

CURRICULUM VITAE

Ranjana Arya

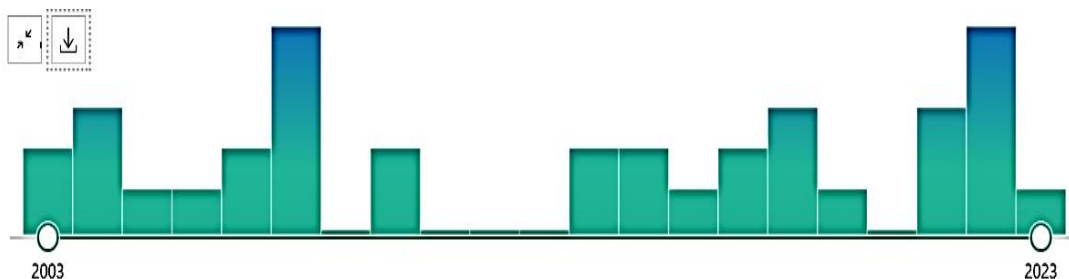
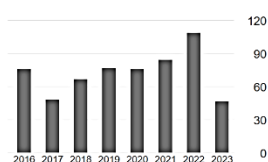
Name : Dr. Ranjana Arya
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Jawaharlal Nehru University
New Delhi-110067
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PROGRESS SUMMARY

Total Funding Received: Rs. 3,35,61,972.00
Total Teaching Experience: 15 yrs.
Total Research Experience: 22 yrs. post-PhD
Total Number of Credits: 309
Research Guidance (Ph.D.): 12
Publications: 31+11+1 =43 (h-index- 14, i10-index- 17, citations- 1481)

Cited by	VIEW ALL	
	All	Since 2018
Citations	1481	461
h-index	14	12
i10-index	17	13



Google Scholar

PubMed Timeline per year

Patents Filed:

3

A skeletal Muscle cell-based model for GNE Myopathy.
Indian application no.:
202011019014
Filing date: 4-5-2020
Journal Number-46/2021
Journal Date: 12/11/2021

Production of purified recombinant human phosphodiesterase in *Dictyostelium discoideum*
Indian application no.:
1779/DEL/2007
Pub. Date: 21-8-2007

A reporter gene assay for identifying a compound as selective inhibitor of PDE 4 subtype
Indian application no.:
2547/DEL/2006
Pub Date: 27-11-2006

□ EDUCATION

DEGREE	DISCIPLINE	INSTITUTION	YEAR
Ph.D.	Life Sciences	Jawaharlal Nehru University, India	1995-2001
M.Sc.	Biotechnology	Madurai Kamaraj University, India	1993-1995
B.Sc.	Biochemistry	Delhi University, India	1990-1993

□ EXPERIENCE

RANK/POSITION	DEPARTMENT/	INSTITUTION/COMPANY	PERIOD
Assistant Professor Stage 3	School of Biotechnology	Jawaharlal Nehru University	2011-till date
Assistant Professor Stage 2	School of Biotechnology	Jawaharlal Nehru University	2009-2011
Assistant Professor Stage 1	School of Biotechnology	Jawaharlal Nehru University	2008-2009
Senior Research Scientist	Pharmacology	Ranbaxy Research Laboratories, Gurgaon, India	2004-2008
Post Doctoral Associate	Carolina Cardiovascular Center	University of North Carolina at Chapel Hill, USA	2002-2004
Post Doctoral Fellow	Division of Rheumatology, Immunology & Allergy	Brigham & Women's Hospital Harvard Medical School, Boston, USA	2001-2002
Project Assistant	Special Center for Molecular Medicine	Jawaharlal Nehru University, Delhi, India	2000-2001
Senior Research Fellow	School of Life Sciences	Jawaharlal Nehru University, Delhi, India	1997-2000
Junior Research Fellow	School of Life Sciences	Jawaharlal Nehru University, Delhi, India	1995-1997

□ PROFESSIONAL AWARDS/ACTIVITIES

❖ Award/Honour

1. Assistant Director, Human Resource Development Centre, UGC, JNU, 2018 -2020
2. Young Scientist Award (I Prize) by 88th Annual Conference of Society of Biological Science held at Convention Centre, JNU, 2017
3. Young Scientist Travel Fellowship Award to attend 18th International Congress of Biochemistry and Molecular Biology held in Birmingham, England, 2000.
4. Junior Research Fellowship and Lectureship Award (1995), (NET) Council of Scientific and Industrial Research, India.
5. GATE qualified with a score of 97.34, India. (1996)

❖ **GRANTS**

S. No.	Title	Period (month)	Total Funding (Lakhs)	Name of Funding agency	Start and End date of project	Sanction order no.	Outcome of the project
1.	Regulation of Muscle Atrophy in GNE deficient Skeletal Muscle Cells: Pathological relevance to rare neuromuscular diseases	36	30	CSIR	6 th July 2023	37/1746/23/EMRII	Ongoing
2.	Analysis of protein aggregation in sialic acid deficient cells. 2020-3314"	24	30	ICMR	9 th Jan 2021 -9 th Jan 2024	2020-3314/CM B/ADHO C-BMS	<i>Intl J of Biochem Cell Biol</i> ,2022 https://doi.org/10.1016/j.biocel.2022.106258
3.	Effect of manipulating sialic acid levels on cell adhesion process	36	33	BRNS/DAE	24 th Sept. 2018 - 31 st Mar 2022	37(1)/14/31/2018-BRNS/37253	<i>Intl J of Biochem Cell Biol</i> ,2022 https://doi.org/10.1016/j.biocel.2022.106258 <i>Neuromol Med.</i> 2022 https://doi.org/10.1007/s12017-022-08711-4 <i>Frontiers in Cell & Dev. Biol.</i> 2021 https://doi.org/10.3389/fcell.2021.603742
4.	Genotype-phenotype relationship in rare genetic disorders: Physicochemical analysis of mutations in GNE myopathy and phenotypic modulation by small molecule effectors	36	77.9	DBT	30 th May 2018 -29 th Nov. 2022	BT/PR22409/MED/12/746/2016	<i>J Cell Biochem</i> doi:10.1002/jcb.30148 <i>Biochimie</i> 199, 36-45 2022 doi: https://doi.org/10.1016/j.biocel.2022.03.014
5.	A fresh look at sigma 70 promoter of <i>E. coli</i>	36	66 .6	DBT	21 st Mar 2018 – 21 st Mar 2021	BT/PR16398/BRB/10/1489/2016	<i>Gene</i> 2023 Jan 30; 851:146968. doi: 10.1016/j.gene.2022.146968 . Epub 2022 Oct 17
6.	Functional analysis of UDP-N-actylglucosamine 2-epimerase/N-acetyl Mannosamine kinase (GNE) in cytoskeletal organization	36	49.8	SERB	27 th Sept 2016 - 27 th Apr 2019	EMR/2015/001798	<i>Mol. Neurobiol.</i> , 2021doi:10.1007/s12035-021-02549-w <i>Frontiers in Cell & Dev. Biol.</i> 2021 doi: 10.3389/fcell.2021.603742 <i>Frontiers in Neuroscience</i> , doi: 10.3389/fnins.2018.00669 , 2018 <i>Patent</i> : 202011019014
7.	Structural and functional characterization of UDP N-actylglucosamine 2-empimerase/N-acetyl mannosamine kinase (GNE)	36	5-30	DST-PURSE II	10 th Feb 2016 - 10 th Feb 2019	280/2016	<i>Frontiers in Neuroscience</i> , doi: 10.3389/fnins.2018.00669 , 2018 <i>Neuromolecular Medicine</i> 2017, 19 (4), 525-540 doi 10.1007/s12017-017-8467-5
8.	Effect of altering sialic acid metabolism on cell	60	11	UGC/UP E-II	1 st Apr 2014-1 st	16	<i>Frontiers in Neuroscience</i> , doi: 10.3389/fnins.2018.00669 ,

	function				Apr 2019		2018 <i>Scientific Reports</i> , 2018 doi. 10.1038/s41598-018-25510-9 <i>Neuromolecular Medicine</i> 2017, 19 (4), 525-540 doi 10.1007/s12017-017-8467-5
9.	Manipulation of sialic acid biosynthesis pathway using GNE and its effect on cytoskeletal organization	36	21.63	CSIR	19 th Dec 2011 -19 th Dec 2014	37(1512)/11/EMR-11	<i>Molecular Neurobiology</i> , 2014, 50(2); 257-273 (IF-5.47)
10.	Possible role of key sialic acid biosynthetic enzyme (UDP-N-acetylglucosamine 2-epimerase/ mannosamine kinase) in apoptosis	36	32.58	ICMR	13 th Oct 2011 - 13 th Oct 2014	53/7/2011 -BMS	<i>Mol. Neurobio.</i> , 2016, 53,5, 3088-3101 (I.F. 5.34)
11.	Expression and characterization of bifunctional enzyme UDP-N-acetylglucosamine 2-epimerase/N-acetylmannosamine kinase in <i>Dictyostelium discoideum</i>	36	19.95	DST Fast Track	23 rd Oct 2009 -23 rd Oct 2012	SR/FT/LS -146/2008	<i>CNS and neurological disorders-DT</i> (2014), 13:7, 1263-1272 (I.F. 3.77)

❖ Research Guidance & Supervision

DEGREE	UNDER SUPERVISION	THESIS SUBMITTED	THESIS AWARDED	TOTAL
Ph.D.	4	0	8	12
M.Sc.	1	0	24	25

❖ Teaching Experience (2008 onwards)

S. NO.	DEGREE	COURSE	YEAR	CREDIT PER YEAR	TOTAL NUMBER OF CREDITS
1	M.Sc. I Yr.	Microbiology	2008-2010	2	6
			2011-2015	3	13
2	M.Sc. I Yr.	Biochemistry	2016-till date	1.5	9
3	M.Sc. I Yr.	Cell Biology	2009-2012	1.5	10.5
			2019-2021		
4	M.Sc. I Yr.	Lab Technique I	2008-2021	1	13
5	M.Sc. I Yr.	Lab Technique II	2009-2012	0.5	1.5
6	M.Sc. II Yr.	Cell Regulation & Control	2017	1	1
7	M.Sc. II Yr.	Biotech Product Development	2018-2021	1	3
8	Pre PhD	Molecular & Cellular Signaling	2009-2020	3	33
Total					87

❖ Administrative Activities

1. Member, UGC Committee for Curriculum and Credit Framework for Undergraduates 2023-2024
2. Member Secretary, Institutional Committee for Stem Cell Research, 2022-2024
3. Member NISCAIR-CSIR PhD Advisory Board Committee, 2021-2024
4. Member NEP2020 Implementation Committee, JNU 2020-2021
5. Coordinator, Webinar series on Gender Bias and stereotyping, Gender Equality and Women's Right 2020
6. Assistant Director, UGC-HRDC, JNU, 2018-2020
7. Coordinator, R&D News & Information, 2019-2020
8. Convenor, STREE conference at JNU, 4-6th April 2020 rescheduled 24-26th Nov. 2022
9. Academic Council Member, 2021-2023
10. Academic Council, Special Invitee 2018-2020
11. Core Committee Member for Convocation, JNU, 2018, 2019, 2021,2022
12. Special Committee Member
13. VC nominee for various selection committees (RA, JRF etc.)
14. Course Coordinator
 - a)16th Refresher Course in Biotechnology from 28th July to 22nd August, 2014, Academy Staff College, JNU
 - b) 23rd Refresher Course in Life Sciences and Biotechnology from 8th Oct-2nd Nov. 2018, UGC-HRDC, JNU
 - c)24th Refresher Course in Life Sciences and Biotechnology from 19th Aug-31st Aug. 2019, UGC-HRDC, JNU
15. School Coordinator, DST PURSE II, School of Biotechnology, 2015-2019
16. Coordinator, National Science Day, JNU, 2016, 2017, 2018, 2019
17. Coordinator, Green Good Deeds Event, India International Science Festival, Lucknow, 6th Oct 2018
18. Intellectual Property Management Cell committee member, 2016-2018 and 2018-2020
19. Core Committee Member: JNU Annual Open Day, 2016,2017,2018
20. School Level Purchase Committee Member
21. Organizing Team Member: Perspectives in GNE Myopathy, INSA, 16-17 Feb 2018
22. Co-ordinator, BioEpoch 2013
23. CIF Committee Member, 2015-2017
24. Library In-charge from 2011-2015
25. Seminar In-charge from 2008-2011, 2023-2024

❖ Reviewer

1. Frontiers in Cell and Development Biology
2. Scientific Reports
3. Vegetos Journal
4. BMC Cell Biology
5. Journal of Biosciences
6. Applied Microbiology and Biotechnology
7. Biotechnology Journal
8. National and International Research Grants

❖ Other Academic Activities

1. University End Semester Paper Setting, Invigilation & Evaluation, 2008 onwards
2. NTA Observer for NEET Exam, 2019
3. Research Advisory Committee Member
4. CEEB paper Setter's Meeting, 2-4th Nov 2017, JNU
5. Student Teacher Evaluation Committee Member, 2016
6. University Examination Duties M.Sc. Entrance, Dehradun, 2015

❖ Life Membership

1. Indian Society of Cell Biologist
2. Society of Biological Chemists
3. Vibha India

4. Alumni Association of JNU
5. SiBio-Executive Member
6. Indraprastha SHAKTI, Vice President

□ **PUBLICATIONS**

Refereed Journal Publications

1. Sharma, S., Pant, P, **Arya, R**, Jayaram, B and Das HK. Bases Immediate Upstream of the TATAAT Box of the Sigma 70 Promoter of Escherichia coli Significantly Influence the Activity of a Model Promoter by Altering the Bending Angle of DNA, 2022, Gene, (IF. 3.6)
2. Yadav, R, Devi, SS, Oswalia, Ramalingam, S and **Arya, R*** Role of HSP70 chaperone in protein aggregate phenomenon of GNE mutant cells: Therapeutic lead for GNE Myopathy, 2022, Intl. J. Biochem. Cell. Biol. <https://doi.org/10.1016/j.biocel.2022.106258> (I.F. 5.08)
3. Yadav R, Oswalia J, Ghosh A and **Arya R*** Effect of GNE mutations on cytoskeletal network proteins: potential gateway to understand pathomechanism of GNEM, 2022, Neuromol Med. Doi:10.1007/s12017-022-08711-4 (I.F. 3.5)
4. Sharma, S, Chanana, P., Bharadwaj, R., Bhattacharya S, **Arya R***. Functional characterization of GNE mutations prevalent in Asian subjects with GNE Myopathy: an ultra-rare neuromuscular disorder, Biochimie 199, 36-45 doi: <https://doi.org/10.1016/j.biochi.2022.03.014> (I.F. 4.2)
5. Chaudhary P, Sharma, S., Singh, R and **Arya R***. Elucidation of ER stress and UPR pathway in sialic acid deficient cells: pathological relevance to GNEM. J Cell Biochem 2021 doi:10.1002/jcb.30148 (I.F. 4.3)
6. Devi, SS, Yadav, R, Mashangva, P, Chaudhary, P, Sharma, S and **Arya R***. Generation and characterization of a skeletal muscle cell-based model carrying one single Gne allele: Implications in actin dynamics. Mol. Neurobiol., 2021; doi:10.1007/s12035-021-02549-w (I.F. 5.59)
7. Devi, SS, Yadav, R and **Arya R***. Altered actin dynamics in GNE mutant cells. Front. Cell & Dev. Biol. 2021; doi: 10.3389/fcell.2021.603742 (IF. 5.2)
8. Awasthi, K, **Arya, R.**, Bhattacharya, A and Bhattachaya, S. The inherited neuromuscular disorder GNE Myopathy: Research to patient care. Neurology India, Sep-Oct 2019;67(5):1213-1219. doi: 10.4103/0028-3886.271259
9. Devi, SS, Yadav, R, Chanana, P and **Arya, R***. Fighting the cause of Alzheimer's and GNE Myopathy. Frontiers in Neuroscience, Section: Neurodegeneration, 2018 DOI: 10.3389/fnins.2018.00669 (I.F. 4.7)
10. Singh, R., Choudhary, P and **Arya, R** Role of IGF-1 in ameliorating apoptosis of GNE deficient cells. Scientific Reports 2018 8:7323 doi. 10.1038/s41598-018-25510-9 (I.F. 4.2)
11. Bharadwaj, R, Sharma, S., Janhawi, **Arya, R**, Bhattacharya, S and Bhattacharya, A EhRho1 regulates phagocytosis by modulating actin dynamics through EhFormin1 and EhProfilin1 in Entamoeba histolytica, Cell. Microbiol. 2018 doi 10.1111/cmi.12851(I.F-4.5)

12. Chanana, P, Padhy, G, Bhargava, K and **Arya, R***. Mutation in GNE downregulates Peroxiredoxin IV altering ER redox homeostasis, *Neuromolecular Medicine* 2017, 19 (4), 525-540 doi 10.1007/s12017-017-8467-5 (I.F. 3.9)
13. Bharadwaj **R, Arya, R, Bhattacharya, S** and Bhattacharya, A. EhRho 1 regulates plasma membrane blebbing through PI3 Kinase in *Entamoeba histolytica*. *Cell Microbiol.* 2017 May 6. doi: 10.1111/cmi.12751 (I.F. 4.4)
14. Singh, R and **Arya, R***. GNE myopathy and cell apoptosis: a comparative mutation analysis. *Mol. Neurobio.*, epub. May 2015, 53,5, 3088-3101 2016 (I.F. 5.34)
15. Grover S, Aslam S, Sharma V & **Arya R*** (2014) Expression and secretion of GNE and its mutants in *Dictyostelium discoideum*. *CNS and neurological disorders-DT* (2014), 13:7, 1263-1272 (I.F. 3.77)
16. Grover, S and **Arya R***. Role of UDP- N -Acetylglucosamine2-Epimerase/ N -Acetylmannosamine Kinase (GNE) in β 1-Integrin-Mediated Cell Adhesion. *Molecular Neurobiology*, 2014, 50(2); 257-273 (IF-5.47) epub Jan29 2014
17. Tu, C, Ortega-Cava, C.F., Winograd, P., Stanton, M.J., Reddi, A.L., Dodge, I., **Arya, R.**, Dimri, M., Clubba, R.J., Naramura, M., Wagner, K., Band, V., and Band, H. Endosomal sorting complex required for transport (ESCRT) pathway-dependent late endosome/lysosome traffic regulates the localization of active Src at focal adhesions. *Proc. Natl. Acad. Sci. USA*, 2010, 107 (37), 16107-12 (I.F-9.68)
18. Singh, D, Rani, R., Rajendran, R., Kaur NJ., Pandey, A., Chopra, P., Jain, T., Jain, M., Grover, S., **Arya, R.** and Saini, KS. Human spleen tyrosine kinase, Syk, recombinant expression system for high throughput assays. *Biotechnol. J.*, 2010, 5 (2), 201-212 (I.F.-3.44)
19. **Arya, R***, Bhattacharya, A., and Saini, K.S. *Dictyostelium discoideum*--a promising expression system for the production of eukaryotic proteins. *Faseb J*, 2008, 22 (12): 4055-4066 (I.F. 5.71)
20. Nanda K, Chatterjee M, **Arya R**, Mukherjee S, Saini KS, Dastidar S, Ray A. Optimization, and validation of a reporter gene assay for screening of phosphodiesterase inhibitors in a high throughput system. *Biotechnol J.* 2008, 3 (9-10):1276-1279 (I.F.3.44)
21. **Arya R***, Gupta S, Aslam S, Kaur NJ, Seth A, Eapen MS, Malik R, Vijaykrishnan L, Saini KS. Purification of recombinant human phosphodiesterase 7A expressed in *Dictyostelium discoideum*. *Protein Expr. Purif.*, 2008, 61:149-154 (I.F.-2.1)
22. **Arya, R. ***, Aslam, S., Gupta, S., Bora, R.S., Vijaykrishnan, V., Gulati, P., Naithani, S., Mukhrjee, S., Dastidar, S., Bhattacharya, A., and Saini, K.S. Production, and characterization of pharmacologically active recombinant human phosphodiesterase 4B2 in *Dictyostelium discoideum*. *Biotechnol. J.*, 2008, 3(7):938-47 (I.F.-3.44)

23. Malik, R., Bora, R. S., Gupta D., Sharma, P., **Arya, R.**, Chaudhary, S., and Saini, K.S. Cloning, stable expression of human phosphodiesterase 7A and development of an assay for screening of PDE7 selective inhibitors. *Appl. Microbiol Biotechnol.* 2008, 77: 1167-1173 (I.F.-3.68)
24. **Arya, R***, Bora, R.S.* , Malik, R.* , Gupta, D., Singh, V., Agarwal, N., Dastidar, S.G., Ray, A., and Saini, K.S. A reporter gene assay for screening of PDE4 subtype selective inhibitors. *Biochem. Biophys. Res. Comm.* 2007, 356:153-158 (I.F. 3.1)
25. Vishwakarma RA, Anand MT, **Arya R**, Vats D and Bhattacharya A. Glycosylated inositol phospholipid from *Entamoeba histolytica*: Identification and structural characterization. *Mol Biochem Parasitol.* 2006, 145(1):121-124 (I.F. 3.2)
26. M. Willis, **Arya, R**, Zhang CL, Li, HH, Ike C and Patterson C. The role of muscle ring finger-1 (MuRF1) in cardiac hypertrophy in vivo. *Circulation*, 2005, 112 (17), U466-467 (I.F-10.9)
27. **Arya, R.**, Kedar, V., Hwang, JR., McDonough, H., Li, HH., Taylor, J., and Patterson, C. Muscle Ring Finger protein-1 inhibits RACK1-dependent PKC ϵ activation and prevents cardiomyocyte hypertrophy. *J. Cell Biol.* 2004, 167(6):1147-59 (I.F. 14.44)
28. Kedar, V., McDonough, H., **Arya, R.**, Li, HH., Rockman, HA., and Patterson, C. Muscle ring finger-1 is a ubiquitin ligase that degrades cardiac Troponin I. *Proc. Natl. Acad. Sci. USA*, 2004, 101(52):18135-40 (I.F. 9.68)
29. Li, H.H., Kedar, V., Zhang, C., McDonough, H., **Arya, R.**, Wang, D., and Patterson C. Atrogin-1 inhibits cardiac hypertrophy. *J. Clin. Invest.* 2004, 114(8):1058-71 (I.F. 17.06)
30. **Arya, R.**, Mehra, A., Bhattacharya, S., Vishwakarma, R.A. and Bhattacharya, A. Biosynthesis of *Entamoeba histolytica* proteophosphoglycan in vitro. *Mol.Biol.Parasitol* 2003,126: 1-8 (I.F. 3.2)
31. Bhattacharya, A., **Arya, R.**, Clark, C.G. and Ackers, J.P. Absence of lipophosphoglycan-like glycoconjugates in *Entamoeba dispar*. *Parasitology* 2000; 120: 31-35 (I.F. 2.9)

Book Chapters

1. **Arya R.**, Jamal SM, Bora RS., and Saini KS. Optimization of Culture Parameters and Novel Strategies to Improve Protein Solubility. *Book_307540_García-Fruitós_Insoluble Proteins_Chapter_3*. Springer Science + Business Media New York, Copyright year 2015 DOI: 10.1007/978-1-4939-2205-5_3
2. Sharma, S, Bora, R, Saini, KS, and **Arya R***. Optimizing chaperone removal strategy from over-expressed recombinant proteins: GNE, a case study, *Methods Molecular Biology*, Vol. 2406, 339-358 doi: 10.1007/978-1-0716-1859-2_20 Elena Garcia Fruitós and Anna Arís Giralt (Eds): *Insoluble Proteins*, 978-1-0716-1858-5, 486618_2_En, (Chapter 20) 2022

News Headline Article

Nanda K, Chatterjee M, **Arya R**, Mukherjee S, Saini KS, Dastidar S, Ray A. Optimization and validation of a reporter gene assay for screening of phosphodiesterase inhibitors in a high throughput system. 2nd Sept. 2008, Daily Updates, Lead Discovery, U.K.

Refereed Conference Publications

1. Yadav, R and **Arya, R** 2019 Role of HSP70 in protein aggregation of sialic acid deficient cells: Pathological relevance to neuromuscular rare genetic disorder, *Mol Biol Cell*, 30, 26, December 15, 2019, 3075-3160, DOI:10.1091/mbc.E19-11-0617
2. Chaudhary, P and **Arya R** 2019 Elucidation of ER Stress and UPR Pathway in Sialic Acid Deficient Cells: Pathological Relevance to GNEM. 2019 ASCB Annual Meeting abstracts, *Mol. Biol. Cell* 30, 26, December 15, 2019 P2466/B723 <https://doi.org/10.1091/mbc.E19-11-0617>
3. Sh. Shreedarshane and **Arya, R**. Effect of altering sialylation levels on cytoskeletal organization of cell, *Mol. Biol. Cell.*, 28(26) 3727 Dec. 15, American Society of Cell Biologist, 2-6th Dec, 2017, Philadelphia, USA doi: 10.1091/mbc.E17-10-0618
4. Chanana Pratibha and **Arya R**” Altered levels of Peroxiredoxin 4 in GNE myopathy with rimmed vacuoles “at American Society for Cell Biology 2015 annual meeting, San Diego, California, USA, December 12th to 16th 2015. *Mol. Biol. Cell December 15, 2015 vol. 26 no. 25 4523: ISSN: 1939-4586*
5. Singh, R and **Arya R**. Possible role of UDP-*N*-acetylglucosamine 2 -epimerase/ ManNAc kinase (*GNE*) in cell apoptosis. American Society of Cell Biologist, Philadelphia, Pennsylvania, USA. 6-10th Dec 2014. *Mol. Biol. Cell. December 15, 2014, 25 (25); 3987-4204 ISSN: 1939-4586*
6. Grover, S., and **Arya R**. Role of GNE in cell Adhesion. American Society of Cell Biologist. San Francisco USA. 19-24th Dec 2012. *Mol. Biol. Cell. Dec.15: 23 (24):4663-4871 ISSN: 1939-4586*
7. Monte Willis, **Ranjana Arya**, Chunlian Zhang, Hui Hua LI, Chris Ikes, Cam Patterson. The role of Muscle Ring Finger –1 (MURF1) in Cardiac Hypertrophy *In Vivo*. American Heart Association Scientific Sessions, 2005. Meeting Abstract, *Circulation* , vol. 112, Volume: 112 Issue: 17 Pages: U466-U467 Supplement: Suppl. S Meeting Abstract: 1981 Published: OCT 25 2005 ISSN:009-7322
8. Li, HH., Kedar, V., Zhang, C., McDonough, H., **Arya, R.**, Wang, D., and Patterson C. Ubiquitin ligase atrogin-1 represses cardiac hypertrophy by promoting calcineurin degradation. American Heart Association Scientific Sessions, 2004. Source: *CIRCULATION* Volume: 110 Issue: 17 Pages: 160-160 Supplement: Suppl. S Meeting Abstract: 761 Published: OCT 26 2004 ISSN:009-7322
9. Cam Patterson, Vishram Kedar, Holly McDonough, **Ranjana Arya**, Hui-Hua Li. Muscle-specific Ring Finger 1 is a bona fide ubiquitin ligase that degrades cardiac troponin I. American Heart Association Scientific Sessions, 2004. Source: *CIRCULATION* Volume: 110 Issue: 17 Pages: 160-160 Supplement: Suppl. S Meeting Abstract: 762 Published: OCT 26 2004: ISSN:009-7322 (print)
10. **Ranjana Arya**, Vishram Kedar, Jae Rong Hwang, Holly McDonough, Hui-Hua Li, Joan Taylor and Cam Patterson. Muscle Ring Finger Protein, MURF1, Inhibits Cardiac Muscle Hypertrophy Through PKC Mediated Signaling Pathway. American Heart Association Scientific Sessions, 2004, New Orleans, USA (**Oral Presentation**). Source: *CIRCULATION* Volume: 110 Issue: 17 Pages: 160-160 Supplement: Suppl. S Meeting Abstract: 763 Published: OCT 26 2004 ISSN:009-7322
11. **Ranjana Arya** and Bhattacharya, A., Biosynthesis and Transport of lipophosphoglycan like molecules in *Entamoeba histolytica*, poster presented in 18th International Congress of Biochemistry and Molecular Biology, Birmingham, U.K. *Biochem. Soc. Transac.* 28 (5), A97-493: A457, ISSN: 0300-5127 (print; 1470-8752 (web)

Patents

- 1. Inventors:** *Arya, R., Bhattacharya, A., Aslam, S., Bora, R.S., Gupta, S. and Saini, K.S.*
Title: Production of purified recombinant human phosphodiesterase in *Dictyostelium discoideum*
Ref. No: IN200701779-II, Year: 08/2007
Application Number: 1779/DEL/2007 Status: Pub Appl. Date: 21-8-2007
- 2. Inventors :** *Malik, R., Bora, R.S., Arya, R., Gupta, D., Singh, V. and Saini, K.S.*
A reporter gene assay for identifying a compound as selective inhibitor of PDE 4 subtype.
Ref. No: IN200602547-II, Year: 01/2006
Application Number:2547/DEL/2006 Status: Pub Appl. Date: 27-11-2006
- 3. Inventors:** *Deepika Singh, Reema Rani, Ranjana Arya, Kulvinder Singh Saini.*
Title: Hetrologous expression and purification of human Syk kinase in *Dictyostelium discoideum*
Indian application no: 417/DEL/2009; **Filing date:** 4/3/2009
- 4. Inventors:** *Ranjana Arya, Sh. Shreedarshanee Devi, Rashmi Yadav, Priyanka Choudhary Shweta Sharma, Fluencephila Mashangav*
Title: A skeletal Muscle cell-based model for GNE Myopathy.
Indian application no.: 202011019014 **Filing date:** 4-5-2020
Publish Date: 12-11-2021 Journal Number 46/2021

Alliance for the company

Dictyostelium as an alternate Expression System. Arya, R., Bhattacharya, A., and Saini, K.S. Jawaharlal Nehru Univ. New Delhi and Ranbaxy Research Laboratories, Gurugram, Haryana

Invited Lectures

1. Nominated Speaker: Understanding pathomechanism of rare genetic disorder altering sialic acid levels, National Science Day, 28th Feb, 2018, Convention Centre, JNU
2. Invited Speaker: Perspectives in GNE Myopathy, Research, Clinical Management & Clinical Care, Feb. 16-17, 2018, Convention Centre, INSA, New Delhi
3. UPoEII Mid review Meeting: 4th May 2017, JNU Convention Centre: Effect of altered sialylation on IGF-1R function
4. Women Young Scientist Award presentation in SBC 2017, 18th Nov, JNU Convention Centre: Functional analysis of altered sialylation on cell apoptosis
5. Invited Speaker: RNA Biology, “GNE myopathy: a rare genetic disorder with poorly understood pathomechanisms” JNU 18th March, 2017
6. Invited Speaker: Workshop to develop a Scientific Program for research on rare diseases in India, INSA, 22-23 April, 2016.
7. Invited Lecture: CUSAT-NUS Joint International Conference on Biotechnology and Neuroscience, ‘Understanding Pathomechanism of Rare Genetic disorder associated with sialic acid metabolism, Kochi, 19-21 Dec 2016
8. Refresher Course in Life Science and Biotechnology, 3rd August 2015 Lecture on ‘Signaling by sialic acid’ Academy Staff College, JNU
9. Invited Speaker: Workshop on Application of confocal & Live Cell Imaging, AIRF, JNU on 28-4-2015 Talk Title: Use of confocal microscopy in understanding basic cell functions
10. Invited Speaker: “Advances in Molecular Parasitology” annual meeting of Parasitology on 15th Jan. Talk Title “Effect of altering Sialic acid levels on cell functions”, Convention Centre JNU

11. Rare disease Day, 28th Feb'2015. GNE Myopathy-rare genetic disorder. Virtual meeting. Online lecture delivered with link: is.gd/genx2015 Genomics of rare genetic diseases 2015
12. 16th Refresher Course in Biotechnology, 30th Jul, 2014 Lecture on 'Biological roles of glycans: close view to sialic acid' Academy Staff College, JNU
13. 14th Refresher Course in Biotechnology, Role of sialic acid in cell signaling: Glycomics Academy Staff College, 2nd August, 2013, JNU, New Delhi
14. Role of GNE in Human Inclusion Body Myopathy. Mitra Biotech, Bangalore, Karnataka, India, 27th Dec. 2012
15. 13th Refresher Course in Biotechnology, Dd as expression host for eukaryotic proteins, Academy Staff College, 18th Aug. 2011, JNU, New Delhi
16. Expression Systems, Academy Staff College, University Grants Commission, JNU, New Delhi on 18th Jan. 2011 (16th Refresher Course in Life Sciences)
17. Expression Systems, Academy Staff College, University Grants Commission, JNU, New Delhi on 19th Aug. 2010 (12th Refresher Course in Biotechnology)
18. Microbial Cell Structure and Function. Academy Staff College, University Grants Commission, JNU, New Delhi on 13-1-09. (Refresher Course in Life Sciences)
19. Challenges and Opportunities in Indian Pharma/Biotech Industry. Biosparks2008, School of Life Sciences, Jawaharlal Nehru University, New Delhi., Feb, 2008

□ RESEARCH GUIDANCE

❖ Ph.D. Students

S. No.	Student Name	Thesis Title*	Supervisor	Registration Date	Submission Date	Degree Awarded
1	Shweta Sharma	Functional characterization of GNE mutations to understand pathomechanism of rare neuromuscular disorder; GNE Myopathy	Dr. Ranjana Arya	July 2015	31 st Dec 2021	16 th June 2022
2	Priyanka Chaudhary	Understanding pathomechanism of GNE Myopathy: a rare genetic disorder	Dr. Ranjana Arya	July 2014	31 st Dec. 2020	16 th June 2021
3	Rashmi Yadav	Deciphering role of chaperones in protein aggregation phenomenon of sialic acid deficient cells	Dr. Ranjana Arya	July 2016	3 rd Nov. 2020	2 nd Dec. 2021
4	Shamulailat pam Shreedarshane Devi	Role of GNE (UDP-N-acetylglucosamine 2-epimerase/N-acetylmannosamine kinase) in cytoskeletal organization of the cell	Dr. Ranjana Arya	25 July 2013	22 July 2019	12 th Oct. 2021
5	Pratibha Chanana	Extended role of UDP-N-	Dr. Ranjana Arya	3 August 2011	26 July 2017	3 April 2018

		acetylglucosamine-2-epimerase/N-acetylmannosamine kinase (GNE) in cellular processes besides sialic acid biosynthesis				
6	Ravi Bharadwaj	Functional characterization of small GTP binding protein EhRho1 of <i>Entamoeba histolytica</i>	Dr. Ranjana Arya Co-supervisor: Prof. Sudha Bhattacharya	21 July 2010	21 July 2016	9 May 2017
7	Reema Singh	Role of UDP-N-acetylglucosamine 2-epimerase/N-acetylmannosamine kinase (GNE) in Apoptosis	Dr. Ranjana Arya	2 August 2009	26 July 2015	17.3.2016
8	Sonam Grover	Role of UDP-N-acetylglucosamine 2-epimerase/N-acetylmannosamine kinase (GNE) in cell adhesion	Dr. Ranjana Arya	21 July 2008	21 July 2013	2014

❖ **M.Sc. Students**

S. No.	Student Name	Dissertation Name	Degree Awarded Date
1	Pragyanand	Cloning and expression of GNE in <i>E. coli</i> and <i>Dictyostelium discoideum</i>	12 May 2009
2	Vijeta Sharma	Subcloning, Expression and Purification of GNE epimerase mutants (C303X & D176V) in <i>E. coli</i>	12 May 2010
3	Rupa Kumari	SUBCLONING, EXPRESSION AND PURIFICATION OF GNE-V572L AND GNE-M712T KINASE DOMAIN MUTANTS IN <i>E. coli</i>	12 May 2010
4	Gunjan Gautam	Expression and Secretion of Human Recombinant GNE in <i>Dictyostelium discoideum</i>	12 May 2011
5	Rohini	Localization of GNE (UDP-N-acetylglucosamine 2-epimerase/N-acetylmannosamine kinase) in CHO wild-type and CHO Lec 3.4B cell lines	12 May 2011
6	Vinay	Characterization of UDP-N-acetyl-glucosamine epimerase/N - acetyl mannosamine kinase (GNE) And its Kinase mutant M712T.	12 May 2012
7	Shadab	Characterization of GNE (UDP-N-Acetyl glucosamine-2-epimerase/N-Acetyl mannosamine kinase) and its epimerase domain mutant D176V	12 May 2012

8	Reddy	Characterization of GNE (UDP-N-Acetyl glucosamine-2-epimerase/N-Acetyl mannosamine kinase) and its kinase domain mutant V572L	12 May 2012
9	Danish	Role of GNE in mitochondrial functions	12 May 2013
10	Shashi	Role of GNE in cell cytoskeletal organization	12 May 2013
11	Nandini	Optimizing the solubility of recombinant GNE protein in <i>E. coli</i> using chaperone plasmid pKJE7 and pG-KJE8	12 May 2014
12	Chandini	Effect of chaperone (pGro7 & pTf16) on solubilization of recombinant UDP-N- Acetylglucosamine 2- epimerase /N-Acetylmannosamine kinase (GNE) protein in <i>E. coli</i>	12 May 2014
13	Nikhil	Optimization of recombinant GNE expression with chaperones and generation of epimerase mutant (R162C) of Indian Origin	12 May 2015
14	Nishi	Optimization of recombinant GNE expression with chaperones and generation of kinase mutant (V696M) of Indian origin	12 May 2015
15	Rashmi	Effect of chaperone regulators on viability of cells with altered sialylation	12 May 2016
16	Sushma	Generation and functional characterization of GNE mutants	12 May 2017
17	Ashim	Interaction between muscle atrophy marker MuRF1 and sialic acid biosynthesis enzyme; N-acetyl glucosamine 2-epimerase/N-acetyl mannosamine kinase (GNE) in HEK 293 based cellular model	12 May 2018
18	Tanuja	Understanding the correlation of N-acetyl glucosamine 2-epimerase/N-acetyl mannosamine kinase (GNE) and its mutant to its enzyme activity in vitro	12 May 2018
19	Vaishali	Generation and functional characterization of GNE mutants of Indian origin.	12 May 2019
20	Yashwant	Effect of GNE mutation on promoter activity of HSP70 chaperone	July 2020
21	Surbhi Badhwar	Generation of R277Q and functional characterization of F307C GNE mutants from Indian origin	May 2021
22	Israt Ripa	Functional characterization of GNE mutants (I329T-GNE and A555V-GNE) from Indian origin	May 2021
23	Amit	Effect of small molecules on GNE enzyme activity	June 2022
24	Prachi	Analysing the effect of plant extracts on GNE mutations	June 2023
25	Rohan		Ongoing

Manuscripts in Preparation

1. Role of GNE mutations on autophagy. Shweta et al. 2022

Non-refereed Publications/Abstracts/Posters

1. **Ranjana Arya**, Monika T Anand, Ram A Vishwakarma, Sudha Bhattacharya and Alok Bhattacharya. *In vitro* synthesis of LPG-like molecules in *Entamoeba histolytica*. 67th Annual Meeting of Society of Biological Chemists (India), Dec 19-21, 1998
2. **Ranjana Arya**, Ram A Vishwakarma, Sudha Bhattacharya, Alok Bhattacharya. Biosynthesis of lipophosphoglycan-like molecules in *Entamoeba histolytica*. XIV National Conference of Parasitology, April 23-26, 2000
3. **Ranjana Arya**, Ram A Vishwakarma, Sudha Bhattacharya and Alok Bhattacharya. Biosynthesis and Transport of lipophosphoglycan-like molecules in *Entamoeba histolytica*. Young Scientist Travel Fellowship Symposium and 18th International Congress of Biochemistry and Molecular Biology, Birmingham, England, July 13-20, 2000.
4. **Ranjana Arya**, Ram A Vishwakarma, Sudha Bhattacharya and Alok Bhattacharya. Biosynthesis and Transport of lipophosphoglycan-like molecules in *Entamoeba histolytica*. XXIV All India Cell Biology Conference (Indian Society of Cell Biology, India), Nov 24-26, 2000.
5. Muscle Ring Finger Protein, MURF1, Inhibits Cardiac Muscle Hypertrophy Through PKC Mediated Signaling Pathway (Oral Presentation), 9-13th Nov. 2004. American Heart Association Scientific Sessions, USA.
6. Ubiquitin ligase atrogin-1 represses cardiac hypertrophy by promoting calcineurin degradation. 9-13th Nov. 2004. American Heart Association Scientific Sessions, USA.
7. Muscle-specific Ring Finger 1 is a bona fide ubiquitin ligase that degrades cardiac troponin I. 9-13th Nov. American Heart Association Scientific Sessions, USA.
8. Monte S. Willis, **Ranjana Arya**, Hui-Hua Li, Chunlian Zhang, Chris Ike, and Cam Patterson. The Role of Muscle Ring Finger-1 (MuRF1) in Cardiac Hypertrophy. Annual Research Symposium 2005, Univ. of North Carolina, Chapel Hill, North Carolina, USA.
9. The role of Muscle Ring Finger –1 (MURF1) in Cardiac Hypertrophy In Vivo. American Heart Association Scientific Sessions, USA. Oct 2005.
10. Dastidar SG, Ray, A., Rajkumar, S., Rajagopal, D., Chaudhary, S., Nanda, K., Banerjee, M., Krishna, NS., Kanoje, V., Seth, MK., Balachandran, S., Gupta, N., Palle, V., Paliwal, JK., Benjamin, B., Chaira, T., Rauthan, K., Sharma, T., Bora, RS., **Arya, R.** MNR 88281: A novel, Patent and Safe PDE4 Inhibitor. Grodon Research Conference, Univ. of New England, Biddeford, ME, June 4-9, 2006
11. Ravishankar S, Ramesh S., **Arya R**, Khattar S., Priyadarsiny P, Shirumalla, RK and Ray A. Marimastat, a broad-spectrum matrix metalloproteinase inhibitor, prevents the bleomycin induced pulmonary fibrosis in mice lungs. In-house Biology Symposium, Ranbaxy Research Laboratories, Gurgaon, Haryana, August 4, 2006
12. **Arya R**, Priyadarsiny P., Khattar S. K., Ravishankar, R., Ramesh S., Naithani S., Shirumalla, R., Ray. A. and Saini K.S. Marimastat, a broad-spectrum matrix metalloproteinase inhibitor prevents bleomycin induced pulmonary fibrosis in mice. National Biotechnology Conference, IIT-Roorkee and IFB India, 2-3 sept. 2006
13. Vibhuti Singh, Dikshi Gupta, Roop Singh Bora, Neeraj Aggarwal, **Ranjana Arya** and Kulvinder Singh Saini. Molecular cloning and expression of human Phosphodiesterase PDE9A. National Biotechnology Conference, IIT-Roorkee and IFB India, 2-3 sept. 2006
14. **Arya, R.**, Naithani., S., Arneja, G., Gupta, S., Gulati., P., Saini, K.S. Cloning, and expression of receptor tyrosine kinase domain of Her2 and Her4 in *E. coli*. 31st Annual Cell Biology Conference, BHU, Varanasi, 14-16 Dec.2007
15. Grover, S., Sharma, V., Kumari, R., Tembhurne, P and **Arya R**. Cloning and expression of human GNE in *Dictyostelium discoideum*. 2nd Annual conference BioEpoch 2010, School of Biotechnology, Jawaharlal Nehru Univ. 18-19th Feb 2010.
16. **Arya R** and Grover S. Role of GNE in cell adhesion. Young Investigator Meeting, 13-17th Feb, 2011, Bhubaneshwar, Orissa
17. Gautam, G., Grover, S. and **Arya, R.** Generation of secretory vector for production of recombinant GNE in *Dictyostelium discoideum*. Silver Jubilee symposium & 3rd Annual Conference BioEpoch 2011, School of Biotechnology, JNU, 1-2 April, 2011
18. Singh, R., Grover, S. and **Arya, R.** Possible role of GNE in apoptosis. Silver Jubilee symposium & 3rd Annual Conference BioEpoch 2011, School of Biotechnology, JNU, 1-2 April, 2011
19. Grover, S. and **Arya, R.** Role of GNE in cell adhesion. Silver Jubilee symposium & 3rd Annual Conference BioEpoch 2011, School of Biotechnology, JNU, 1-2 April, 2011
20. Grover, S. and **Arya, R.** Role of GNE in cell migration: Using *Dictyostelium* as model system. XXXV All India Cell Biology Conference, NISER, Bhubaneshwar, Orissa. Dec.16-18, 2011

21. Grover, S., and **Arya R.** Effect of mutations in epimerase and kinase domain of UDP N-acetylglucosamine 2-epimerase/N-acetyl mannosamine kinase (GNE) on localization and cell adhesion. 80th Annual meeting of Society of Biological chemists, Central Institute of Medicinal and Aromatic Plants, Lucknow. Nov. 12-15th, 2011
22. Singh, R and **Arya, R.** Effect of GNE on cell proliferation and apoptosis. 81st Annual Society of Biological Chemists, Science City, Kolkata. 8-11th Nov2012
23. Grover, S., and **Arya R.** Role of GNE in cell Adhesion. American Society of Cell Biologist. San Francisco USA. 19-24th Dec 2012
24. Grover, S, Singh, R, Chanana, P and **Arya, R.** Role Of UDP-N-acetylglucosamine 2 -epimerase/N acetyl mannosamine kinase (*GNE*) in Cell Signaling, Science Fest 28th Feb 2013, JNU (DST Purse)
25. Bharadwaj, R., Arya, R., Bhattacharya, A. and Bhattacharya, S. Involvement of EhRho1 in plasma membrane blebbing of *Entamoeba histolytica*. Parasitology-2014, 27-29th March 2014, JNU, New Delhi, India
26. Singh, R and Arya R. Possible role of UDP-N-acetylglucosamine 2 -epimerase/ ManNAc kinase (*GNE*) in cell apoptosis. American Society of Cell Biologist, Philadelphia, Pennsylvania, USA. 6-10th Dec 2014.
27. Chanana Pratibha, Padhy Gayatri, Bhargava Kalpana and Arya Ranjana. Proteomic profile of pathologically relevant GNE mutant HEK based cell lines. Brainstorming Meeting on Proteomics: Present and Future, 22-24 November 2014, CSIR –Centre for Cellular and Molecular Biology, Hyderabad
28. Pratibha Chanana, Gayatri Padhy, Kalpana Bhargava and Ranjana Arya. Role of UDP-N-acetyl glucosamine2-epimerase/N-acetyl mannosamine kinase (GNE/MNK) in Oxidative stress pathway. XXXVIII All India Cell Biology Conference and International Symposium on “*Cellular Response to Drugs*” from 10-12 December, 2014, CDRI, Lucknow, UP, India
29. Pratibha Chanana, Gayatri Padhy, Kalpana Bhargava and Ranjana Arya. Identification of a novel pathway affecting *GNE* myopathy. 83rd Annual meeting of the Society of Biological Chemists of India from 17-21 December 2014, KIIT University, Bhubaneswar.
30. Shreedarshane Devi and Ranjana Arya. Role of GNE (UDP-GlcNAc 2-epimerase/ManNAc kinase) in cytoskeletal organization of cell. XXXIX All India Cell biology conference, from 6-8 Dec 2015 at Samudram Beach Resort, Kovalam, Kerela.
31. Chanana Pratibha and Arya R” Altered levels of Peroxiredoxin 4 in GNE myopathy “at American Society for Cell Biology 2015 annual meeting, San Diego, California, USA from December 12th to 16th 2015.
32. Singh R and Arya R, Effect of sialylation on IGF1R signaling through (UDP- GlcNAc 2-epimerase/ ManNAc kinase (GNE) gene silencing.” at The XXXIX all India cell biology conference on cellular organization and dynamics, DATE: 6-8 December, Venue: Thiruvananthapuram, Kerala.
33. Choudhary P Attended annual BSBE WINTER WORKSHOP 2015, department of biological sciences and bioengineering, Indian Institute of Technology, on ‘Musculoskeletal disorders: from bench to bedside’ from December 14th 2015 to December 15th 2015.
34. Ravi Bharadwaj, Ranjana Arya, Alok Bhattacharya and Sudha Bhattacharya; EhRho1 regulates membrane blebbing in *Entamoeba histolytica*, XXXIX All India Cell biology conference, from 6-8 Dec 2015 at Samudram Beach Resort, Kovalam, Kerela.
35. Reema Singh and Ranjana Arya. Alteration in sialic acid levels affect IGF-1R cell signaling. UPOE-II, on 25th Jan, SSS II Auditorium JNU.
36. Reema Singh, Pratibha chanana, Shreedarshini Devi, Priyanka Choudhary, Shweta Sharma, Ranjana Arya “Effect of altering sialic acid levels on cell functions” 26th Feb, Science Day, Audi I JNU Convention Centre, New Delhi.
37. Pratibha Chanana, Alternate roles of GNE besides sialic acid biosynthesis. 10-11 April 2015. BioEpoch.
38. Pratibha Chanana, Alternate roles of GNE besides sialic acid biosynthesis, 28th Feb 2015, JNU-DST Purse.
39. Shreedarshane, Ranjana Arya, “Identification of novel interacting partners of GNE, 21-24 Nov 16, 85th Society of Biological Chemist Conference, CFTRI, Mysuru,
40. Shreedarshane, on "cellular organization and dynamics". AICBC- 6-12-15.
41. EhRho1 mediated plasma membrane blebbing in *Entamoeba histolytica*. Ravi Bharadwaj^{1, 3}, Ranjana Arya¹, Sudha Bhattacharya², Alok Bhattacharya³
42. EhRho1 regulate plasma membrane blebbing through PI3 kinases in *Entamoeba histolytica*. Ravi Bharadwaj¹, Ranjana Arya¹, Sudha Bhattacharya², Alok Bhattacharya³ AWAJI- 8-9-16 on "infection and immunity"
43. Priyanka Chaudhary, Reema Singh and Ranjana Arya., "Role of udp-n-acetylglucosamine2-epimerase/n acetylmannosamine kinase (gne) in endoplasmic reticulum stress and unfolded protein response". in XL All India Cell Biology Conference & International Symposium on Functional Genomics and Epigenomics) 2016 held on November 17-19,2016 at Galav Sabhagar, Jiwaji University, GWALIOR(M.P.).

44. Shreedarshane, Ranjana Arya, "Identification of novel interacting partners of GNE" in Society of Biological Chemist Conference held on 21-24 Nov'2016 at CFTRI, Mysuru.
45. Reema Singh, Pratibha Chanana, Shreedarshane Devi, Sonam Grover & Ranjana Arya, "Alternate roles of GNE besides Sialic acid biosynthesis" in Science Day 28 Feb 2016 at Convention Centre, JNU New Delhi.
46. Reema Singh & Ranjana Arya, "Alteration in sialic acid levels affect IGF-1R signaling" in UGC-UPOE II, Conference 2016 at Jawaharlal Nehru University, New Delhi.
47. Reema Singh, Pratibha Chanana, Shreedarshini Devi, Priyanka Choudhary, Shweta Sharma, Ranjana Arya, "Effect of altering sialic acid levels on cell functions" in Science Day 2016.
48. Reema Singh, "Role of UDP-N-acetylglucosamine 2-epimerase/N-acetylmannosamine kinase (GNE) In Apoptosis" in BioEpoch 2016 at Jawaharlal Nehru University, New Delhi.
49. Sh. Shreedarshane Devi and Arya R, "ROLE OF GNE (UDP-N-ACETYLGLUCOSAMINE2-EPIMERASE/N ACETYLMANNOSAMINE KINASE) in Cytoskeletal organization of cell" in 85th SBC(I), Society for Biological Chemists, Annual Meeting held on November 21-24, 2016 at CSIR-CFTRI, Mysuru.
50. Pratibha Chanana & Sh. Shreedarshane Devi and Arya R, "Elucidation of ER stress response in rare genetic disorder associated with sialic acid metabolism" in National Science Day held on February 28, 2017 at Convention Centre, JNU New Delhi.
51. Shweta Sharma and Arya R, in 2nd national workshop on Genome Informatics held on March 6-7, 2017 at University of Delhi, south campus, New Delhi.
52. Sh. Shreedarshane Devi and Arya R, "GNE knockouts L6 cells in Epimerase and Kinase Domain independently is lethal" in 86th Conference of Society of Biological Chemists held at November 16-19, 2017 at Jawaharlal Nehru University, New Delhi.
53. Rashmi Yadav and Arya R, "Identification of New GNE Interacting Partner" in 86th Conference of Society of Biological Chemists held on November 16-19, 2017 at Jawaharlal Nehru University, New Delhi.
54. Sh. Shreedarshane Devi and Arya R, "Effect of altering sialylation levels on cytoskeletal organization of the cell" in American society for cell biology, Meeting held on December 2-6, 2017 at Philadelphia, USA.
55. Priyanka Chaudhary and Arya R, 'Role of IGF-1R in ameliorating apoptosis of GNE deficient cells' in International Congress of Cell Biology (ICCB), 2018 at Centre for Cellular & Molecular Biology (CCMB), Hyderabad.
56. Shweta Sharma and Arya R, "Biochemical characterization and relative enzyme activity of wt GNE and mutants (D207V, V603L, R193C, V727M, R308C)" in Trends in Biomedical and Biochemical research held on February 13-15 2018 at Banaras Hindu University (BHU), Varanasi.
57. Shweta Sharma and Arya R, "Functional Characterization of GNE mutations" to understand Genotype to Phenotype Correlation in Biological Transactions: From Molecules to Organisms (BTMO) held on January 17-20, 2019 at Indian Institute of Science (IISc), Bangalore.
58. Shweta Sharma & Arya R Altered calcium levels in sialic acid deficient cells: Pathological relevance to GNE Myopathy. XLIII All India Cell Biology Conference (AICBC-2019) IISER, MOHALI, DECEMBER 19-21, 2019
59. Rashmi Yadav & Arya, R. Alteration in sialylation causes cell apoptosis. International Symposium on "Cancer Prevention & Treatment," Jawaharlal Nehru University, New Delhi, 20-21 Feb 2020

Oral Presentation

1. **Arya, R.** Kedar, V., Hwang, JR, McDonough, H., Li, H., Taylor, J., and Patterson, C. Muscle Ring Finger Protein, MURF1, Inhibits Cardiac Muscle Hypertrophy Through PKC Mediated Signaling Pathway. American Heart Association Scientific Sessions, 2004, New Orleans, USA (Oral Presentation). Source: CIRCULATION Volume: 110 Issue: 17 Pages: 160-160 Supplement: Suppl. S Meeting Abstract: 762 Published: OCT 26 2004

□ DISSERTATIONS / THESIS

Degree	Name	Year	Title of Dissertation/Thesis/Project
Ph. D	Prof. Alok Bhattacharya	1995-2001	Biosynthesis and Transport of LPG-like molecules in <i>Entamoeba histolytica</i> .
M.Sc.	Prof. R. Jayaraman	1994-95	Effect of <i>adi</i> mutations on the leakiness of nonsense and missense mutations in <i>lac Z</i> gene of <i>E. coli</i>
Summer Training (2 months)	Dr. Lalit Garg	1994	Cloning and expression of hGH in <i>E. coli</i> as a fusion protein

□ CURRENT PROJECTS, RESEARCH COLLABORATIONS & PAST PROJECTS

Assistant Professor, Jun 2008 –onwards Jawaharlal Nehru University, New Delhi. Working in School of Biotechnology as per Grants indicated above

- Understanding pathomechanism of rare genetic disorder- GNE Myopathy

Senior Research Scientist, Mar 2006-Jun 2008 Ranbaxy Research Laboratories, Gurgaon, Haryana, India. Worked in the department of Biotechnology with **Dr. Kulvinder Singh Saini**

- Cloning, expression, and purification of genes in mammalian and bacterial system
- Reporter Gene Assays for High Throughput Screening
- Real Time PCR gene expression Studies for animal model of pulmonary fibrosis
- Development of Dictyostelium expression system

Senior Research Scientist, Dec 2004-Mar 2006 Ranbaxy Research Laboratories, Gurgaon, Haryana, India. Worked in the department of Pharmacology with **Dr. Abhijit Ray**.

- Expression, purification, and refolding of protein for screening of inhibitor compounds
- Development of luciferase reporter gene assay for screening of inhibitors as drug targets in the treatment of asthma and respiratory inflammation
- Cloning and expression of inflammatory genes

Post Doctoral Fellow, August 2002-2004 Carolina Cardiovascular Biology Center, University of North Carolina at Chapel Hill, NC, USA. Worked under the supervision of **Prof. Cam Patterson**

- Role of MURF1 in regulating cardiac hypertrophy via cross-talk between various signaling pathway (PKC and GPCR)
- Generation of MURF1 transgenic mice and study its role *in vivo* to treat cardiomyopathy
- Role of MURF1 as a ubiquitin ligase: interaction with Troponin I
- Inhibition of cardiac hypertrophy by Atrogin-1, a ubiquitin ligase

Post Doctoral Fellow, December 2001- August 2002 Division of Rheumatology, Immunology and Allergy, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, USA. Worked under the supervision of **Prof. Hamid Band**

- Role of ESCRT complex in EGFR downregulation

Ph.D. student, July 1996-December 2001 School of Life Sciences, Jawaharlal Nehru University, Delhi, India. Worked under the supervision of **Prof. Alok Bhattacharya**

- Biosynthesis and Transport of LPG-like molecules in *Entamoeba histolytica*