. A process for the preparation of novel rhodium carbonyl complexes of nitrogen donor ligands suitable as catalysts for carbonylation of methanol (**NF 348/2004**); Dipak Kumar Dutta, Manab Sharma, **Pratap Chutia**, Nandini Kumari and Madan Gopal Pathak.
3. Process for the carbonylation of ethanol to produce propanoic acid and ester using rhodium carbonyl complexes of nitrogen and oxygen donor ligands as catalysts (**Applied**); Dipak Kumar Dutta, Manab Sharma, Nandini Kumari, **Pratap Chutia**, Pradeep Khound and Madan Gopal Pathak.
4. A process for the preparation of novel Rhodium carbonyl complexes containing nitrogen-oxygen donors based ligands (**NF 013/2005**); Dipak Kumar Dutta, **Pratap Chutia**, Nandini Kumari, Manab Sharma.
5. Preparation of novel rhodium carbonyl complexes of nitrogen - oxygen donors based ligands useful as carbonylation catalysts (**NF 0308/2005**); Dipak Kumar Dutta, **Pratap Chutia**, Manab Sharma and Nandini Kumari.

- 6 Carbonylation reaction of benzyl alcohol to produce phenylacetic acid and ester catalyzed by rhodium carbonyl complexes of nitrogen donor ligands ((**NF 075/2006**)); Dipak Kumar Dutta, Manab Sharma and **Pratap Chutia**.
- 7 Process for the preparation of 4-(4-hydroxyphenyl) butan-2-one from 4-hydroxybutan-2-one using solid acid clay catalyst (**Appl. No.0772/ DEL / 2008**); Dipak Kumar Dutta, Manab Sharma, **Pratap Chutia**.
- 8 An improved process for the preparation of phenylacetic acid and its ester from benzyl alcohol using Rhodium carbonyl complexes containing nitrogen donor ligands (**Appl. No.0778/ DEL / 2006**); Dipak Kumar Dutta, Manab Sharma, **Pratap Chutia**.
- 9 Novel Rhodium carbonyl based catalyst and a process for the preparation thereof (**Appl. No.2469/ DEL / 2006**), Dipak Kumar Dutta, **Pratap Chutia**, Manab Sharma, Nandini Kumari.

(iii) **Resource Person/Chairperson Speech:**

- A. “*Adsorptive removal of arsenic from aqueous solution using zeolite adsorbents*”; Proceedings of National seminar on ground water contamination, it’s challenges to human health and mitigation measures, December (9 -10 th), **2011**; Lakhimpur Girls’ College, North Lakhimpur, Assam, **Abs. Page number: 38**
- B. **International youth day, 12th Aug, 2019** organised by Nehru Yuva Kendra Sangathan (registered under Ministry of Youth affairs and Sports), in collaboration with Rupjyoti Club Ghar, Dhopguri, Kamrup metro, Assam.
Topic: Cleanliness and preservation of water sources and water conservation.
- C. **Orientation programme on Assam Biodiversity Portal** organised by ATREE, in collaboration with Dept. of Environmental Management, Dimoria College, Khetri on **April, 06, 2018**.
- D. **Science awareness programme**, organized in Hahara High School, by Assam science society, Dimoria College Branch & Mayang Anchalik College, **30th Dec, 2020**.

Topic: Krishi and Andhabiswas.

(iv) **Presented / attended in national / international seminars:**

1. Carbonyl complexes of ruthenium(II) with unsymmetrical phosphine-phosphine sulfide ligands of the type $\text{Ph}_2\text{P}(\text{CH}_2)_n\text{P}(\text{S})\text{Ph}_2$, $n=1-4$: **P. Chutia**, N. Kumari and D. K. Dutta, Proceedings of 39 th Annual Convention of Chemists, December (22-26), **2002**, Nagarjuna University, Nagarjuna Nagar (AP), **Abs. No. ING (OP)-34**.

(Oral Presentation)

2. Rhodium(I) carbonyl complexes with unsymmetrical phosphine-phosphine selenide ligands of the type $\text{Ph}_2\text{P}(\text{CH}_2)_n\text{P}(\text{Se})\text{Ph}_2$, $n=1-4$: **P. Chutia**, M. Sharma, N. Kumari and D. K. Dutta, Proceedings of 40 th Annual Convention of Chemists, December (23-27), **2003**, Bundelkhand University, Jhansi (UP), **Abs. No. ING (OP)-40**.

(Oral Presentation)

3. Adsorptive removal of As(V) from aqueous solution using natural mordenite and modified forms as media: **P. Chutia**, S. Kato, T. Kojima and S. Satokawa, Proceedings of International Congress on Environmental Research, (ICER-07), December (28-30), **2007**, Govt. Geetanjali Girls P.G.College, Bhopal (MP), **Abs No. PS-24**.

(Oral Presentation)

4. Synthetic zeolite in arsenic hazard removal in from aqueous solution: **P. Chutia**, S. Kato, T. Kojima and S. Satokawa, Abstract of UGC-sponsored National Seminar on Environment Management-Role of Stakeholder, January (8-9), **2010**, Dimoria College, Khetri, Kamrup(M), Assam, **Abs. Page number: 15**.

(Oral Presentation)

5. National Seminar on Membrane Science and Technology: Challenges and Opportunities, February (12-13), **2004**, RRL, Jorhat, Assam, India.

(Attended actively)

6. National Seminar on Materials and Minerals: Past, Present and Future (MMPPF 2006), August (30-31), **2006**, RRL, Jorhat, Assam, India.

(Attended actively)

7. 3 rd Int'l Hydrogen & Fuel Cell Expo (FC EXPO 2007), Feb (09), **2007**, Tokyo Big Sight, Tokyo, Japan.

(Attended)

8. National seminar on seismic hazards and mitigation of North East India; Environmental watch and management Institute, March (26-27), **2011**, Maniram Dewan Trade Centre, Betkuchi, Ghy-35, Assam.

(Attended)

9. National seminar on Bio-diversity and Eco-tourism, November (26), **2011**; Pobitora W/L sanctuary, Mayong, Morigaon, Assam.

(Attended)

10. National seminar on New and Renewable sources of Energy (Challenges for renewable energy programme implementation), Environmental watch and management Institute, March (21-22), **2012**, Maniram Dewan Trade Centre, Betkuchi, Ghy-35, Assam.

(Attended actively)

11. National seminarcum workshop on Scheduled caste in India- Dimensions of their Socio-economic mobility, inequality and discrimination, November (27-28), **2010**, Department of Economics, Dimoria College, Khetri, Assam.

(Attended)

12. National Seminar on Sustainable Development and Environment, March (27-28), **2010**, Department of Economics, Dimoria College, Khetri, Kamrup(M), Assam.

(Attended)

13. UGC sponsored national seminar on Social Equity and Sustainable Developments: A quest for opportunities and expectations, June (26, 27), **2013**, IQAC, Sonapur College, Sonapur, Kamrup(M), Assam. **(Attended)**

14. Assam Science Technology and Environment Council, National Science Day, Feb.28. **2013**, Dept. of Zoology, Gauhati University and Dimoria College, Khetri, Kamrup(M), Assam.

(Attended)

15. Data Dissemination Workshop on Houses, Household Amenities and Assets, Census of India 2011, Directorate of Census Operations, Assam, July-31st, **2014**, Dimoria College, Khetri, Kamrup(M), Assam.

(Attended actively)

16. Factors of degradation of Wetlands in Assam: Its effect on dependent communities: **P. Chutia**, A. Bhuyan and D.Joshi, Abstract of UGC-sponsored National Seminar on Degradation of Wetland Eco-system in Assam: Its impact on the quality of life of the Wetland Dependent Community and Socio-Economic life of the Fishermen, Feb (1-2), **2014**, Dimoria College, Khetri, Kamrup(M), Assam, **Abs. Page number: 23**.

(Oral presentation)

17. National seminar cum exhibition on Earthquake Hazards: Monitoring, Mitigation and Management, Environmental watch and management Institute, Feb (20-22), **2015**, Maniram Dewan Trade Centre, Betkuchi, Ghy-35, Assam.

(Attended actively)

18. UGC Sponsored National Seminar on Future of Muga and Pat Industry in Sualkuchi Area of Assam, April (29-30), **2015**, Dept. of Chemistry, S.B.M.S College, Sualkuchi, Assam.

(Attended actively)

19. UGC Sponsored National Seminar on Molecular Biology and Biotechnology Research in NE India (MBBRNEI), Aug (19-21), **2015**, Dept. of Zoology and Botany, Pub-Kamrup College, Baihata Chariali, Kamrup (M), Assam.

Ethnobotanical Plants traditionally practiced by Tiwa and Karbi Communities inhabited in Khetri, Dimoria Development Block, Kamrup (M), Assam: M. Kumar Paul, U. Bezbaruah, D.Jyoti. Deka & P. Chutia

(Oral presentation)

20. Geo-environmental studies on Landslides occurring in Kamakhya Area, Guwahati, Assam: Jagat Jyoti Chakraborty, Ankur Jyoti Borah, Dhruva Jyoti Deka, Mausam Kumar Paul and **Pratap Chutia: National seminar on Disaster Management: Challenges and Issues**, Organized by Girl's Polytechnique, Bamunimaidam, Guwahati on 3-4 Nov, **2015**.

(Oral presentation)

21. Estimation of water quality of Kulsi River, Kukurmara, Kamrup (M), Assam with special emphasis on River Dolphin habitat, U. Bezbaruah, R. Deka, D. Jyoti Deka and **P. Chutia**, **National seminar on Harmony with nature in the context of chemistry, environmental issues and challenges**, September, 11-12, **2017, OP-25**.

(Oral presentation)

(v) Abstracts published in National/ International Seminar/Symposium:

1. Rhodium(I) complexes of pyridine base ligands and their catalytic activity on carbonylation of methanol: N. Kumari, M. Sharma, **P. Chutia**, P. Das and D. K. Dutta, Proceedings of Modern Trends in Chemistry **2001**, Indian Association for the Cultivation of Science, **Kolkata, India, Abs.No.P-18**.
2. Efficient carbonylation of methanol using rhodium complexes of different types of donors ligands as catalyst precursors: D. K. Dutta, P. Das, **P. Chutia**, M. Sharma, N. Kumari, M. G. Pathak, P. Khound, O. P. Sahu and D. Konwar, Proceedings of National Workshop on Catalysis **CATWORK 2002**, Gauhati University, Guwahati, **Abs. No. P-21**.
3. Ruthenium(II) carbonyl complexes of mixed phosphine-phosphinesulfide ligands: **P. Chutia**, M.Sharma, N. Kumari, P. Das, D. Konwar and D. K. Dutta, Proceedings of National Seminar on Advanced Material, Gorakhpur University, March (17-19), **2002, Abs No. C-41**.
4. Ruthenium(II) carbonyl complexes containing triphenylphosphinechalcogenide ligands of the type Ph_3PX ; X = O, S, Se: N. Kumari, **P. Chutia**, M. Sharma and D. K. Dutta, Proceedings of 40th Annual Convention of Chemists, December (23-27), **2003**, Bundelkhand University, Jhansi (UP), **Abs. No. ING (AP)-11**.
5. Rhodium(I) carbonyl complexes of pyridine-aldehyde ligands: efficient methanol carbonylation catalyst: D. K. Dutta, N. Kumari, P. Das, M. Sharma and **P. Chutia**, Proceedings of 16 th National Symposium and Ist Indo-German Conference on Catalysis, February (6-8), **2003**, IICT Hyderabad, **Abs No P-122**.
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7. Carbonyl complexes of ruthenium(II) with triphenylphosphinechalcogenide ligands of the type Ph_3PX ; X = O, S, Se: **P. Chutia**, N. Kumari, M. Sharma and D. K. Dutta, Proceedings of National Symposium on Current Trends in Chemical Research, February (27-28), **2004**, Gauhati University, Guwahati, **Abs. No. P-5**.
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10. Catalytic carbonylation of methanol by rhodium carbonyl complexes of N-O donor ligands: M. Sharma, **P. Chutia**, N. Kumari and D. K. Dutta, Proceedings of 92 nd Indian Science Congress Association Seminar, January (3-7), **2005**, Ahmedabad, **P-15**.
 11. X-ray crystal crystallography: A diagnostic tool for revealing novel characteristics of metal complexes: D. K. Dutta, D. Konwar, **P. Chutia**, M. Sharma, N. Kumari, J. D. Woollins and A. M. Z. Slawin, Proceeding of the 34 th National Seminar on Crystallography, January (10-12), **2005**, Gauhati University, Guwahati, **Abs. No. OP-17**.
 12. Efficient catalytic carbonylation of methanol by using rhodium(I) carbonyl complexes containing aminophenol as ligands: M. Sharma, **P. Chutia** and D. K. Dutta, Proceeding of the 17 th National Symposium on Catalysis, January (18-20), **2005**, CSMCRI, Bhavnagar, **Abs. No. OB-09**.
 13. Rhodium carbonyl complexes of pyridine ligands functionalized with hard donors: N. Kumari, M. Sharma, B. J. Sarmah, **P. Chutia** and D. K. Dutta, Proceedings of 11th Symposium on Modern Trends in Inorganic Chemistry (MTIC-XI), December (8-10), **2005**, IIT, Delhi, **P-15**.
 14. Rhodium carbonyl complexes of Ph₃MO (M =P, As, Sb): **P. Chutia**, N. Kumari, M. Sharma, B. J. Sarmah and D. K. Dutta, Proceedings of 93 rd Indian Science Congress Association Seminar, January (3-7), **2006**, Hyderabad, **P-13**.
 15. Ethnobotanical Plants traditionally practiced by *Tiwa* and *Karbi* Communities inhabited in Khetri, Dimoria Development Block, Kamrup (M), Assam: M. Kumar Paul, U. Bezbaruah, D. Jyoti. Deka & **P. Chutia**, Book of Abstracts of UGC Sponsored National Seminar on Molecular Biology and Biotechnology Research in NE India (MBBRNEI), Aug (19-21), **2015**, Pub-Kamrup College, Baihata Chariali, Kamrup (M), Assam, **P-7** (Session-II).
 16. Geo-environmental studies on Landslides occurring in Kamakhya Area, Guwahati, Assam: Ankur Jyoti Borah, Dhruva Jyoti Deka, Mausam Kumar Paul and **Pratap Chutia: National seminar on Disaster Management: Challenges and Issues**, Organized by Girl's Polytechnique, Bamunimaidam, Guwahati on 3-4 Nov, **2015**, **P-59**.
 17. Estimation of water quality of Kulsi River, Kukurmara, Kamrup (M), Assam with special emphasis on River Dolphin habitat, U. Bezbaruah, R. Deka, D. Jyoti Deka and **P. Chutia**, National seminar on Harmony with nature in the context of chemistry, environmental issues and challenges, September, 11-12, **2017**, **OP-25**.
 18. A study on the diversity of medicinal and ornamental wild orchids in a part of Amchung Wild Life Sanctuary, Kamrup metro, Assam, India: Madhooshree Choudhury, Saurav Borah, Dhruva Jyoti Deka and **Pratap Chutia: National seminar on Ethnobiology and Traditional Knowledge in Biodiversity Conservation-Approaches and Dimensions [ETKBC-2017]**, Organized by Dept of Ecology and Environmental Science, Assam University, Silchar, Assam on 2-3 Feb, **2017**.

Professional Training Course

1. Completed **two weeks faculty development programme** conducted during **20 Feb-04 March, 2017** on Dimoria College, Khetri on collaboration with Entrepreneurship Development Institute of India, Ahmedabad.
2. Two weeks faculty development programme (equivalent to refresher course) on the “**Chemistry-The Catalyst for Change**” (A⁺ grade).

Organised by Ramanijan College, University of Delhi and Miranda House, University of Delhi, 14-28th July, 2021.

National / International Webinar participated

1. National webinar on *Covid 19, pandemic and Higher Education Scenario of Assam: Searching for Alternative Pedagogy*.

Organised by IQAC, Amguri College, Amguri, 13th July, 2020.

2. National webinar on *Conservation of Nature: Career opportunities*

Organised by dept. of Botany, DEvivharan Baruah Girls' College, Jorhat in collaboration with Rantapith College, Dhubri, 25th Aug, 2020.

3. International webinar on *Covid-19 impacts and implications on environments*

Organised by dept. of Environmental Sciences, Central University of Jharkhand, Ranchi, 11th Aug, 2020.

4. International webinar on *Energy and Environment*

Organised by dept. of Chemistry, Govt. Maharani Laxmi Bai Girls' P.G. College, Indore, 13th & 14th July, 2020.

5. National webinar on **Skills of Communication**

Organised by dept. of English, Ratnapith College, Dhubri, 27th Aug, 2020.

6. National webinar on *Agricultural and Environmental Issues in India: How to remedy them in post Covid-19 Era?*

Organised by Dept. of Economics and IQAC, Tyagbir Hem Baruah College, Jamughurihat, Sonitpur. July 28, 2020.

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7. National webinar on *Anthropocene Earth and Environment*.

Organised by NSS cell, Mayang Anchalik College, Morigaon, June 05, 2021.

8. International conference on *Progress and Challenges in Modern Day Science (PCMDS-21)*.

Organised by Dept. of Chemistry, B. Borooh College in association with Assam Science Society, 17-18th Jun, 2021.

9. National webinar on *Career perspective n Chemistry*.

Organised by Dept. of Chemistry, Silapathar College, Dhemaji, June 27, 2021.

10. National webinar on Immune *Mechanisms against Covaxin & Covishield Vaccine in Humans*.

Organised by Dept. of Biotechnology & IQAC, Bhaurao Kakatkar College, Belgaum, Karnataka, June 27, 2021.

11. National webinar on *Intellectual Property Rights*.

Organised by IQAC, Morigaon College, Assam, 1st July, 2021.

12. National webinar on *Amazing World of Bats*

Organised by Dept. of Zoology & IQAC, Bhaurao Kakatkar College, Belgaum, Karnataka, 2nd July, 2021.

13. National webinar on **Nanobiotechnology and it's Medicinal Applications**.

Organised by IQAC, BN College, Dhubri, Assam in collaboration with dpt. of Zoology, Gauhati University and Zoological Society of Assam (ZSA), 4th July, 2021.

14. International webinar on **Student Evaluation in Digital Education: A Perspective from Higher Education**.

Organised by dept. of Education, Mizoram University, Mizoram, 7th July, 2021.

15. A dance programme **A refreshing Summer breeze with dance** performed by faculty members of Dimoria College.

Organised by IQAC, Dimoria College, Khetri, Assam, 11th July, 2021.

16. National seminar on **Intellectual Property Rights (IPR) and its Related Issues**.

Jointly organised by Mizoram University, Mizoram & H.N.B Garhwal University, Uttarakhand, 15th July, 2021.

17. National webinar on **An overview on GMP for the production of Pharmaceutical Dosage Forms**.

Organised by Birbhum Pharmacy School, Bandhersole, Birbhum, West Bengal, 26th June, 2021.

18. A national workshop on **Intellectual Property Rights & It's Management**.

Organised by Indian Chamber of Commerce (ICC) and Mizoram University Innovation Cell, Mizoram University, Mizoram, 16th July, 2021.

19. 7th International conference on **Recent Advantages in Geotechnical Earthquake Engineering and Soil Dynamics (7th ICORAGEE)**.

Jointly organised by the Indian Society of Earthquake Technology, the Civil Engineering department, IISc, Bengaluru and the department of Earthquake Engineering, IIT, Roorkee, 12-15th July, 2021.

20. National webinar on **Social and Economic implications of the Digital Divide.**

Organised by P.G. dept. of Economics & IQAC, Dimoria College, Khetri, Assam, July, 31st, 2021.

21. National webinar on **Universal Values of Ethics.**

Organised by dept. of Education, Mizoram University, Mizoram, 19th July, 2021.

22. National webinar on **Climate Change and Carbon Pricing: Challenges and Prospects.**

Organised by P.G dept of Economics & IQAC, Dimoria College, Khetri, Assam, 8th Aug, 2021.

23. International webinar on **COVID: Human Brain Challenges.**

Organised by Mizoram University, Mizoram and INDICASAT-AIP, Republic of Panama, 30th July, 2021.

24. International webinar on **Paradigm shift in Disaster Risk Reduction: Role of Academics, Research, Innovation and Policies.**

Organised by Centre for Disaster Management and Research (CDMR), IIT Guwahati in collaboration with Indo-Japan Lab, Keio University, Japan, 12th July, 2021.

25. Online training programme on **Climate Action and Disaster Risk Governance.**

Organised by National Institute of Disaster Management, Ministry of Home Affairs, govt. of India in collaboration with Mohanlal Sukhadia University, 16th Aug, 2021.

26. Online training programme on **Hazard Risk Reduction to the working community involved in Solid Waste Management.**

Organised by National Institute of Disaster Management, Ministry of Home Affairs, govt. of India in collaboration with Pondicherry University, 17th Aug, 2021.

27. Online training programme on **Natural Resources and Environmental Management in Rural Areas in Current Pandemic.**

Organised by National Institute of Disaster Management, Ministry of Home Affairs, govt. of India in collaboration Foundation of Ecological Security, 10th Sept, 2021.