

BIO DATA

1. **NAME :** DR AMRIT GOSWAMI

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Gram : RESEARCH, JORHAT

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3. A. SCHOLASTIC RECORD

Degree	Year	College/University	Subjects	Specialization
B.Sc	1976	Science College, Jorhat Dibrugarh University Dibrugarh, Assam, India	Chemistry Mathematics	Chemistry (major)
M.Sc	1978	Gauhati University Guwahati, Assam, India	Chemistry	Organic Chemistry
Ph.D	1987	Dibrugarh University	Organic Chemistry	Organophosphorus Chemistry

Ph.D Thesis Title : Synthesis of Organophosphorus Compounds Showing Pesticidal Activity

B. Present Post Held : Scientist E II

C. EXPERIENCES

- i) **Field of Experience :**
- a) Synthetic Organic Chemistry
 - b) Development of New Reagents and Study of their Reaction Mechanisms
 - c) Organophosphorus Chemistry
 - d. Enzyme Mediated Stereoselective Synthesis
- ii) **Research Experience :** a) Twenty six years experiences in the field of synthetic organic chemistry b) Worked both as team member and leader of R&D team for process development of pesticides, drugs and other basic research.

(iii) **Research Guidance :** Recognised guide of Gauhati University, Guwahati and Dibrugarh University, Dibrugarh for Ph.D students.

PROFESSIONAL EXPERIENCES :

a. Scientific Assistant	-Do-	1979-1982	Basic and R&D Research
b. Scientist B	-Do-	1982-1987	-Do-
c. Scientist C	-Do-	1987-1992	-Do-
d. Scientist E I	-Do-	1992 -1997	-Do-
e. Scientist EII	-Do-	1997-till date	-Do-

4. Honours and awards received

- (i) Awardee of State Merit Scholarship during graduate and post graduate studies
- (ii) Awarded CSIR-DAAD (German Academic Exchange Service) (Senior) fellowship during 2000- 2001

5. Publications

- (i) Articles: Nos only : 12 (in different Magazines and News Papers)
- (ii) Radio talks: Nos only : 14 (broadcast from All India Radio Guwahati, Dibrugarh and Jorhat)
- (iii) Books: A chapter entitled "Syntheses & Insecticidal Activity of Some 8-Acetyl-6-Methyl-2-Alkoxy-1,3,2 Benzodioxaphosphorinan-2-Thiones" was published in the book *Pesticides, Crop Protection and Environment*; Eds. S. Walia and B. S. Parmer; Oxford & IBH Publishers Pvt Ltd New Delhi, Page, 1995.

Patents taken

- a. Patent sealed: An Improved Process for the Production of Primary Phosphoramidates
N Borthakur, *Amrit Goswami* and R C Rastogi, **Indian Patent No 173949**
- b. Patent filed :
 - i. An Improved Process for the Preparation of Thioamides from Carboxylic Acids
N Borthakur and *Amrit Goswami*; **Indian Patent No 182325 (Patent sealed)**
 - ii. An Improved Process for the Production of 2-Hydroxyquinoxaline R C Rastogi, B N Goswami, *Amrit Goswami*, K R Baruah and A C Ghosh; **Indian Patent Appl No 1097/DEL/95, 14.6.95**
 - iii. An Improved Process for the Oxidation of Pseudodiosgenindiacetate to Diosone for the Production of 16- Dehydropregnenolone Acetate
Amrit Goswami, Rumi Kotoki, R C Rastogi and A C Ghosh; **Indian Patent Appl No 2368/DEL/95 dated 21.12.95;**
 - iv. An Improved Process for the Oxidation of Pseudodiosgenindiacetate to Diosone for the Production of 16- Dehydropregnenolone Acetate
Amrit Goswami, Rumi Kotoki, R C Rastogi and A C Ghosh **US Patent No 6,160,139**
 - v. A Method of Asymmetric Synthesis of R-(-) -2-Bromo-1-Phenyl/Substituted phenyl)Ethanol **Appl No 128/DEL/2000 dated 16.2.2000**
 - vi. An Improved Method For Hydroxymethylation of Phenols And Hydroxyacetophenones, **Appl No 1208/DEL2000 dated 21.12.2000**
 - vii. A Process For Asymmetric Synthesis of A Chiral Glycerol Derivative Useful For The Production of Optically Pure Cardiovascular Drugs , **NF 155/2001**
 - viii A Novel Method for Preparation of Methyl Ricinoleate from Castor Oil
No 0365NF2005

7. Title/brief description of R&D projects (Laboratory, bench, pilot scale) on which actively

<u>Title of the project</u>	<u>Role</u>	<u>Commencement</u>	<u>Completion</u>	<u>Scale</u>	<u>Field of project</u> <u>Applied /Basic/design</u>
Glyphosate	Member	1978	1982	Pilot	Applied
Captafol	-Do-	1981	1984	Bench	-Do-
Fenthion	-Do-	1984	1989	-Do-	-Do-
Methamidophos	-Do-	1989	1991	-Do-	-Do-
Acephate	-Do-	1989	1991	-Do-	-Do-
Anilophos	Leader	1991	1994	-Do-	-Do-
Synthesis of new organo-phosphorus compounds having biological activity	Leader	1983	1993	Lab	Basic
Enzymatic synthesis of chiral anti asthmatic drug	Leader	1997	2000	Lab	Applied
Enzymatic synthesis of a cardiovascular drug intermediate	Member	1997	2001	Lab	Applied
Development of new syn-	Leader	1990	1994	Lab	Basic

thetic methods

Developing green technology for industrially important organic/bioactive molecules from medicinally important natural products	Member	2003	till date	Lab	CSIR Task Force Project
Development of clean process for 16-dehydropregnenolone acetate	Member	2002	till date	Lab	Applied
Lipase assisted synthesis Chirally pure epoxide	Leader	2005	New	Lab	Basic
A Green Approach for oxidation of carbinols to carbonyls by hydrogen peroxide under phase transfer Condition	Co-Ordinator	2005	New	Lab	Basic

8. Processes Released/Licensed to industry

Glyphosate : Industrial Mineral and Chemicals Company Ltd, Mumbai

9. Current membership of professional Bodies, Societies Academies,

- Life Member Assam Science Society Guwahati
- Life Member Indian Chemical Society Calcutta
- Life Member Indian Science Congress Association Calcutta
- Life Member Society of Pesticide Science New Delhi
- Life member Society of Chemists and Biologists Lucnow
- Life Member Assam Academic Centre Jorhat

Research Paper Published in National and International Journals

- Syntheses & Insecticidal Activity of 2-Hydroxy-3 -N,N-Disubstituted Aminomethyl-5-Methyl Acetophenones
Amrit Goswami, N Borthakur R C Rastogi and P R Bhattacharyya; *Indian Journal Chemistry* 23B, 904,1984
- Syntheses of 2-Alkoxy-4,6-Dimethyl-1,3,2-Benzodioxaphosphorinan -2-Thiones and 2-Ones
Amrit Goswami, N Borthakur and R C Rastogi; *Indian Journal of Chemistry* 25B,857, 1986
- Syntheses & Insecticidal Activity of Some New Phosphorodithioate Esters of Substituted Acetophenones
R C Borthakur, **Amrit Goswami**, M Goswami, N Borthakur, R C Rastogi and P R Bhattacharyya;
Indian Journal of Chemistry 25B, 668,1986
- Syntheses of an Insect Antifeedant Chalcone
N C Baruah, P Baruah, **Amrit Goswami**, R P Sharmah and J N Baruah; *Chemistry and Industry* 900, 1983
- Convenient Syntheses of N-Acetyl Phosphoramidothioates
N Borthakur, **Amrit Goswami** and R C Rastogi; *Chemistry and Industry* 353, 1991
- Desulfurization of Thioamides by Cobalt Chloride-Hydrogen Peroxide
N Borthakur and **Amrit Goswami**; *Indian Journal of Chemistry* 32B, 800, 1993
- Selective Reduction of Aldehydes to Alcohols by Cobalt Chloride-Zinc- Tetrahydrofuran System
Amrit Goswami and N Borthakur; *Indian Journal of Chemistry* 33B 495, 1994

8. New Direct Syntheses of Thioamides from Carboxylic Acids
N Borthakur and **Amrit Goswami**; *Tetrahedron Letters* 36(37), 6745, 1995
9. Syntheses & Insecticidal Activity of Some 8-Acetyl-6-Methyl-2-Alkoxy-1,3,2-Benzodioxaphosphorinan-2-Thionones
Amrit Goswami and R C Rastogi; *Pesticide, Crop Protection and Environment* Eds S Walia and B S Parmer, Oxford & IBH Publishers Pvt Ltd New Delhi 317, 1995
10. A Convenient Synthesis of Amines from Phenols
Amrit Goswami, B N Goswami, N Borthakur and R C Rastogi ; *Journal of Chemical Research (S)*424, 1996
- 11 N-Bromosuccinimide-Pyridine in Synthesis; Efficient Decarboxymethylation of 1,2,3,4-Tetrahydro ketoquinoxaline-1-N-Acetic Acid
R C Rastogi, **Amrit Goswami**, R H Khan, K R Baruah and A C Ghosh ; *Indian Journal Chemistry* (Accepted)
- 12 A One Pot Efficient Process for 16-Dehydropregnenolone Acetate
Amrit Goswami ,Rumi Kotoky,Romesh C Rastogi and Anil C Ghosh; *Org Process Res Dev* 7,2003, 306-308
13. Selective Bromination of Acetophenone Derivatives by Bromine in Methanol; *Journal of Indian Chemical Society* ,79,2002,469-471
14. Microbial Reduction of ω-Bromoacetophenones in the Presence of Surfactant
Amrit Goswami, R.L Bezbaruah, J. Goswami, N. Borthakur, D. Dey and A K Hazarika
Tetrahedron Asymmetry, 11,3701-3709, 2000.
- 15.A Facile Aromatic C-Benzoylation With Phosphorodithioate Esters Using Friedel-Crafts Conditions
Amrit Goswami
Journal Chemical Research ,2000,554-555.
16. A Convenient Stereoselective Synthesis of R-(-)-Denopamine and R-(-)-Salmeterol
Jonali Goswami, Rajib L Bezbaruah, **Amrit Goswami** and Naleen Borthakur
Tetrahedron Asymm,12, 2001,3343-3348
17. Novel Lipase Isolated from Pseudomonas Strain and Its Application in the Synthesis of S(+)-2-O-Benzylglycerol-1-Acetate
Lambit Kanwar, Swapnali Hazarika, **Amrit Goswami**, Narendra N Dutta, Ajit K Hazarika and Pranab Goswami,
Journal of Microbial Technology and Biotechnology, 77,2002,898-902
18. A Water Based Method for Hydroxymethylation of Phenols and Phenolic Ketones
Jonali Goswami, Naleen Borthakur and **Amrit Goswami**, *Journal of Chemical Research* 2003,200-203
19. A One pot Synthesis of 16-Dehydropregnenolone Acetate
Amrit Goswami, Rumi Kotoky, Ramesh C Rastogi and Anil C Ghosh, *Org, Proc. Res. Dev*, 2003,
20. DMSO-Triggered Enhancement of Enantioselectivity in Novozyme[435]-Catalysed Transesterification of Chiral 1-Phenylethanols
Amrit Goswami and Jonalee Goswami; *Tetrahedron Letters*, 46, 4411-4413, 2005

Symposium Attended and Paper Presented in Seminars

1. Participated in the National Seminar on "Recent Advances in Organic Synthesis" held in Kalyani University during 28-29 January, 1987
2. Studies of the Chemistry of O,O-Dialkyl Phosphorothiono-3-Acetyl-2-Hydroxy-6-Methyl Benzyl Thioate under Nucleophilic Conditions
Amrit Goswami, N Borthakur and R C Rastogi; *Proceedings of the 32nd Annual Conference of the Assam Science Society* , March 28-30, p 14., 1986, Assam Petrochemicals (P) Ltd , Namrup, Assam India
3. Addition of Sulfur Monochloride and Sulfur Dichloride Under Free Radical and Ionic Conditions to Olefinic Bonds

Amrit Goswami and Naleen Borthakur and R C Rastogi; *Proceedings of the 24th Annual Convention of Chemists*, 0-63, November 22-26, 1987, Shivaji University, Kolhapur, India.

4. Syntheses & Insecticidal Activity of Some 8-Acetyl-6-Methyl-2-Alkoxy-1,3,2-Benzodioxaphosphorinan-2-Thiones

Amrit Goswami and R C Rastogi; *Proceedings of the National Symposium on Pesticide : Future Scenario*, p 36, April 15-17, 1993, Indian Agriculture Research Institute, New Delhi, India.

5. Synthesis of Unsaturated Carbonyl Compounds by O,O-Diethyl Dithiophosphoric Acid-Benzyl Amine Induced Aldol Condensation

N Hossain, **Amrit Goswami** and N Borthakur; *Proceedings of the 39th Conference of the Assam Science Society*, December 5, p 14, 1992, Gauhati University, Guwahati, Assam, India

6. New Direct Syntheses of Thioamides from Carboxylic Acids

N Borthakur and **Amrit Goswami**; *Proceedings of the 10 IUPAC Conference on Organic Syntheses* December 11-16, p 188, 1994, IISc, Bangalore, India.

7. A Simple Method for Conversion of Phenols to Amines

Amrit Goswami, B N Goswami, N Borthakur and N Borthakur; *Proceedings of the 31st Annual Convention of Chemists*, OS 44, p 27, December 21-24, 1994, Banaras Hindu University, Varanasi, India.

8. Syntheses of β -Aminoarylethanol Using Enzymes in Organic Solvent

Amrit Goswami; *Indo-German Symposium: Organic Synthesis-Growing Interface with Adjacent Sciences*; p 106, September 27-28, 1996, Indian Institute of Chemical Technology, Hyderabad, India

9. Cycloaddition Reaction Involving a Heterodiene System: Synthesis of 4-Aryl Thiazolopyrimidine -6-One

B N Goswami, Dilip Konwar and **Amrit Goswami**; *Proceeding of the 34th Annual Convention of Chemists* December 17-20, 1997, Delhi University, India

10. Selective Bromination of Acetophenones Derivatives with Bromine in Methanol

Amrit Goswami, Jonalee Goswami and Ram N Das; *Proceeding of the Annual Convention Chemists, Org(O)-61, C-16*, November 4-7, 1998, Karnataka University, Dharwad, India.

11. A Facile Carbon-Carbon Bond Formation Using Phosphorodithioate Esters Under Friedel-Crafts Condition

Amrit Goswami, Birendra N Goswami and Naleen Borthakur

Presented in the International Conference on Chemistry and Thirty sixth Annual Convention of Chemists held at Calcutta during December 11-16, 1999, Abstract Page C 34.

11. Lipase assisted Oxidation of Benzene to Phenol

Amrit Goswami and Naleen Borthakur; Presented in the IUPAC International Conference on Biodiversity and Natural Products: Chemistry and Medicinal Applications held during 26-31 January 2004, New Delhi, Abstract No P-105.

Visit Abroad

1. Visited Bergische University, Wuppertal, Germany under CSIR-DAAD Scientist Exchange Programme during 2001-2002 and carried out research in the field of enzyme mediated reactions in sugar chemistry.

2. Visited Tübingen University, Tübingen Germany on invitation by Professor Martin E Maier of Organic Chemistry Department and delivered two lectures on '*Organophosphorus compounds as (i) Acid-Amine Coupling and (ii) C-C Bond Forming Reagents*'

3. Visited Heidelberg, Germany and underwent a training on HPTLC at the Principal's site at SARSTED, Numbrecht during 10-15 July 2004.

