CURRICULUM VITAE

NAME **Dr.Amtul Jamil Sami**

CURRENT POSITION Professor
Institute of Biochemistry and Biotechnology
University of the Punjab
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EDUCATION

Ph.D Biochemistry and Molecular Biology, 1987-1991, University of Sussex, Brighton, England UK.
Ph.D Biochemistry, 1984-1987, Institute of Chemistry University of the Punjab Lahore.
M.Sc Chemistry/ Biochemistry, 1984 Institute of Chemistry University of the Punjab Lahore.
B.Sc Chemistry, Botany , Zoology, 1978-1980, University of Balochistan, Quetta.

DISTINCTIONS, AWARDS AND FELLOWSHIPS

1. Save the Planet Award 2013 by World Wild Life Fund Pakistan.
2. Award of Postdoctoral fellowship by Science and Engineering Research Council UK 1991-1993.
3. Award of Research fellowship by Pakistan Atomic Energy Scholarship 1984-1987.
4. President Award Scholarship 1980 for first position in University in B.Sc.
5. Fellow of Pakistan Zoological Society.

FOREIGN TRAINING/VISITS

1. University of York. England UK July-August 2006.
2. University of Sussex UK England August 2005.
3. St. O Dile Strasburg, France September 1990.

EMPLOYMENT RECORD

1. Professor IBB University of the Punjab Lahore 25-12-2011**.**
2. Assistant Professor IBB University of the Punjab Lahore Nov 2004-25-12-2011**.**

AFFILIATION TO LEARNED BODIES

Life Member of Pakistan Society for Biochemistry and Molecular Biology since 1985.
Life Member of Pakistan Zoological society since 2006.
Member, Board of Studies and Board of Faculty, University of the Punjab, Lahore, (2008- 2011)
Member, Board of studies, Institute of Biochemistry and Biotechnoliogy University of the Punjab, Lahore, (2007-2011).
Member third World academy of Sciences for Women.
Member National Testing Service subject committee for Biotechnology Oct 2013.

RESEARCH PROFILE

The economy of Pakistan is Agriculture based. Agricultural Biotechnology is one of the important areas of applied research that is essential to solve the local problems. My major interest is in biologically active proteins, with the importance in Agriculture biotechnology, such as growth hormone and insect pest enzymes and their inhibition by plant derived molecules. A number of variants for ruminant growth hormone were identified, and their applications in the Farm animals were studied. The human growth hormone gene is also being studied for markers of a major killer disease "breast cancer" in the local population. Apart from this, we are also working on enzymes present in the human eye lens, with reference to cataract. The compounds of *Azadirachta indica* Neem (a local plant) are identified as a potent inhibitor for the insect pest enzyme and could be used as a sustainable source of biopesticides. The structure function relationship of growth hormone and glycohydrolases are also investigated, using Bioinformatic computational tools. My published Research work on the Purification and characterization of two low molecular weight endoglucanases of *Cellulomonas flavigena*" had won the King Baudouin Award by International Science Foundation SWEDEN due to excellent research work. (*Enzyme and Technology* vol. 15 No. 7 pp 586-592). For my work on the development of a method for isolation and cloning of DNA from dried bones of Indus river dolphin, I was awarded "Save the Planet Award" by the World Wild Life Fund for 2013.

RESEARCH PROJRCT AWARDED BY NATIONAL AND INTERNATIONAL AGENCIES.

Serial No.	Project title	Amount	Donar Agency.	Status
1	Role of Pests cellulases in Crop Damage	Rs. 1.66 Million	Higher Education Commission Pakistan	2006-2009 Completed
2	Applications of recombinant DNA derived somatotropin in Farm animals for increase in milk and meat Production	Rs. 2.262 Million	Higher Education Commission Pakistan	2007-2011 Completed
.3	Bioinformatic Approach to Design an Insect Cellulase Molecule and Natural Cellulase Inhibitor. A collaborative research Project with Dr.Hubbard University of York UK.	Rs. 0.136 Million	Higher Education Commission Pakistan	2006 Completed
4	Molecular Basis of Action of Neem (*Azadirachta Indica*) Derived Compounds as Bio-pesticides	Rs. 1.9 Million	Higher Education Commission Pakistan	In progress
5	Comparative Studies on the Phylogenetic analysis of Indus Dolphin (*Platanista minor*) and Gangies Dolphin (*Platanista gangetica gangetica)*	Rs. 0.2 Million	World Wild Life Fund Pakistan.	2010-11 completed

. 6	Application of Computational Biology methods for Structure based analysis of *Azadirachta indica* (Neem) derived compounds as bioinsectides by inhibiting the insect enzyme activities A collaborative research Project with Dr.Hubbard. University of York UK.	Rs. 0.136 Million	Higher Education Commission Pakistan	2013 Awarded
7	Insight of Placental Lactogen and Related placental Peptides for Biological Activity in Farm Ruminants	Rs. 2.9 Million	Higher Education Commission Pakistan	Awarded 2013-2016 In Progress

RESEARCH PROJRCT AWARDED BY University of the Punjab Lahore.

Serial No.	Project title	Amount	Status
1	Screening of insect pests for cellulase activity	Rs 0.1 Million	2007-2008 Completed
2	Molecular basis of cellulose hydrolysis by beetles.	Rs. 0.1 Million	2008-2009 Completed
.3	Inhibition insect pest cellulases by local plant derived molecules.	Rs. 0.1 Million	2009-2010 Completed
4	Purification and characterization of human eye lens amylases	Rs0.1Million	2010-2011 Completed
5	Isolation of DNA from bones of Indus river dolphin and its cloning for genomic studies	Rs. 0.15 Million	2011-2012completed
6	Biochemical Basis of inhibition of digestive α-amylase of coleopteran insects and human by *Azadirachta indica*.	Rs. 0.15 Million	2012-2013 completed
7	A Model Study on the Invasive Burden of Pneumonia Disease in Children under 5 in Lahore, Pakistan.	Rs 0.15 Million	Awarded 2013-2014 In Progress

PUBLICATIONS

1. Sami A.J., Malik. N.N., Akhtar M.W. (1983)., Purification and partial characterization of extra cellular lipases of *Mucor hiemalis* . *Pakistan journal of Biochemistry*, vol. 16, No. 1-2 pp31-36
2. Malik, N.N., Naz, B.A., Sami, A.J. and Akhtar, M.W. (1984). Cellulase production by a locally isolated *Trichoderma sp* . *Pakistan journal of Biochemistry*, vol. 17, No. 1-2 pp57-68
3. Malik, N.N., Naz, B.A., Sami, A.J. and Akhtar, M.W. (1986)., some characteristics of cellulases of *Trichoderma harzianum* . *Pakistan Journal of Scientific Research*, vol. 30, pp12-23
4. Naz., B.A., Akhtar, M.W., Malik N.N. and Sami, A.J. (1986)., Production of Cellulases by a newly isolated thermophilic Bacillus *Pakistan Journal of Biochemistry* vol. 19, pp19-25
5. Sami, A.J., Akhtar, M.W., Malik, N.N., and Naz B.A. (1988), Production of free and substrate bound cellulases of *Cellulomonas flavigena. Enzyme and Microbial Technology* vol. 10. pp 626-631.
6. Sami AJ, Wallis. OC and Wallis M. (1988) Purification and properties of oGH3: A recombinant DNA-derived ovine growth hormone analogue expressed in *E.coli*. *Journal of Endocrinology* Abs No. 145
7. Wallis. OC, Sami AJ, and Wallis M. (1989) Effect of alterations in the nucleotide sequence coding for the N-terminus on the expression of ivine growth hormone in *Escherichia coli. Journal of Endocrinology* Abs No. 51
8. Sami, A.J., and Akhtar, M.W. (1989), Multipicity of the endo-1, 4-B-D-glucanase activity in *Cellulomonas flavigena.* Published in UK *Biochemical Society Transaction* Vol. 17 pp 580-581.
9. Sami, A.J., and Akhtar, M.W. (1990), Purification and characterization of two native extra cellular carboxymenthyl cellulases of *Cellulomonas flavigena. Biochemical Society Transaction* Vol. 18 pp 651
10. Sami, A.J. and Akhtar, M.W. (1990), Purification and characterization of two native extra cellular carboxymethyl cellulases of *Cellulomonas falvigena. Biochemical Society Transaction* Vol. 18 pp 649-650**).**
11. Sami, A.J., Wallis, O.C., Wallis, M. (1990), Effect of changes in 5 coding sequence on level of expression of ovine growth hormones cDNA in *Escherichia coli. Biochemical Society Transaction* Vol. 18 pp 567-568
12. Sami AJ, Wallis. OC and Wallis M. (1991) Production and properties of oGH1 133-139. A recombinant DNA-derived ovine growth hormone variant. *Journal of Endocrinology* Abs No. 160 **.**
13. Sami, A.J. and Akhtar, M.W. (1993) Purification and characterization of two low molecular weight endoglucanases of *Cellulomonas flavigena*. The International Publications won the King Baudouin Award by International Science Foundation SWEDEN due to excellent research work. *Enzyme and Technology* vol. 15 No. 7 pp 586-592**.**
14. Sami, A.J., (1993), Doctoral studies at a British University and at a Pakistani University a comparison. *Biochemical Society Transaction* Vol. 21 S 104
15. Preston, R.A., Sami, A.J., Charalambous, B.M. and Baldwin, S.A. (1994), Production of functional GLUT-I by co expression of N and C-terminal molecule in *Xenopus* oocyte. *Biochemical Society Transaction* vol. 22 (3) 278.
16. Wallis, O.C. Sami, A.J. and Wallis, M. (1995), The effect of changes in nucleotide sequence coding for ovine growth hormone variants in *Escherichia coli. Biochemica et Biophysica Acta* 1261(3) pp60-68
17. Sami, A.J., Wallis O.C. and Wallis, M. (1999), Production and characterization of deletion mutants of *ovine* growth hormone. *Journal of Molecular Endocrinology* 23 pp 97-106
18. Maniou, Z. Wallis, O.C. Sami, A.J. and Wallis M. Molecular Evolution of growth hormone in Cetartiodactyla. Abstract, *Journal of Endocrinology* 2001 London (U.K) meeting, 2001**.**
19. Sami AJ and Shakoori AR. (2006), Heterogeneity of cellulases among Insects pests cellulases *Pakistan Journal of Zoology* 38(4) 337-340
20. Sami AJ., (2006), Purification of GH from local specie of water buffalo *Bubalus bubalis Pakistan Journal of Zoology* 38(4) 279-282
21. Sami A.J, and Haider M.K (2007), Identification of novel catalytic features of endo-β-1,4-glucanase

produced by mulberry longicorn beetle *Apriona germari*, *Journal of Zhejiang University Science* B Vol 10-765-770

22. Sami A. J., Sami.A.N. and Kanwal N. (2007), Comparison in effect metal ions, pH and reducing agent on the protease activity in human hyper mature and mature cataract, *Journal of Zhejiang University Science* 8(8)-599-603
23. Sami AJ (2007) Structure-Function Relation of Somatotropin with Reference to Molecular Modeling. *Current Protein and Peptide Sciences* 8,283-292. (Review)
24. Sami AJ and Shakoori AR,(2007), Extracts of plant leaves have inhibitory effects on the cellulase activity of whole body extracts of insects - A possible recipe for bioinsecticides *Proc. Pakistan congr. Zool*., Vol. 27 pages. 105-118
25. Sami, A.J., Wallis, O.C and Wallis, M (2008), Production , Purification and characterization of two N-terminal variants of oGH3 and oGH5, *African Journal of Biotechnology* Vol 7 (12) 1859-1864**).**
26. Sami,A.J., Yasmeen,N. and Shakoori,A.R. (2008), Cellulolytic activity of microbial flora of agricultural insects. *Pakistan Journal of Zoology* Vol 40. (1), 60-63.
27. Sami A.J., Awais M. and Shakoori A.R., (2008), Prelimanary studies on the Production of endo-1, 4-β-D-glucanase activity produced by *Enterobacter cloacae. African Journal of Biotechnology* Vol 7 (9) 1318-1322.
28. Sami A.J. and Shakoori A.R. (2008), Biochemical characterization of endo-1, 4-β-D-glucanase activity of a green insect pest *Aulacophora foveicollis* (Lucas*) Journal of Life Science* Vol. 5. No. 2, 30-36
29. Sami AN , Sami A J , Sami A.M, *Tahseen UN Nabi Sahi (2008)* Effects of YAG LASER Iridotomy in AACG as Primary Mode of Therapy *Pakistan Journal of Medical & Health Sciences Vol. 2, Issue 3, Jul – Sep 2008.*
30. Fayyaz Ur Rehman, Mehwish Aslam, M. Ilyas Tariq, Ashraf Shaheen, Amtul Jamil Sami, Naima Huma Naveed and Aima Iram, Batool (2009). Isolation of cellulolytic activities from *Tribolium castaneum* (red flour beetle) *African Journal of Biotechnolog*y Vol. 8 (23), pp. 6710-6715.
31. Sami. A J (2010). Deletion of amino acid residues 33-46 in growth hormone alters the hydrophobicity of the molecule. *African Journal of Biotechnology* Vol. 9 (5), pp. 711-717.
32. Sami. A J Farhana Tabassum and A R Shakoori., (2010), Biodegradation of cellulase and xylane by a serious paddy pest by *Oxya chinensis Annals of Biological sciences* vol 21-12.
33. Sami. A J M Tahir Nazir, Zohra Jabeen and A R Shakoori., (2011), Gene study within the 5'flanking regions of Growth hormone (GH2 gene) of first exon in *Bos indicus African Journal of Biotechnology* Vol 10 Page No 352-356.
34. Sami AJ and Shakoori AR. (2011) Cellulase activity inhibition and growth retardation of associated bacterial strainds of *Aulacophora foveicollis* by two glycosylated flavonoids isolated from *Mangifera indica* leaves. *Journal of Medicinal Plant Research* Research Vol. 5(2), pp. 184-190, 18.
35. Sami. A J Muhammad Ayaz Anwar, F ayyaz Ur Rehmanand A.R. Shakoori (2011) Digestive Cellulose Hydrolyzing Enzyme Activity (endo- β–1, 4- D-glucanase) in the Gut and Salivary Glands of Blister Beetle, *Mylabris pustulata Pakistan J. Zool*., vol. 43(2), pp. 393-401.
36. Sami. A J (2012) A simple method for the isolation and cloning of genomic DNA from dried bone tissues of Indus river dolphin *Platanista minor"* in a research journal *Annals of Biological Research*, 3 (5):2039-2042
37. Adnan Farooq and Amtul Jamil Sami (2013) Targeting of GH Gene at the Proximal End for Identification of Markers For Breast Cancer Among Pakistani Women. *Pakistan J. Zool*., vol. 45 (2), pp 569-570.).
38. Sami. A J * Muhammad Ali and Abdul Rauf Shakoori (2014) Growth Promoting Activity of Crude Protein Extract of Ruminant Placental *Pakistan J. Zool., vol. 46(2), pp. 580-583.*
39. Sami AJ *Azadirachta indica* derived compounds as inhibitors of digestive alpha-amylase in insect pests: Potential bio-pesticides in insect pest management (2014) *European Journal of Experimental Biology*, 4(1):259-264 **.)**
40. Sami A J , Madeeha Khalid and Saliah Bilal (2014) Purification and Characteristics of Beta-1,4-Glucanase OcCel9 of *Oxya chinensis Annual Research and reviews in Biology In press.*
41. Sami A J and Abdul Rauf Shakoori (2014) Potential of Azadirachtin and Neem *(Azadirachta*

*Indica)*Based Saponins As Biopesticides For *In Vitro* Insect Pests Cellulase (Beta-1,4-Endoglucanase) Enzyme Inhibition and *In Vivo* Repellency on *Tribolium castaneum. British Journal of Biotechnology in press*

42. Sami A J Computational analysis of an acidic Lipase of *Tribolium castaneum* Accepted *Pakistan J. Zool.*
43. Amtul Jamil Sami. A computational analysis for the structure-function relationship of one of the alkaline Lipases of *Tribolium castaneum* Submitted for publication. *Submitted.*
44. Sami. A J Isolation of a Growth Hormone Variant from Water buffalo *Bubalus bubalis* pituitary, identical to GH from Sei Whale (*Balaenoptera borealis),* Accepted *Pakistan J. Zool.,.*

NATIONAL/NTERNATIONAL SCIENTIFIC PAPERS PRESENTED

1. Sami, A.J., Purification and characterization of cellulases from cellulomanas species Pakistan atomic energy commission and KFK (germany) symposium/workshop on biotechnology in agriculture and energy, Faisalabad, Paksitan. 28-31 march 1986.
2. Sami, A.J., locally isolated thermophyllic bacterial strains. 30th Paksitan conference at university of Faisalabad, Pakistan. April 1987.
3. Sami, A.J., Wallis O.C. and Wallis, M. (1990), High level expression of recombinant DNA-derived *ovine* growth hormone variants in Escherichia coli. XVth European Symposium on Hormone and cell regulation. 25th-29th Sept St.Odile France.
4. Wallis O.C. Sami, A.J., and Wallis, M. (1992), Properties of oGH1 133-139 and 180-191, Two recombinant DNA derived Ovine growth hormone variants. Sept 10-12 International Congress on Growth Hormone and Somatomedins during Lifespan Milan Italy.
5. Sami, A.J., Camel growth hormone gene, meeting of Pakistan society of Biochemistry and B iotechnology, University of the Punjab, Lahore, Pakistan. 2002.
6. Sami, A.J. and Ali Shafqat. Isolation and purification of somatotropin from local species of Bubalus Bubalis (Water Buffalo). Abstract, Biochemical Society Meeting Bioscience 2005 July 17-21 Glasgow, UK. Abstract no:495., 2005.
7. Sami A J. Role of Enzyme System in Cellulose hydrolysis in Lower Animals, 18th International FAOBMB Conference, Pakistan, 2006.
8. Sami. A. J. A report on multiplicity of cellulase activity in pests and its comparison with multiple forms of bacterial cellulases, Biocatalysis: Enzymes, Mechanism and Bioprocesses-A Biochemical society Meeting, Manchester, UK, 2006.
9. Sami A. J., Kanwal N. and Sami.A.N 2006, detection of two distinct protease activity ion hyper mature human cataract eye len. Abstract no. 559, Bioscience, Biochemical Society meeting, july 23-27. 2006, Glasgow,UK
10. Sami A. J, Haider K.M., Rehman FU., 2006. Determination of structure-fubnction relationship in Apriona germari endoglucanase using Bioinformatic approaches. Abstract no. 558, Bioscience, Biochemical Society meeting, july 23-27 2006, Glasgow,UK
11. Sami A. J, Haider K.M., Rehman FU., Shakoori. (2006) A.R. Impact of disulphide bridges on cellulose activity ion beetles, international symposium on nanochemistry: chemistry, biochemistry, molecular biology and bioinformatics of enzymes . Sept 20-21. 2006., School of Biological Sciences University of the Punjab Lahore Pakistan.
12. Sami A J and Shakoori AR ENTO 07 (2007) Cellulase activity of *Dysdercus koenigii* Royal Society of Entomology Manchester meeting July 2007 Published online.
13. Sami A J and Shakoori AR. ENTO 07 (2007) Cellulose hydrolyzing activity of blue beetle *Aulacophora atritennis* Royal Society of Entomology Manchester meeting July 2007 Published online.
14. Sami A.J and Shakoori AR Identification of Bubaline Growth hormone Variants. March GCU

Faisalabad. 27t Pakistan Congress of Zoology (International), Pakistan, 2008

15. Sami A J and Shakoori AR. Evolutionary studies on bubaline growth hormone variant 28th Pakistan Congress of Zoology (International), Pakistan. 2009.
16. Sami, A.J. et al. Expression of alpha Carbohydrase Gene in Human Cataractious Eye Lens, 23-25 July Fifth Khyber Symposium Abbottabad 2010.
17. Sami, A. J. (2011) Isolation of genomic DNA from bone tissue of *Platanista minor*, its cloning and sequencing. 30th Zoological Congress Azad Kashmir. April 2011. An insight into the Phylogeny of Indus Dolphin (*Platanista gangetica minor*) and Gangies Dolphin (*Platanista gangetica gangetica*).
18. Sami A J "Inhibition of digestive α-amylase of *Tribolium castaneum, Aulacophora foveicollis* and *Oxya chinensis* by *Azadirachta indica* derived compounds" 3rd International Conference on Materials and Applications for Sensors and Transducers, IC-MAST Sept 2013 . Published on line.
19. Sami A J "BIOSENSOR FOR THE DETECTION OF LIPASE ACTIVITY IN SALIVA AND SERUM " 3rd International Conference on Materials and Applications for Sensors and Transducers, IC-MAST Sept 2013 . Published on line.
20. Amtul Jamil Sami and AR Shakoori 2013 Inhibition of α-amylase of *Tribolium castenum* and human by *Azadirachta indica* (Neem) derived compounds. 32nd meeting .
21. Iftikhar Ali Khawar, Amtul Jamil Sami and Hyo-Jeong KuhI (Dec 2013) dentification of 20k Human Placental Growth Hormone Variant. International Conference entitled Current advances in Bio-medical Industry of Biomedical Sciences, Graduate School, the Catholic University of Korea, Korea.
22. Sami AJ and A. R Shakoori (2014) Inhibition of Acetylcholine Esterases of Tribolium castaneum (larval and adult stages) by compounds derived from a medicinal *plant Azadirachta indica*. Zoological Congress to be held in Multan Feb 2014 33rd meeting.

LIST OF M.PhIL THESIS SUPERVISED

Serial No.	Scholar name	Thesis title	Year
1	Iftikhar Ali Khawar 2008-2010	Identification of 20 k human placental growth hormone variants	2008-2009
2	Muhammad Yasin	Purification and characterization of mammalian growth hormone variants	2007-2008
3	Nasim BiBi Khattak 2007-2009	Molecular Basis of Cellulose Hydrolysis by Beetles and associated Bacteria	2007-2008
4	Sana Khawar	Comparison study of placental peptide hormones in human and Ruminants	2007-2009
5	Ayesha Javed	Placental peptide hormones in human.	2007-2009
6	Mohammad Tahir Nazir	Studies on biologically active proteins from human Cataractious eye lens	2009-2010
	Madeeha Khalid	Genetic Polymorphism for growth hormone and prolactin family in mammals	

7			2011-12
8	Essa Ehsan Khan	A report on the mammalian placental peptides	2011-12
9	Sehrish Bilal	Purification and characterization of Acetylcholine estrases of Tribolium castaneum	2013-14
10	Basit Jabbar	Single nucleotide polymorphism in human growth hormone Gene	2013-14
11	Rehman Shahzad	Purification and characterization of bubaline Placental lactogen and its biotechnological importance	2013-14
12	Shaista Arif	Purification and properties of caprine placental lactogen and its genomics	2013-14

LIST OF M.Sc. (Hons) THESIS SUPERVISED

Serial No.	**Scholar name**	**Thesis title**	**Year**
1	Mahjabeen Alam (M.Sc Hons)	Cellulase hydrolyzing enzyme of common vegetable pest pumpkin beetle *Aulacophora hilaris*	2003-2005
2	Noreen Kanwal (M.Sc Hons)	Study on human eye lens proteases	2003-2005
3	Rizwana Haider (M.Sc Hons)	Hydrolysis of Cellulose by a enzyme system of grass hopper *Chrotogonus trachypterus*	2003-2005
4	Fayyaz ur-Rehman	Study on cellulases of a common pest beetle *Aulacophors abdomanlis*	2003-2005
5	Asma Usmai (M.Sc Hons)	Extraction and characterization of natural compounds from local plants species for pest management.	2005-2007
6	Fatima Waris (M.Sc Hons)	Isolation and characterization of cellulolytic microbial flora from blue pumpkin beetle (*Aulacophora atritennis*) and tiger beetle (*Cicindela scutellaris*)	2005-2007

LIST OF Ph.D STUDENT UNDER SUPERVISION

Serial No.	**Scholar name**	**Thesis title**	**Year**
1	Adnan Farooq	Studies on human growth hormone variants HEC Scholar	Thesis Submitted
2	Madeeha Khalid	HEC Scholar	2014

LIST OF TECHNICAL REPORTS COMPLETED

1: Final Technical Report on Bioinformatic Approach to Design an Insect Cellulase Molecule and Natural Cellulase Inhibitor Submitted to Higher Education Commission 2009

2: Final Technical report on Role of insect cellulases on crop damage. Submitted to Higher Education Commission 2009.

3: Final Technical Report on Comparative Studies on the Phylogenetic analysis of Indus Dolphin (*Platanista minor*) and Gangies Dolphin (*Platanista gangetica gangetica*)." Submitted to World Wild Life Fund 2011.

4: Final Technical Report on "Applications of recombinant DNA derived somatotropin in Farm animals for increase in milk and meat Production" Submitted to Higher Education Commission 2012.