

## **BHORE SUBHASH J.**

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Faculty of Applied Sciences  
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### **1. PERSONAL PARTICULARS**

**Name** : Bhore Subhash Janardhan  
**Date of Birth** : 01.06.1971  
**Place of Birth** : Kawadgaon (A'nagar, Maharashtra, India)  
**Nationality** : Indian  
**Sex** : Male  
**Marital Status** : Married  
**Spouse** : Mrs. Bhore Kanchan Subhash  
**Children** : 2

### **2. ACADEMIC QUALIFICATIONS**

- **Ph. D. (Genetics)** [National University of Malaysia](#), Malaysia, February 1, 2005.
- **M. Sc. (Botany)** with Cytogenetics and Plant Breeding as major subject, [University of Pune](#), Pune, India, June 1996.
- **B. Sc. (Botany)** with Zoology and Chemistry as ancillary subjects, [University of Pune](#), Pune, Maharashtra, India, May 1994.
- **Pre-University (H.S.C.)** Maharashtra State Board of Secondary and Higher Secondary Education ([MSBSHSE](#)), Maharashtra, India, March 1991.
- **Matriculation (S.S.C.)** Maharashtra State Board of Secondary and Higher Secondary Education ([MSBSHSE](#)), Maharashtra, India, March 1989.

### **3. PROFESSIONAL EXPERIENCE / EMPLOYMENT HISTORY**

#### **3.1. Post and Duration**

- Sept 14, 2008-Present **Lecturer**  
AIMST University, Faculty of Applied Science  
Kedah Darul Aman, Malaysia.
- April 25-Sept 14, 2008 **Visiting Faculty**  
AIMST University, Faculty of Applied Science  
Kedah Darul Aman, Malaysia.
- April 1, 2005 –May 23, 2008 **Principal Investigator & Head of R&D Division**,  
Melaka Institute of Biotechnology,  
Melaka, Malaysia.  
2008 (Jan 2 – April 24)

- Mar 1, 2004-Mar 31, 2005

Additional Responsibility as  
**Manager**,  
Melaka Fresh Products Pte. Ltd.  
Melaka, Malaysia
- July 10, 2000-Feb 28, 2004

**Senior Research Officer**,  
Melaka Institute of Biotechnology,  
Melaka, Malaysia.
- Dec 11, 1998-June 10, 2000

**Doctoral Fellow**,  
School of Biosciences and Biotechnology,  
National University of Malaysia  
(UKM), Malaysia.
- June 3, 1996-Dec 10, 1998

**Project Assistant**,  
Plant Tissue Culture Pilot Plant,  
NCL, India.

**Project Assistant**,  
Biochemical Engineering Division,  
NCL, India.

### 3.2. Responsibilities in Brief

#### i. Sept 14, 2008 – Present

**Employer:** AIMST University, Kedah Darul Aman, Malaysia

**Position:** Lecturer

**Responsibilities:** Teaching, course coordination, student supervision, research projects coordination, establishment of University-Biotech companies partnership, advisor to Faculty students friendship club, advisor and coordinator for Faculty's 'Journal Club' and other responsibilities related to teaching and research.

#### ii. April 25 to Sept 14, 2008

**Organization:** AIMST University, Kedah Darul Aman, Malaysia

**Position:** Visiting Faculty

**Responsibilities:** Teaching of components in four courses namely, Plant Biotechnology, Cell Technology and Genetic Transformation, Bioinformatics-II, and Biosafety, Bioethics and Bio-regulations. Other responsibilities includes coordination of 'Bioinformatics-II' Bioinformatics-I' and 'Biosafety, Bioethics and Bio-regulations' courses in addition to other teaching and research related responsibilities.

#### iii. April 1, 2005 to May 23, 2008

**Employer:** Melaka Biotechnology Corporation, Melaka, Malaysia

**Position:** Principal Investigator and Head of R&D Division

**Responsibilities:** Leadership of a team of 12 researchers and technical staff personnel, Experiment designing, planning and its implementation, Writing of project proposal for various types of research funding, Writing of manuscripts for the publications of research findings and scientific articles, Writing of Annual Reports for R&D, Writing of power-point presentation for the meetings with visitors, business partners and for public awareness seminars and presentations, Designing of the training programs / tailor made training programs for the technicians, and junior technical staff, Progress monitoring for the ongoing applied and basic R&D projects, Purchasing of the chemicals for the R&D work, Preparation of various technical reports, Preparation of content for the

Board of directors meetings, Preparation of content for the management meetings, Meeting coordination with business partners, Preparation of drafts for MoU and MoA, Supervision of the undergraduate students came for Biotech-industrial training, Corporate profile content preparation

**iv. March 1, 2004 to March 31, 2005.** (13 months).

**Employer:** Melaka Biotechnology Corporation, Melaka, Malaysia

**Position:** Senior Research Officer

**Responsibilities:** Leadership of a team of 10 research officers and technical staff personnel, Experiment designing, planning and its implementation, writing of project proposal for various types of research funding, Writing of manuscripts for the publications of research findings and scientific articles, Writing of Annual Reports for R&D, Writing of power-point presentation for the meetings with visitors, business partners and for public awareness seminars and presentations, Designing of the training programs / tailor made training programs for the technicians, and junior technical staff, Progress monitoring for the ongoing applied and basic R&D projects, Purchasing of the chemicals for the R&D work, Preparation of various technical reports, Preparation of content for the Board of directors meetings, Preparation of content for the management meetings, Meeting coordination with business partners, Preparation of drafts for MoU and MoA, Supervision of the undergraduate students came for Biotech-industrial training, and corporate profile content preparation and maintenance.

**v. Duration: July 10, 2000 to February 28, 2004**

**Organisation:** National University of Malaysia, Malaysia.

**Status:** Doctoral fellow (Ph.D. Student)

**Responsibilities:** Worked in this University for my Ph.D. degree program. Study project work was focused on '**Construction of Novel Transformation Vectors for Palmitoyl-Acyl Carrier Protein Thioesterase Gene Silencing and Genetic Transformation of Oil Palm**'. Research work of 6 vector construction (three expression cassettes with CaMV35S promoter and another three with oil palm mesocarp tissue-specific promoter), and particle bombardment mediated genetic transformation of American oil palm was completed successfully in a given time.

**vi. Duration: December 11, 1998 to June 10, 2000**

**Employer:** National Chemical Laboratory, Pune, India.

**Position:** Research Assistant/Project Assistant

**Responsibilities:** I was working as Research Assistant in a project entitled "**To develop Tissue Culture Techniques for the Rapid Multiplication of Endangered Medicinal Plants**". In this project my responsibilities were collection of plant materials from the field, Micro-propagation, Callus culturing, and preparation and maintenance of tissue cultures. Main job was to develop efficient protocol for the micro-propagation of selected medicinal plants. Project was sponsored by Ministry of Health and Family welfare, Govt. of India, New Delhi.

**vii. Duration: June 3, 1996 to December 10, 1998.**

**Employer:** Biochemical Engineering Division, N.C.L., Pune, India.

**Position:** Research Assistant/Project Assistant

**Responsibilities:** I was working as Research Assistant in a project entitled “**Microbial Production of Plant Growth Regulators and Their Agricultural Applications**”. In this project my responsibilities were designing of biological assay (*in vitro* / *in vivo*) methods to determine the activity of plant growth promoting compounds, produced by isolated and selected strains of bacteria or fungi. The special focus was on cytokinin-like compounds, which are well known to increase the shelf-life of fruits, cut flowers and leafy vegetables. Project was sponsored by Department of Biotechnology, Government of India, New Delhi.

#### 4. PAST COMPLETED RESEARCH PROJECTS

Project Title	Project code	Year	My Role	Source of Funding
Generation and Analysis of Expressed Sequence Tags (ESTs) From Mesocarp Tissue of South American Oil Palm, <i>Elaeis oleifera</i> (extended work under: IRPA: 01-02-02-0014P)	PR-15 (internal code)	2005	Principal Investigator	MOSTI, Malaysia
Construction of Pod cDNA, Examination and Identification of Pod-Specific Genes during Development Using ESTs Micro-array	BSP(M)-BTK-004(3)	2005	Principal Investigator	MOSTI, Malaysia
Gene Isolation and Plant Transformation for Production of Value Added Fruit for Commercialization	BSP(M)-BTK-004(1)	2005	Acting-Principal Investigator	MOSTI, Malaysia
Pilot Scale Micropropagation of Economically Important Plants	MIB-R&D-Pro-3002-1	2004	Principal Investigator	Melaka State Govt. Malaysia
Application of DNA Marker Technology in Precise Identification of Plants	MIB-R&D-Pro-3001-9	2004	Investigator	Melaka State Govt. Malaysia
Isolation and Characterization of Plant Promoters: Defining DNA-Protein Binding Sites and Functional Roles of the Regions in Transcription	IRPA: 01-02-02-0014P	2001	Research Assistant	MOSTI, Malaysia
Molecular Biology and Genetic Engineering of Oil Palm	IRPA: 09-02-02-0161	1999	Research Assistant	MOSTI, Malaysia
To Develop Tissue Culture Techniques for Rapid Multiplication of the Endangered Medicinal Plants	No.4/237/E-III/99 (Internal code)	1998	Project Assistant	Ministry of Health and Family Welfare, India
Microbial Production of Plant Growth Regulators and Their Agricultural Applications	BT/12/01/95-PID (GAP 700426)	1996	Project Assistant	DBT, India

## 5. FINANCIAL AID AWARDS/FELLOWSHIPS/HONORS

- i.* Recipient of financial aid award from the Organizing committee of “*The 18<sup>th</sup> International Symposium on Plant Lipids-2008*”. This symposium was held on July 20-25, 2008 at Bordeaux, France. The aim of the award was to encourage and support young scientists.
- ii.* Fellowship to participate in two weeks training course entitled "Molecular Marker Applications in Crop Genetics and Breeding", which was held on 31 March – 11 April 2008 at the ICRISAT campus at Patancheru, Greater Hyderabad, India. The course provided a hands-on opportunity to gain expertise in the use of molecular markers (SSRs, SNPs and DArTs) in genetic diversity analysis, gene/QTL mapping and marker-assisted breeding. Training was **financially supported by Department of Biotechnology, New Delhi, India.**
- iii.* Recipient of financial aid award from the National Plant Lipid Cooperative and Organizing committee of “2007 Biochemistry and Molecular Biology of Plant Fatty Acids and Glycerolipids Symposium”. This symposium was held on June 5-9, 2007 at the Stanford Sierra Conference Center, Fallen Leaf Lake, California, USA. The aim of the award was to encourage and support young scientists.
- iv.* Recipient of financial aid award from the Organizing committee of “*The 17<sup>th</sup> Int. Plant Lipids Symposium-2006*”. This symposium was held on July 16–21, 2006 on the campus of Michigan State University at East Lansing, Michigan, USA. The aim of the award was to encourage and support young scientists.
- v.* Recipient of financial aid award from the National Plant Lipid Cooperative and Organizing committee of “2005 The Biochemistry and Molecular Biology of Plant Fatty Acids and Glycerolipids Symposium”. This symposium was held on June 10-14, 2005 at the Stanford Sierra Conference Center, Fallen Leaf Lake, California, USA. The aim of the award was to encourage and support young scientists.
- vi.* **Graduate Research Assistantship** at National University of Malaysia. Duration: July 2000 to February 2004.

## 6. AREAS OF RESEARCH INTERESTS

- Molecular Biology, Genomics, Genetic engineering, and Bioinformatics of oil palm and other oil producing crops
- Expressed sequence tags and fatty acid biosynthesis in oil producing crops
- Randomly Amplified Polymorphic DNA markers and their applications
- Plant tissue culture and mass production of plantlets
- Microbial production of plant growth regulators, and
- Commercialization of biotech products and services

## 7. MANAGEMENT AND COORDINATION

### 7.1. R&D Projects Management

During December 2004 to May 2006, assisted Director of the Melaka Institute of Biotechnology for over all management of the R & D projects listed below.

- i.* Application of DNA marker technology in precise identification of plants
- ii.* Genetic transformation of banana for the nutritional value addition

- iii.* Isolation, characterization of plant promoters: defining DNA-protein binding sites & functional roles of the regions in transcription (IRPA: 01-02-02-0014P)
- iv.* Isolation of novel genes and genetic transformation of fruit crop for its improvement
- v.* Production of natural plant pigments
- vi.* Tissue culture of economically important medicinal & aromatic plants
- vii.* Production of phenolic compounds from Malaysian herbs and medicinal plants
- viii.* Screening of medicinal & aromatic plants for antimicrobial properties
- ix.* Production of essential oil and plant extracts from Malaysian medicinal and aromatic plants for nutraceuticals and cosmeceutical industries

## **7.2. Organized and Coordinated Programs**

- i.* Organized and coordinated one day workshop entitled the **'Biotechnology Awareness Workshop for Teachers'** held at Melaka Institute of Biotechnology, Melaka, on February 16, 2008. This workshop was supported by Melaka Institute of Biotechnology, Melaka.
- ii.* Coordinated **'Molecular Biology Training Program-Basic'**. This program was held during June 28-30, 2007 to train participants for molecular biology techniques. This program was supported by Melaka Institute of Biotechnology, Melaka, Malaysia.
- iii.* Worked as **'Chairman'** and **'Coordinator'** of **'Molecular Biology Training Program-Basic'**. This program was held during September 5-7, 2006 to train participants for molecular biology techniques. This program was supported by Melaka Institute of Biotechnology, Melaka, Malaysia.
- iv.* Coordinated **'Plant Tissue Culture Training Program-Basic'**, this training program was held during February 18, 2005 – March 2, 2005 to train 12 participants for routine commercial scale micropropagation work. This program was supported by Melaka Institute of Biotechnology, Melaka, Malaysia.
- v.* Coordinated **basic molecular biology laboratory training** (off-record) for undergraduate students at National University of Malaysia to make them acquainted with Plant Molecular Biology and Plant Tissue Culture. Duration: June 2002-2004.

## **8. TRAINING ACQUIRED**

- i.* Completed two weeks training course entitled **"Molecular Marker Applications in Crop Genetics and Breeding"** which was held on 31 March – 11 April 2008 at the ICRISAT campus at Patancheru, Greater Hyderabad, India. The course provided a hands-on opportunity to gain expertise in the use of molecular markers (SSRs, SNPs and DARts) in genetic diversity analysis, gene/QTL mapping and marker-assisted breeding. Training was supported financially by Department of Biotechnology, Govt. of India, India.
- ii.* Completed two days training program on **"How to Be a Successful Manager"**, this was organized by MRS Management Pvt Ltd. and held at Berjaya Times-Square Hotel, Kuala Lumpur, Malaysia, during March 20-21, 2007.

- iii. Undergone through two days training program on **“Microarray Technology and Its Applications”** held at Republic Polytechnic, Singapore, during December 12-13, 2006. It was organized by PerkinElmer.
- iv. Completed two months in house **“Basic Plant Molecular Biology”** training (off record) during July-August 2000 at National University of Malaysia, Malaysia.
- v. Undergone through four days training program on **“Production and processing of the medicinal and aromatic plants”** held at National Chemical Laboratory, Pune-411008, Maharashtra, India, during June 26-29, 1999. It was organized by ‘Central Institute of Medicinal and Aromatic Plants’ ([CIMAP](#)), Lucknow, India.

## 9. COMMITTEES SERVED/SERVING ON

- Member of Scientific committee for the TWAS Regional Young Scientists Conference “FOOD, HEALTH AND FUEL: PLANTS FOR THE FUTURE” Nov 2<sup>nd</sup>-5<sup>th</sup> 2009, Kuala Lumpur, Malaysia.
- Current member of ‘Examination Board’ of Faculty of Applied Sciences, AIMST Univ, May, 2008-Present.
- Current member of ‘Examination Board’ of Biotechnology Dept., AIMST University, May, 2008-Present.
- Current member of AIMST Univ. cafeteria quality assurance committee, May, 2008-Present.
- Past member of Melaka Biotechnology Corporation/Melaka Institute of Biotechnology’s Finance Management Committee, April, 2005-May, 2008.
- Past member of Melaka Institute of Biotechnology’s Instrument’s Purchase Committee, MBC, April 2005- May, 2008.
- Past member of Melaka Biotechnology Corporation/Melaka Institute of Biotechnology’s Management Committee, March, 2004-May, 2008.
- Past member of Melaka Institute of Biotechnology’s Projects Implementation Committee (off-record), MBC, March, 2004-May, 2008.
- Past member of local organizing committee for the ‘International Tree Biotechnology Meeting’ held at NCL (November 17-19, 1999), Pune, India.

## 10. PUBLICATIONS

### 10.1. Peer Reviewed Research Papers/Articles

1. **Bhore Subhash J**, Nurul Arneida H, Farida Habib Shah, (2009), Genetic variability based on randomly amplified polymorphic DNA in Mistletoe Fig (*Ficus deltoidea* Jack) collected from peninsular Malaysia, *Journal of Forest Science*, 25: 57-65.
2. Muniran, F., **Bhore Subhash J.**, Shah Farida H., (2008), Micropropagation of *Elaeis guineensis* Jacq. ‘Dura’: comparison of three basal media for efficient regeneration, *Indian J Exp Biol.*, 46: 79-82.
3. **Bhore Subhash J**, Amelia K, Shah Farida H., (2007), Annotation of oleoyl-[ACP] thioesterase (OTE) gene of *Elaeis oleifera* and its comparison with OTE of commercially cultivated oil palm *Elaeis guineensis* Jacq Tenera., *Curr. Advan. Biochem. and Cell Biol. Plant Lipids*, Pp 164-168.
4. **Bhore Subhash J.**, Shah Farida H., (2007), Analysis of randomly isolated expressed sequence tags (ESTs) from developing mesocarp of South

American oil palm, *Elaeis oleifera*, *Curr. Advan. Biochem. and Cell Biol. Plant Lipids*, Pp 158-163.

5. **Bhore Subhash J.**, Cha Thye San, Shah Farida H., (2004), Particle bombardment-mediated transformation of *Elaeis oleifera* immature zygotic embryos with antisense palmitoyl-ACP thioesterase gene, *Pro. 16<sup>th</sup> Inter. Plant Lipid Sym.*, pp 168-171.
6. Shah Farida H., **Bhore Subhash J.**, Cha Thye San, Tan Chye Ling, (2004), Current status in genetic alteration of fatty acid composition in oil palm, *Pro. 16<sup>th</sup> Inter. Plant Lipid Sym.*, pp 84-87.
7. Tan C.L., **Bhore S.J.**, Shah F.H., (2003), Quantitative and qualitative assessment of phenotypic variation in oil palm (*Elaeis guineensis* Jacq. Tenera) plantlets regenerated from transformed and non transformed calli, *Indian J. Plant Physiol. (special issue)* pp. 613-619.
8. **Bhore S. J.**, Nadgauda R.S., Gadre R. V., (1999), Effect of phytohormones on root elongation of germinating tomato *Lycopersicon esculentum* Mill. Var. Sun 5715 seedlings, *Indian J of Exp Biol*, 37: 102-3.

## 10.2. SEQUENCES PUBLISHED IN GENBANK

### 10.2.1. CoreNucleotide sequences<sup>a</sup> : 80 (as of April 14, 2009)

No	GenBank sequence	Database
1.	Amelia,K., Tham,C.L., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> enoyl-CoA hydratase mRNA, complete sequence, <i>GenBank</i> , Accession Number: FJ796065	Entrez
2.	Amelia,K., Tham,C.L., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> palmitoyl protein thioesterase (PPTE) encoding mRNA, complete sequence, <i>GenBank</i> , Accession Number: FJ796066	Entrez
3.	Amelia,K., Tham,C.L., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> diacylglycerol acyltransferase (DAGAT) encoding mRNA, partial sequence, <i>GenBank</i> , Accession Number: FJ796067	Entrez
4.	Amelia,K., Tham,C.L., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> Phosphofructokinase (PFK) encoding mRNA, complete sequence, <i>GenBank</i> , Accession Number: FJ796070	Entrez
5.	Amelia,K., Tham,C.L., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> enoyl-(acyl carrier protein) reductase (EACPR)mRNA, complete sequence, <i>GenBank</i> , Accession Number: FJ796071	Entrez
6.	Amelia,K., Vigneswaran,M., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> mevalonate pyrophosphate decarboxylase (MVD1) mRNA, complete sequence, <i>GenBank</i> , Accession Number: FJ796068	Entrez
7.	Amelia,K., Vigneswaran,M., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> Acyl-CoA dehydrogenase (ACAD) mRNA, complete sequence, <i>GenBank</i> , Accession Number: FJ796069	Entrez
8.	Amelia,K., Vigneswaran,M., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> 12-oxo-phytyldienoic acid reductase mRNA, partial sequence, <i>GenBank</i> , Accession Number: FJ751635	Entrez
9.	Amelia,K., Vigneswaran,M., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> 1-aminocyclopropane-1-carboxylate oxidase	Entrez

	(ACC oxidase) mRNA, partial sequence, <i>GenBank</i> , <i>Accession Number</i> : FJ751636	
10.	Amelia,K., Vigneswaran,M., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> riboflavin biosynthesis protein (RibAB) encoding mRNA, partial sequence, <i>GenBank</i> , <i>Accession Number</i> : FJ751637	Entrez
11.	Amelia,K., Suresh, P., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> class IV chitinase encoding mRNA, complete sequence, <i>GenBank</i> , <i>Accession Number</i> :FJ789766	Entrez
12.	Amelia,K., Suresh, P., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> cytosolic ascorbate peroxidase encoding mRNA, complete sequence, <i>GenBank</i> , <i>Accession Number</i> : FJ789767	Entrez
13.	Amelia,K., Suresh, P., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> cholinephosphate cytidyltransferase (CCT) encoding mRNA, partial sequence, <i>GenBank</i> , <i>Accession Number</i> : FJ789768	Entrez
14.	Amelia,K., Suresh, P., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> spermidine synthase I encoding mRNA, partial sequence, <i>GenBank</i> , <i>Accession Number</i> : FJ789769	Entrez
15.	Amelia,K., Suresh, P., <b>Bhore,S.J.</b> , Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> glutamate decarboxylase encoding mRNA, partial sequence, <i>GenBank</i> , <i>Accession Number</i> : FJ789770	Entrez
16.	<b>Bhore,S.J.</b> , Amelia,K., Nurhuda,J. and Shah,F.H., (2009), <i>Elaeis oleifera</i> delta-12 fatty acid desaturase (FAD2) mRNA, partial sequence, <i>GenBank</i> , <i>Accession Number</i> : FJ744543	Entrez
17.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H., (2007), <i>Cucurbita moschata</i> 18S ribosomal RNA gene, partial sequence, <i>GenBank</i> , <i>Accession Number</i> : DQ298735	Entrez
18.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H.,2007, <i>Elaeis oleifera</i> clone EoEST-2962 beta-carotene hydroxylase (Chyb) mRNA, complete cds., <i>GenBank</i> , <i>Accession Number</i> : EU057623	Entrez
19.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H., 2007, <i>Elaeis oleifera</i> clone EoEST-677 naringenin-chalcone synthase (CHS) mRNA, complete cds., <i>GenBank</i> , <i>Accession Number</i> : EU057622	Entrez
20.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H., 2007, <i>Elaeis oleifera</i> clone EoEST-3214 delta-9-stearoyl-acyl-carrier protein desaturase mRNA, partial cds., <i>GenBank</i> , <i>Accession Number</i> : EU057621	Entrez
21.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H., 2007, <i>Elaeis oleifera</i> clone EoEST-1577 chloroplast omega-3 fatty acid desaturase (O3FAD) mRNA, complete cds; nuclear gene for chloroplast product, <i>GenBank</i> , <i>Accession Number</i> : EU057620	Entrez
22.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H., 2007, <i>Elaeis oleifera</i> clone EoEST-1539 chloroplast omega-3 fatty acid desaturase (O3FAD) mRNA, partial cds; nuclear gene for chloroplast product, <i>GenBank</i> , <i>Accession Number</i> : EU057619	Entrez
23.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H., <i>Elaeis oleifera</i> clone EoEST-835 tocopherol cyclase-like (TC1) mRNA, partial sequence, <i>GenBank</i> , <i>Accession Number</i> : EU057618	Entrez
24.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H., 2007, <i>Elaeis oleifera</i> clone EoEST-805 gamma-tocopherol methyltransferase (g-TMT) mRNA, partial cds., <i>GenBank</i> , <i>Accession Number</i> : EU057617	Entrez
25.	Nurul,A.H. and <b>Bhore,S.J.</b> ,2007, <i>Ficus deltoidea</i> var. bilobata clone	Entrez

	F10-3 RAPD marker genomic sequence, <i>GenBank</i> , <i>Accession Number</i> : EF029047	
26.	<b>Bhore,S.J.</b> and Nurul,A.H., <i>Ficus deltoidea</i> var. <i>kunstleri</i> clone D11-6-3 RAPD marker genomic sequence., <i>GenBank</i> , <i>Accession Number</i> : EF029046	Entrez
27.	<b>Bhore,S.J.</b> and Nurul,A.H., 2007, <i>Ficus deltoidea</i> var. <i>motleyana</i> clone F5-1 RAPD marker genomic sequence, <i>GenBank</i> , <i>Accession Number</i> : EF029045	Entrez
28.	<b>Bhore,S.J.</b> and Nurul,A.H., 2007, <i>Ficus deltoidea</i> var. <i>bilobata</i> clone D11-1-2 RAPD marker genomic sequence, <i>GenBank</i> , <i>Accession Number</i> : EF029044	Entrez
29.	<b>Bhore, S.J.</b> and Nurul, A.H., 2007, <i>Ficus deltoidea</i> var. <i>trengganuensis</i> clone D11-2-1 RAPD marker genomic sequence. <i>GenBank</i> , <i>Accession Number</i> : EF029042	Entrez
30.	<b>Bhore,S.J.</b> and Nurul,A.H., 2007, <i>Ficus deltoidea</i> var. <i>motleyana</i> clone D11-5-2 RAPD marker genomic sequence, <i>GenBank</i> , <i>Accession Number</i> : EF029041	Entrez
31.	<b>Bhore,S.J.</b> and Nurul,A.H., 2007, <i>Ficus deltoidea</i> var. <i>motleyana</i> clone D11-3-1 RAPD marker genomic sequence, <i>GenBank</i> , <i>Accession Number</i> : EF029039	Entrez
32.	<b>Bhore,S.J.</b> , Nurul,A.H. and Shah,F.H., 2007, <i>Ficus deltoidea</i> var. <i>trengganuensis</i> clone F6B RAPD marker genomic sequence, <i>GenBank</i> , <i>Accession Number</i> : DQ825506	Entrez
33.	<b>Bhore,S.J.</b> and Nurul,A.H., 2006, <i>Ficus deltoidea</i> var. <i>trengganuensis</i> clone D11-2-2 RAPD marker genomic sequence, <i>GenBank</i> , <i>Accession Number</i> : EF029043	Entrez
34.	<b>Bhore,S.J.</b> and Nurul,A.H., 2006, <i>Ficus deltoidea</i> var. <i>angustifolia</i> clone D11-3-2 RAPD marker genomic sequence, <i>GenBank</i> , <i>Accession Number</i> : EF029040	Entrez
35.	<b>Bhore,S.J.</b> and Nurul,A.H., 2006, <i>Labisia pothoina</i> var. <i>lanceolata</i> clone L4-2 RAPD marker genomic sequence, <i>GenBank</i> , <i>Accession Number</i> : EF029038	Entrez
36.	Nurul,A.H., <b>Bhore,S.J.</b> and Shah,F.H., 2006, <i>Labisia pothoina</i> clone L1A RAPD marker, <i>GenBank</i> , <i>Accession Number</i> : DQ825505	Entrez
37.	Shah,F.H., Amelia,K. and <b>Bhore,S.J.</b> , 2006, <i>Elaeis oleifera</i> oleoyl-ACP thioesterase (OTE) mRNA, partial cds., <i>GenBank</i> , <i>Accession Number</i> : DQ445465	Entrez
38.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H., 2006, <i>Daucus carota</i> elongation factor 1-alpha (EF-1-alpha) mRNA, partial cds., <i>GenBank</i> , <i>Accession Number</i> : DQ445464	Entrez
39.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H., 2005, <i>Elaeis oleifera</i> clone A-43 mRNA sequence, <i>GenBank</i> , <i>Accession Number</i> : DQ288158	Entrez
40.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H., 2005, <i>Daucus carota</i> chloroplast phytoene synthase mRNA, partial cds; nuclear gene for chloroplast product, <i>GenBank</i> , <i>Accession Number</i> : DQ229827	Entrez
41.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H., 2005, <i>Elaeis guineensis</i> clone A-61 genomic sequence, <i>GenBank</i> , <i>Accession Number</i> : DQ201137	Entrez
42.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H., 2005, <i>Cucurbita moschata</i> clone A-52 unknown mRNA, <i>GenBank</i> , <i>Accession Number</i> : DQ201136	Entrez
43.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H., 2005, <i>Cucurbita moschata</i> clone	Entrez

	A-51 unknown mRNA., <i>GenBank, Accession Number: DQ201135</i>	
44.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H., 2005, <i>Carica papaya</i> geranylgeranyl pyrophosphate synthase mRNA, partial cds., <i>GenBank, Accession Number: DQ201134</i>	Entrez
45.	Shah,F.H., Amelia,K. and <b>Bhore,S.J.</b> , 2005, <i>Elaeis oleifera</i> oleoyl-ACP thioesterase (OTE) mRNA, partial cds., <i>GenBank, Accession Number: DQ152255</i>	Entrez
46.	<b>Bhore,S.J.</b> , Tan,Y.L. and Shah,F.H., 2005, <i>Musa acuminata</i> cytochrome c maturation protein mRNA, partial cds., <i>GenBank, Accession Number: DQ141538</i>	Entrez
47.	<b>Bhore,S.J.</b> , Tan,Y.L. and Shah,F.H., 2005, <i>Carica papaya</i> clone Cp-1 unknown mRNA., <i>GenBank, Accession Number: DQ141321</i>	Entrez
48.	<b>Bhore,S.J.</b> and Shah,F.H., 2004, <i>Elaeis oleifera</i> clone RA17 zinc finger protein-like mRNA, partial sequence., <i>GenBank, Accession Number: AY548535</i>	Entrez
49.	<b>Bhore,S.J.</b> and Shah,F.H., 2004, <i>Elaeis oleifera</i> clone RA16 T2 family ribonuclease mRNA, partial cds., <i>GenBank, Accession Number: AY548534</i>	Entrez
50.	<b>Bhore,S.J.</b> and Shah,F.H., 2004, <i>Elaeis oleifera</i> clone RA15 60S ribosomal protein mRNA, partial cds., <i>GenBank, Accession Number: AY548533</i>	Entrez
51.	<b>Bhore,S.J.</b> and Shah,F.H., 2004, <i>Elaeis oleifera</i> clone RA12 mRNA sequence., <i>GenBank, Accession Number: AY548532</i>	Entrez
52.	<b>Bhore,S.J.</b> and Shah,F.H., 2004, <i>Elaeis oleifera</i> clone RA11 serine/threonine kinase-like mRNA, partial sequence, <i>GenBank, Accession Number: AY548531</i>	Entrez
53.	<b>Bhore,S.J.</b> and Shah,F.H., 2004, <i>Elaeis oleifera</i> clone RA10 pyridoxal 5' phosphate-dependent protein-like mRNA, partial sequence, <i>GenBank, Accession Number: AY548530</i>	Entrez
54.	<b>Bhore,S.J.</b> and Shah,F.H., 2004, <i>Elaeis oleifera</i> clone RA9 leucyl aminopeptidase-like mRNA, partial sequence, <i>GenBank, Accession Number: AY548529</i>	Entrez
55.	<b>Bhore,S.J.</b> and Shah,F.H., 2004, <i>Elaeis oleifera</i> clone RA8 unknown mRNA, <i>GenBank, Accession Number: AY548528</i>	Entrez
56.	<b>Bhore,S.J.</b> and Shah,F.H., 2004, <i>Elaeis oleifera</i> unknown mRNA., <i>GenBank, Accession Number: AY553367</i>	Entrez
57.	<b>Bhore,S.J.</b> and Shah,F.H., 2004, <i>Elaeis oleifera</i> small-protein-like mRNA, partial sequence, <i>GenBank, Accession Number: AY553366</i>	Entrez
58.	<b>Bhore, S.J.</b> and Shah, F.H., 2004, <i>Elaeis oleifera</i> sodium sulfate symporter/arsenite permease mRNA, partial cds. <i>GenBank, Accession Number: AY553365</i>	Entrez
59.	<b>Bhore,S.J.</b> and Shah,F.H. 2004, <i>Elaeis oleifera</i> unknown mRNA, partial sequence, <i>GenBank, Accession Number: AY553364</i>	Entrez
60.	<b>Bhore,S.J.</b> and Shah,F.H., 2004, <i>Elaeis oleifera</i> Bowman-Birk type proteinase inhibitor-like mRNA, partial sequence, <i>GenBank, Accession Number: AY553363</i>	Entrez
61.	<b>Bhore,S.J.</b> and Shah,F.H., 2004, <i>Elaeis oleifera</i> diacylglycerol kinase mRNA, partial cds., <i>GenBank, Accession Number: AY550180</i>	Entrez
62.	<b>Bhore,S.J.</b> and Shah,F.H., 2004, <i>Elaeis oleifera</i> profilin mRNA, partial cds., <i>GenBank, Accession Number: AY550179</i>	Entrez

63.	<b>Bhore, S.J.</b> and Shah, F.H., 2003 <i>Elaeis oleifera</i> disease resistance protein-like mRNA, partial cds. <i>GenBank, Accession Number:</i> AY362454	Entrez
64.	<b>Bhore,S.J.</b> , Tan,C.L. and Shah,F.H., 2002, <i>Elaeis oleifera</i> disease resistant protein mRNA, partial cds., <i>GenBank, Accession Number:</i> AY116619	Entrez
65.	Tan, C.L., Muniran, F., <b>Bhore, S.J.</b> and Shah,F.H., 2002, <i>Elaeis guineensis</i> delta-9-stearoyl-acyl-carrier protein desaturase gene, partial cds., <i>GenBank, Accession Number:</i> AF507965	Entrez
66.	<b>Bhore,S.J.</b> , Lee, S.K. and Shah,F.H., 2002, <i>Elaeis oleifera</i> palmitoyl-acyl carrier protein thioesterase gene, partial cds., <i>GenBank, Accession Number:</i> AF490767	Entrez
67.	<b>Bhore,S.J.</b> and Shah,F.H., 2002, <i>Elaeis oleifera</i> serine/threonine protein kinase SRPK1 (srpk1) mRNA, partial cds., <i>GenBank, Accession Number:</i> AF484412	Entrez
68.	<b>Bhore,S.J.</b> and Shah,F.H., 2002, <i>Elaeis oleifera</i> nitrate-induced NOI-like protein mRNA, complete cds., <i>GenBank, Accession Number:</i> AF481925	Entrez
69.	<b>Bhore,S.J.</b> and Shah,F.H., 2002, <i>Elaeis oleifera</i> RNA binding protein mRNA, complete cds., <i>GenBank, Accession Number:</i> AF465933	Entrez
70.	Shah,F.H. and <b>Bhore,S.J.</b> , 2002, <i>Elaeis oleifera</i> DNA binding protein (DNAbp) mRNA, complete cds., <i>GenBank, Accession Number:</i> AF465934	Entrez
71.	Shah,F.H. and <b>Bhore,S.J.</b> , 2002, <i>Elaeis oleifera</i> serine/threonine protein kinase SRPK1 (srpk1) mRNA, partial cds., <i>GenBank, Accession Number:</i> AY072719	Entrez
72.	Shah,F.H. and <b>Bhore,S.J.</b> , 2002, <i>Elaeis oleifera</i> elongation factor 1-alpha mRNA, complete cds., <i>GenBank, Accession Number:</i> AF464925	Entrez
73.	Shah,F.H. and <b>Bhore,S.J.</b> ,2001, <i>Elaeis oleifera</i> photosystem I subunit PSI-E mRNA, partial cds., <i>GenBank, Accession Number:</i> AY040673,	Entrez
74.	Shah,F.H. and <b>Bhore,S.J.</b> , 2001, <i>Elaeis oleifera</i> actin (ACT-1) mRNA, complete cds., <i>GenBank, Accession Number:</i> AF394737	Entrez
75.	Shah,F.H. and <b>Bhore,S.J.</b> , 2001, <i>Elaeis oleifera</i> nucleotide pytophosphatase-like protein (NP-1) mRNA, partial cds., <i>GenBank, Accession Number:</i> AF394736	Entrez
76.	Shah,F.H. and <b>Bhore,S.J.</b> , 2001, <i>Elaeis oleifera</i> unknown mRNA sequence., <i>GenBank, Accession Number:</i> AY040674	Entrez
77.	Shah,F.H. and <b>Bhore,S.J.</b> , 2001, <i>Elaeis oleifera</i> eukaryotic translation initiation factor 4A-1 mRNA, partial cds., <i>GenBank, Accession Number:</i> AY040227	Entrez
78.	<b>Bhore,S.J.</b> and Shah,F.H., 2001, <i>Elaeis oleifera</i> S-adenosyl methionine synthetase (SAMS1) mRNA, partial cds., <i>GenBank, Accession Number:</i> AY039010	Entrez
79.	<b>Bhore,S.J.</b> and Shah,F.H., 2001, <i>Elaeis oleifera</i> calmodulin mRNA, partial cds., <i>GenBank, Accession Number:</i> AF388948	Entrez
80.	Shah,F.H. and <b>Bhore,S.J.</b> , 2001, <i>Elaeis oleifera</i> 40S ribosomal protein S15 (rps15) mRNA, complete cds., <i>GenBank, Accession Number:</i> AF404770	Entrez
	<b>Total = 80</b>	

<sup>a</sup> From 8 plant species. Details are available online [[Click here to see online](#)]

### 10.2.2. Expressed Sequence Tags (ESTs)<sup>b</sup> : 9228 (as of April 25, 2008)

No	Agricultural crop plant species	Number of ESTs Generated	Database
1.	<i>Bean (Phaseolus vulgaris</i> var. BAT93) This project was part of an International Consortium on Beans	5,972	Entrez
2.	American oil palm ( <i>Elaeis oleifera</i> )	3,205	Entrez
3.	African oil palm ( <i>Elaeis guineensis</i> Jacq. var. Tenera)	51	Entrez
<b>Total</b>		<b>9,228</b>	

<sup>b</sup> Expressed Sequence Tags (ESTs): Details are available online [[Click here to see Online](#)]

### 10.2.3. Genome Survey Sequences (GSS)<sup>c</sup> : 76 (as of April 25, 2008)

No	GenBank sequence	Database
1.	<b>Bhore,S.J.</b> , Amelia,K., Naqsya,S.M. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-106 5', genomic survey sequence, <i>GenBank</i> , Accession Number: EI798079	Entrez
2.	<b>Bhore,S.J.</b> , Amelia,K., Naqsya,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-104 5', genomic survey sequence, <i>GenBank</i> , Accession Number: EI798078	Entrez
3.	<b>Bhore,S.J.</b> , Amelia,K., Naqsya,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-98 5', genomic survey sequence, <i>GenBank</i> , Accession Number: EI798077	Entrez
4.	<b>Bhore,S.J.</b> , Amelia,K., Naqsya,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-96 5', genomic survey sequence, <i>GenBank</i> , Accession Number: EI798076	Entrez
5.	<b>Bhore,S.J.</b> , Amelia,K., Naqsya,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-93 5', genomic survey sequence, <i>GenBank</i> , Accession Number: EI798075	Entrez
6.	<b>Bhore,S.J.</b> , Amelia,K., Naqsya,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-87 5' similar to <i>Elaeis guineensis</i> microsatellite OP-SSR-B10 sequence, <i>GenBank</i> , Accession Number: EI798074	Entrez
7.	<b>Bhore,S.J.</b> , Amelia,K., Naqsya,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-85 5', genomic survey sequence, <i>GenBank</i> , Accession Number: EI798073	Entrez
8.	<b>Bhore,S.J.</b> , Amelia,K., Naqsya,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-84 5', genomic survey sequence, <i>GenBank</i> , Accession Number: EI798072	Entrez
9.	<b>Bhore,S.J.</b> , Amelia,K., Naqsya,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-83 5', genomic survey sequence, <i>GenBank</i> , Accession Number: EI798071	Entrez
10.	<b>Bhore,S.J.</b> , Amelia,K., Naqsya,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-79 5', genomic survey sequence, <i>GenBank</i> , Accession Number: EI798070	Entrez
11.	<b>Bhore,S.J.</b> , Amelia,K., Naqsya,S.M. and Shah,F.H., 2007, <i>Elaeis</i>	Entrez

	<i>oleifera</i> genomic clone c-GSS-Lo-78 5', genomic survey sequence, <i>GenBank, Accession Number: EI798069</i>	
12.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-76 5', genomic survey sequence, <i>GenBank, Accession Number: EI798068</i>	Entrez
13.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-74 5', genomic survey sequence, <i>GenBank, Accession Number: EI798067</i>	Entrez
14.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-73 5', genomic survey sequence, <i>GenBank, Accession Number: EI798066</i>	Entrez
15.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-70 5', genomic survey sequence, <i>GenBank, Accession Number: EI798065</i>	Entrez
16.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-69 5', genomic survey sequence, <i>GenBank, Accession Number: EI798064</i>	Entrez
17.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-68 5' similar to <i>Elaeis guineensis</i> repetitive DNA, clone pEgKB17; <i>GenBank</i> accession No: AJ271979.1, genomic survey sequence, <i>GenBank, Accession Number: EI798063</i>	Entrez
18.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-66 5'genomic survey sequence, <i>GenBank, Accession Number: EI798062</i>	Entrez
19.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-58 5', genomic survey sequence, <i>GenBank, Accession Number: EI798061</i>	Entrez
20.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-57 5', genomic survey sequence, <i>GenBank, Accession Number: EI798060</i>	Entrez
21.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-56 5', genomic survey sequence, <i>GenBank, Accession Number: EI798059</i>	Entrez
22.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-55 5', genomic survey sequence, <i>GenBank, Accession Number: EI798058</i>	Entrez
23.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-50 5', genomic survey sequence, <i>GenBank, Accession Number: EI798057</i>	Entrez
24.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-47 5', genomic survey sequence, <i>GenBank, Accession Number: EI798056</i>	Entrez
25.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-45 5', genomic survey sequence, <i>GenBank, Accession Number: EI798055</i>	Entrez
26.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-44 5' similar to actin (ACT-1), genomic survey sequence, <i>GenBank, Accession Number: EI798054</i>	Entrez
27.	<b>Bhore,S.J.</b> , Amelia,K., Naqsy,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-43 5', genomic survey sequence,	Entrez

	<i>GenBank, Accession Number: EI798053</i>	
28.	<b>Bhore,S.J.</b> , Amelia,K., Naqsyah,S.M. and Shah,F.H., 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-41 5'genomic survey sequence, <i>GenBank, Accession Number: EI798052</i>	Entrez
29.	<b>Bhore,S.J.</b> , Amelia,K., Naqsyah,S.M. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-39 5', genomic survey sequence, <i>GenBank, Accession Number: EI798051</i>	Entrez
30.	<b>Bhore,S.J.</b> , Amelia,K., Naqsyah,S.M. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-33 5', genomic survey sequence, <i>GenBank, Accession Number: EI798050</i>	Entrez
31.	<b>Bhore,S.J.</b> , Amelia,K., Naqsyah,S.M. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-30 5' similar to aspartyl protease family protein-like, genomic survey sequence, <i>GenBank, Accession Number: EI798049</i>	Entrez
32.	<b>Bhore,S.J.</b> , Amelia,K., Naqsyah,S.M. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-27 5', genomic survey sequence, <i>GenBank, Accession Number: EI798048</i>	Entrez
33.	<b>Bhore,S.J.</b> , Amelia,K., Naqsyah,S.M. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-24 5', genomic survey sequence, <i>GenBank, Accession Number: EI798047</i>	Entrez
34.	<b>Bhore,S.J.</b> , Amelia,K., Naqsyah,S.M. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-21 5' similar to chalcone synthase (CHS), genomic survey sequence, <i>GenBank, Accession Number: EI798046</i>	Entrez
35.	<b>Bhore,S.J.</b> , Amelia,K., Naqsyah,S.M. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-19 5' similar to <i>Musa acuminata</i> clone MA4_82I11, genomic survey sequence, <i>GenBank, Accession Number: EI798045</i>	Entrez
36.	<b>Bhore,S.J.</b> , Amelia,K., Naqsyah,S.M. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-16 5', genomic survey sequence, <i>GenBank, Accession Number: EI798044</i>	Entrez
37.	<b>Bhore,S.J.</b> , Amelia,K., Naqsyah,S.M. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-13 5', genomic survey sequence, <i>GenBank, Accession Number: EI798043</i>	Entrez
38.	<b>Bhore,S.J.</b> , Amelia,K., Naqsyah,S.M. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-12 5', genomic survey sequence, <i>GenBank, Accession Number: EI798042</i>	Entrez
39.	<b>Bhore,S.J.</b> , Amelia,K., Naqsyah,S.M. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone c-GSS-Lo-4 5', genomic survey sequence, <i>GenBank, Accession Number: EI798041</i>	Entrez
40.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone GSS_LO-14 5', genomic survey sequence, <i>GenBank, Accession Number: EI798040</i>	Entrez
41.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone GSS_LO-12 3' similar to ycf2 protein-like, genomic survey sequence, <i>GenBank, Accession Number: EI798039</i>	Entrez
42.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone GSS_LO-12 5' genomic survey sequence, <i>GenBank, Accession Number: EI798038</i>	Entrez
43.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic	Entrez

	clone GSS_LO-11 3' similar to glycerol kinase (GK), genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : EI798037	
44.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone GSS_LO-11 5' genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : EI798036	Entrez
45.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone GSS_LO-10 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : EI798035	Entrez
46.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone GSS_LO-7 3', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : EI798034	Entrez
47.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone GSS_LO-7 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : EI798033	Entrez
48.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2007, <i>Elaeis oleifera</i> genomic clone GSS_LO-4 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : EI798032	Entrez
49.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-14 3' similar to Gene for Ribosomal Protein S4, genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575972	Entrez
50.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-14 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575971	Entrez
51.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-13 3', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575970	Entrez
52.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-13 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575969	Entrez
53.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-12 3' similar to Reverse Transcriptase (RT) gene, genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575968	Entrez
54.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-12 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575967	Entrez
55.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-11 3', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575966	Entrez
56.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-11 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575965	Entrez
57.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-10 3', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575964	Entrez
58.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-10 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575963	Entrez
59.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-9 3', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575962	Entrez

60.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-9 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575961	Entrez
61.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-8 3', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575960	Entrez
62.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-8 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575959	Entrez
63.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-7 3', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575958	Entrez
64.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-7 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575957	Entrez
65.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-6 3', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575956	Entrez
66.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-6 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575955	Entrez
67.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-5 3', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575954	Entrez
68.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-5 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575953	Entrez
69.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-4 3', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575952	Entrez
70.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-4 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575951	Entrez
71.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-3 3', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575950	Entrez
72.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-3 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575949	Entrez
73.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-2 3', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575948	Entrez
74.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-2 5', genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575947	Entrez
75.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-1 3' similar to Palmitoyl-[ACP] Thioesterase (PATE), genomic survey sequence, <i>GenBank</i> , <i>Accession Number</i> : DX575946	Entrez
76.	<b>Bhore,S.J.</b> , Amelia,K. and Shah,F.H. 2006, <i>Elaeis oleifera</i> genomic clone GDLO-1 5', genomic survey sequence, <i>GenBank</i> , <i>Accession</i>	Entrez

### 10.3. PEER REVIEWED SCIENCE NEWS / OPINION ARTICLES

1. **Bhore Subhash J.**, (2009), Misai Kucing (*Orthosiphon stamineus* Benth) — An emerging new crop, *Communicated*.
2. **Bhore Subhash Janardhan**, (2008), GM technologies, *Curr. Sci.*, **95** (10): 1391-1393.
3. **Bhore Subhash Janardhan**, (2008), BioMalaysia 2007, *Curr. Sci.*, **94** (7): 843-845.
4. **Bhore Subhash Janardhan**, (2007), Promising achievements and new challenges in agriculture biotechnology, *Curr. Sci.*, **93** (8): 1052-1054.
5. **Bhore Subhash Janardhan**, (2007), Biosafety and bio-security of Asia, *Curr. Sci.*, **93** (3): 285-286.

### 10.4. REPORTS

1. **Bhore Subhash J.**, Amelia K., Nurhuda J., Shah Farida H., (2007), Construction of Pod cDNA, Examination and Identification of Pod-Specific Genes during Development Using Micro-Array. In 2006 *Ann Rep Melaka Biotech Corp*, pp 24.
2. **Bhore Subhash J.**, Amelia K., Nurhuda J., Naqsyia S. M., Shah Farida H., (2007), Generation and Analysis of Expressed Sequence Tags (ESTs) From Mesocarp Tissue of South American Oil Palm, *Elaeis oleifera*. In 2006 *Ann Rep Melaka Biotech Corp*, pp 25.
3. **Bhore Subhash J.**, Nurul Arneida H., Shah Farida H., (2007), Application of DNA Marker Technology in Precise Identification of Plants. In 2006 *Ann Rep Melaka Biotech Corp*, pp 26.
4. **Bhore Subhash J.**, Amelia K., Shah Farida H., (2007), Gene Isolation and Plant Transformation for Production of Value Added Fruit for Commercialization. In 2006 *Ann Rep Melaka Biotech Corp*, pp 27.
5. **Bhore Subhash J.**, Amelia K., Shah Farida H., (2007), Isolation of Key Genes Involved In Identified Metabolic Pathway and Genetic Transformation of Banana for Its Fruit Quality Improvement. In 2006 *Ann Rep Melaka Biotech Corp*, pp 28.
6. Azurin H. J., **Bhore Subhash J.**, Shah Farida H., (2007), Micropropagation of Selected Medicinal and Aromatic Plants. In 2006 *Ann Rep Melaka Biotech Corp*, pp 33.
7. Wee C.H., Azurin H. J., **Bhore Subhash J.**, Shah Farida H., (2007), Commercial Scale Micropropagation of Ornamental Plants. In 2006 *Ann Rep Melaka Biotech Corp*, pp 34.
8. **Bhore Subhash J.**, Azurin H. J., Wee C. H., Shah Farida H., (2007), Pilot Scale Micropropagation of Economically Important Plants. In 2006 *Ann Rep Melaka Biotech Corp*, pp 35.
9. **Bhore Subhash Janardhan**, (2005), Construction of transformation vectors for palmitoyl-ACP thioesterase gene silencing and genetic transformation of oil palm, *Ph.D Thesis*, National University of Malaysia, Malaysia.

## 11. MEDIA REPORTS

1. **Bhore Subhash Janardhan**, (Sunday, July 1, 2007), Melaka Institute of Biotechnology trains university students. Report on training programs and activities of Melaka Institute of Biotechnology, Published in *Melaka Hari Ini (News paper of Melaka State, Malaysia)*, page 15.
2. **Bhore Subhash Janardhan**, (Thursday, June 21, 2007), Biotechnology for better food, health and quality living, published in *Melaka Hari Ini (News paper of Melaka State, Malaysia)*, page 16.
3. Development of Biotechnology in Melaka (*Pembangunan bioteknologi Melaka*), *Mega Utusan Malaysia (National News paper of Malaysia in local language)*, March 23, 2007, page 6.
4. Making palm oil more desirable (Science news) in *New Sunday Times (Malaysia)*, October 22, 2000, page 31.
5. **Bhore Subhash Janardhan**, (2000), Fascinating natural beauty of Malaysia, *Malaysian Naturalist*, **54:9**.
6. Sixty four percent students of DP College succeeded in B.Sc. examination (modified title), *Kesari* (local newspaper of Maharashtra state, India), July 29, 1994.

## 12. RESEARCH PRESENTATIONS IN SCIENTIFIC MEETINGS

1. **Bhore Subhash J**, Amelia K, Nurhuda J, Naqsya S. M, and Shah Farida H, (2007), Analysis and Functional Annotation of Expressed Sequence Tags (ESTs) From the Fruit Mesocarp Tissue of South American Oil Palm (*Elaeis oleifera*), In: *2007 Biochemistry and Molecular Biology of Plant Fatty Acids and Glycerolipids Symposium*, held at the Stanford Sierra Conference Center in Fallen Leaf Lake, California, USA. pp 27.
2. **Bhore Subhash J**, Amelia K, Naqsya S. M, and Shah Farida H., (2007), A Survey of the South American Oil Palm (*Elaeis oleifera*) Genome: Analysis and Functional Annotation of the Randomly Isolated Genome Survey Sequences (GSS), In: *2007 Biochemistry and Molecular Biology of Plant Fatty Acids and Glycerolipids Symposium*, held at the Stanford Sierra Conference Center in Fallen Leaf Lake, California, USA. pp 27.
3. Nurul A.H., **Bhore Subhash J.**, Shah F.H., (2006), Analysis of Random Amplified Polymorphic DNA (RAPD) to Access Genetic Variability in Mas Cotek (*Ficus deltoidea* Jack.) Accessions, In: *Trends in Biotechnology 3*, held at Marriot Putrajaya, Kula Lumpur, Malaysia (September 4-6, 2006), Abstract Book, pp 41.
4. Shah Farida H., Amelia K., and **Bhore Subhash J.**, (2006), Annotation of oleoyl-[ACP] thioesterase (OTE) gene of *Elaeis oleifera* and its comparison with OTE of commercially cultivated oil palm *Elaeis guineensis* Jacq Tenera, In: *The 17<sup>th</sup> International Plant Lipid Symposium*, East Lansing, Michigan, USA (July 16–21, 2006). Abstract Book, pp 137.
5. **Bhore Subhash J.** and Shah Farida H., (2006), Analysis of randomly isolated expressed sequence tags (ESTs) from developing mesocarp of South American oil palm, *Elaeis oleifera*. In: *The 17<sup>th</sup> International Plant Lipid Symposium*, East Lansing, Michigan, USA (July 16–21, 2006). Abstract Book, pp 187.
6. Shah Farida H, Cha Thye San, **Bhore Subhash J.**, (2006), *In Silico* Analysis and Comparison of Mesocarp and Kernel Tissue-Specific Promoters with Constitutive Promoters in Oil Palm. In: *The 17<sup>th</sup>*

- International Plant Lipid Symposium*, East Lansing, Michigan, USA (July 16–21, 2006). Abstract Book, pp 188.
7. Shah Farida H., Cha Thye San, Lee Seet Kwan, and **Bhore Subhash J.**, (2005), Molecular Characterization of Palmitoyl-ACP Thioesterase Gene in Oil Palm, In: *2005 Biochemistry and Molecular Biology of Plant Fatty Acids and Glycerolipids Symposium*, held at the Stanford Sierra Conference Center in Fallen Leaf Lake, California, USA. pp 18.
  8. Shah F.H., **Bhore Subhash J.**, Nurul A.H., and Salmizana M.S., (2005), Effectiveness of random amplified polymorphic DNA (RAPD) analysis technique in detection of genetic variation in *Labisia pumila* varieties, In: *4<sup>th</sup> Malaysian International Conference on Essential Oil and Fragrance and Flavour Materials (MICEOFF4) 2005*, held at Putra Palace, Kangar, Perlis, Malaysia. pp TL 16.
  9. **Bhore Subhash J.**, Azurin Hanim J, and Shah Farida H., (2004), Commercial scale micropropagation of some tropical medicinal and aromatic plants through plant tissue culture. In: *Second Global Summit on Medicinal and Aromatic Plants*, held at New Delhi, India. pp 4.
  10. Said Khairil M., **Bhore Subhash J.**, Kassim Siti H., and Shah Farida H., (2004), Extraction and characterization of essential oils from some Malaysian medicinal and aromatic plants, In: *Second Global Summit on Medicinal and Aromatic Plants*, held at New Delhi, India. pp 124.
  11. **Bhore Subhash J.**, and Shah Farida H., (2004), Genetic transformation of *Elaeis oleifera* with novel transformation vectors for complete post-transcriptional silencing of palmitoyl-ACP thioesterase gene, In: *Oils and Fats International Congress-2004* (September 29<sup>th</sup>-October 2<sup>nd</sup>), held at PWTC, Malaysia. pp 26-27.
  12. **Bhore, Subhash J.**, Cha Thye San, Tan Chye Ling, Lee Seet Kwan, and Shah, Farida H., (2004), Genetic manipulation of fatty acid composition in oil palm. In: *15<sup>th</sup> Annual Meeting of the Malaysian Society for Molecular Biology and Biochemistry*, held at Melaka, Malaysia on July 19-21, 2004. pp 41.
  13. **Bhore Subhash J.**, Cha Thye S., and Shah Farida H., (2004), Particle Bombardment-Mediated Transformation of *Elaeis oleifera* with Antisense Palmitoyl-ACP Thioesterase Gene Driven by Mesocarp Specific Promoter, In: *The 16<sup>th</sup> Plant Lipid Symposium*, Budapest (1-4 June 2004), Programme and Abstracts of presentations, pp 94.
  14. **Bhore Subhash J.**, and Shah Farida H., (2004), Genetic Manipulation of Commercially Cultivated Oil Palm (*Elaeis guineensis* Jacq. Tenera) for Low-Palmitate Palm Oil. In: *The 16<sup>th</sup> Plant Lipid Symposium*, Budapest (1-4 June 2004), Programme and Abstracts of presentations, pp 94-95.
  15. Muniran F., **Bhore Subhash J.**, and Farida H. Shah, (2003), Micropropagation of oil palm *Elaeis guineensis* Jacq. Dura: comparison of three media for efficient regeneration, In: *14<sup>th</sup> National Biotechnology Seminars*, held at Penang, Malaysia, during December 11-13, 2003.
  16. **Bhore Subhash J.**, Bay M. N., and Shah F.H., (2003), Characterization of a cDNA clone that encodes for a DNA binding protein (DNAbp) in oil palm *Elaeis oleifera*. In: *The 5<sup>th</sup> National Genetics Congress*, held at Kuala Lumpur, Malaysia, on March 25-27, 2003.
  17. Tan C.L., **Bhore Subhash J.**, and Shah F.H., (2003), Quantitative and qualitative assessment of phenotypic abnormalities in transformed and non-transformed plantlets population of *Elaeis guineensis* Jacq. Tenera,

In: *2<sup>nd</sup> International Congress of Plant Physiology*, held at New Delhi, India during January 8-12, 2003.

18. **Bhore Subhash J**, Shah F. H., (2002), Influence of three different media on germination and growth of oil palm immature zygotic embryos. In: *12<sup>th</sup> Malaysian Society for Molecular Biology and Biotechnology Scientific Meeting*, held at Hyatt Regency Saujana, Subang, Selangor, Malaysia.

### 13. TEACHING

#### 13.1. University Courses

1. **Course Coordinator** – ‘Bioinformatics-II’, B.Sc. course, April Semester, Department of Biotechnology, FAS, AIMST University, Malaysia, 2008
2. **Course Coordinator** – “Biosafety, Bioethics and Bio-regulations”, B.Sc. course, April Semester, Department of Biotechnology, FAS, AIMST University, Malaysia, 2008
3. **Course Coordinator** – ‘Bioinformatics-I’, B.Sc. course, April Semester, Department of Biotechnology, FAS, AIMST University, Malaysia, 2008
4. **Course Co-coordinator** – ‘Research Project’, B.Sc. course, Department of Biotechnology, FAS, AIMST University, Malaysia, 2008
5. Experience in teaching components of ‘Plant Biotechnology’ course, B.Sc. course, April Semester, Department of Biotechnology, FAS, AIMST University, Malaysia – 2008
6. Experience in teaching components of ‘Bioinformatics-II’ course, B.Sc. course, April Semester, Department of Biotechnology, FAS, AIMST University, Malaysia – 2008
7. Experience in teaching components of ‘Biosafety, Bioethics and Bio-regulations’ course, B.Sc. course, April Semester, Department of Biotechnology, FAS, AIMST University, Malaysia – 2008
8. **Course Coordinator** – ‘Post-harvest Physiology and Biotechnology’, B.Sc. course, September Semester, Department of Biotechnology, FAS, AIMST University, Malaysia, 2008
9. **Course Coordinator** – ‘Plant Growth and Development’, B.Sc. course, September Semester, Department of Biotechnology, FAS, AIMST University, Malaysia, 2008
10. **Teaching** of components in ‘Post-harvest Physiology and Biotechnology’ course, B.Sc. course, September Semester, Department of Biotechnology, FAS, AIMST University, Malaysia, 2008
11. Teaching of components in ‘Plant Growth and Development’ course, B.Sc. course, September Semester, Department of Biotechnology, FAS, AIMST University, Malaysia, 2008
12. Teaching of components in ‘Secondary Metabolites and Metabolism’ course, B.Sc. course, September Semester, Department of Biotechnology, FAS, AIMST University, Malaysia, 2008
13. Teaching of components in ‘Recombinant DNA Technology’ course, B.Sc. course, September Semester, Department of Biotechnology, FAS, AIMST University, Malaysia, 2008
14. **Course Coordinator** – ‘Industrial Training’ course, B.Sc., February Semester, Department of Biotechnology, FAS, AIMST University, Malaysia, 2009

15. **Teaching** of components in 'Bioinformatics-II' course, B.Sc., February Semester, Department of Biotechnology, FAS, AIMST University, Malaysia, 2009
16. Teaching of components in 'Introduction to Computer Applications in Biological Sciences' course, B.Sc., February Semester, Department of Biotechnology, FAS, AIMST University, Malaysia, 2009
17. **Course Coordinator/Co-coordinator** – 'Research Project' course, B.Sc. (Batch 9), February Semester, Department of Biotechnology, FAS, AIMST University, Malaysia, 2009.

### **13.2. Teaching in Training Programs/Workshops**

1. Speaker in a workshop entitled the '**Biotechnology Awareness Workshop for Teachers**' held at Melaka Institute of Biotechnology, Melaka, on February 16, 2008. This workshop was supported by Melaka Institute of Biotechnology, Melaka.
2. Speaker and trainer in '**Molecular Biology Training Program-Basic**' organized by Melaka Institute of Biotechnology and held during June 28-30, 2007 at Melaka Institute of Biotechnology, Melaka, Malaysia.
3. Speaker and trainer in '**Molecular Biology Training Program-Basic**' organized by Melaka Institute of Biotechnology and held during September 5-7, 2006 at Melaka Institute of Biotechnology, Melaka, Malaysia.
4. Speaker and trainer in '**Plant Tissue Culture Training Program-Basic**' organized by Melaka Institute of Biotechnology and held during February 18, 2005 – March 2, 2005 at Melaka Institute of Biotechnology, Melaka, Malaysia.

## **14. STUDENTS SUPERVISION/EXAMINATION**

### **14.1 Graduate Students Dissertations**

No	Student name	Title of project	Supervision	Year	Degree
1.	Loh Chye Ying	Structure characterization of oil palm ( <i>Elaeis oleifera</i> ) beta-carotene hydroxylase (Chyb) gene	Supervisor	2009	B. Sc. (Biotech)
2.	Beverly Ruth Andrew	Structure characterization of oil palm ( <i>Elaeis oleifera</i> ) RNA binding encoding gene	Supervisor	2009	B. Sc. (Biotech)
3.	Rashvinraj Singh a/l Sukde Singh	Functional clustering of Expressed Sequence Tags generated from Oil palm, <i>Elaeis oleifers</i>	Supervisor	2009	B. Sc. (Biotech)
4.	Vigneswaran A/L Manokaran	Identification and <i>in silico</i> analysis of randomly isolated cDNA clones from oil palm ( <i>Elaeis oleifera</i> )	Supervisor	2009	B. Sc. (Biotech)
5.	Tham Chaur Lin	Nucleotide sequence analysis of five randomly isolated cDNA clones from oil palm ( <i>Elaeis oleifera</i> ) mesocarp tissue cDNA library	Supervisor	2009	B. Sc. (Biotech)
6.	S.Suresh Paramaloo	<i>In silico</i> characterization of five cDNA clone sequences from oil palm ( <i>Elaeis oleifera</i> )	Supervisor	2009	B. Sc. (Biotech)
7.	Sathisha Goonasakaran	Isolation of endophytes from local plants and their screening for cytokinin like compounds	Supervisor	2009	B. Sc. (Biotech)
8.	Sivanish s/o Raghunathan	A study on the effect of various levels of nitrogenous application towards drought tolerance in rice ( <i>Oryza sativa</i> L.)	Co- Supervisor	2009	B. Sc. (Biotech)
9.	Sangeetha Ramanathan	Standardisation of DNA extraction procedure to analyse the polymorphism in <i>Rhodamnia cinerea</i>	Co- Supervisor	2009	B. Sc. (Biotech)
10.	Rajiv Sukanathan	Determination of genetic divergence for physiological parameters related to drought response in rice ( <i>Oryza sativa</i> L.)	Co- Supervisor	2009	B. Sc. (Biotech)
11.	Phong Xiao Yun	Collection, Identification and Herbarium preparation of plants from Gunung Jerai	Co- Supervisor	2009	B. Sc. (Biotech)
12.	Puvaneswari Thajagaraj	Effect of cytokinins on the seed germination and morphology of eggplant ( <i>Solanum melongena</i> L.) seedlings	Co- Supervisor	2008	B. Sc. (Biotech)
13.	Tan Li Yin	Discriminant functional analysis of drought induced rice varieties	Co- Supervisor	2008	B. Sc. (Biotech)
14.	Ranjetta Poobathy	Optimization of encapsulation-dehydration protocols for the orchid hybrid <i>Ascocenda</i> (Princess Mikasa)	Co- Supervisor	2008	B. Sc. (Biotech)
15.	Jeevamalar Rugmangathan	Optimization of cytokinins for efficient micropropagation of miniature <i>Rosa hybrids</i>	Co- Supervisor	2008	B. Sc. (Biotech)
16.	Jermyn Seow Yen Huei	Study on the effect of nitrogenous fertilizer application towards drought tolerance in <i>Oryza sativa</i>	Co- Supervisor	2008	B. Sc. (Biotech)
17.	Khairil Mohd Arif Bin Rashid	Cryopreservation of protocorm-like bodies of <i>Ascocenda</i> (Princess Mikasa) using DMSO-Droplet freezing technique	Co- Supervisor	2008	B. Sc. (Biotech)
18.	Parameswary Arumugam	Effect of sucrose and sorbitol pre-culture on PVS2 vitrification method for cryopreservation of <i>Cymbidium</i> species nodal tissue	Co- Supervisor	2008	B. Sc. (Biotech)
19.	Wee Sin Ling	Comparative analysis of different DNA extraction methods for rice (MR 220)	Co- Supervisor	2008	B. Sc. (Biotech)

## **14.2. Industrial Training Supervision and Examination**

- Number of undergraduate students that I supervised at AIMST University from 2008-present in their undergraduate industrial training research projects: **2**  
Students name are listed below
  1. Tan Chen Shen
  2. Lee Chu Xian
  
- Number of undergraduate students that I supervised at Melaka Institute of Biotechnology from 2004-2008 in their undergraduate industrial training research projects: **11**  
Students name are listed below
  1. Abhilash A/L G.C.Bhujan
  2. Tan Jie Ying
  3. Yap Hui Min
  4. Nur Aneem Fadzal
  5. Norazlina Mohd Yatim
  6. Afraha Bt Arif,
  7. Tay Siew Yean
  8. Suhaili Bt Md Yusop
  9. Nurhuda Bt Jalil
  10. Nurul Arneida Husin
  11. ShengHueyWong

## **15. INVITED LECTURES**

### **15.1. Plenary Lectures**

1. Plenary Lecture – Opening Lecture, **‘Current Trends in Biotechnology Industry and Role of Teachers in Developing Leaders for Biotech Industry’**, February 16, 2008, in “Biotechnology Awareness Workshop for Teachers”, held at Melaka Institute of Biotechnology, Melaka, on February 16, 2008.
2. Plenary Lecture – **‘Scientific Data Recording’**, March 1, 2005, in ‘Plant Tissue Culture Training Program-Basic’ held at Melaka Institute of Biotechnology, Melaka, during February 18, 2005 – March 2, 2005.
3. Plenary Lecture – Endnote, **‘Plant Tissue Culture Pilot Plant Maintenance’**, March 2, 2005, in ‘Plant Tissue Culture Training Program-Basic’ held at Melaka Institute of Biotechnology, Melaka, during February 18, 2005 – March 2, 2005.

### **15.2. International Lectures**

1. **‘Advances in Biotechnology Research and Current Scenario in Biotech Industry’** Department of Botany, Dada Patil College, Karjat, A’Nagar, Maharashtra, India, October 27, 2004.

### **15.3. National Lectures**

1. **‘Applications of Molecular Biology Techniques in Biotechnology Industry’**, February 16, 2008, in “Biotechnology Awareness Workshop for Teachers”, held at Melaka Institute of Biotechnology, Melaka, on February 16, 2008.
2. **‘DNA recombinant technology: gene cloning tools and their applications in genetic engineering’**, February 16, 2008, in

- “Biotechnology Awareness Workshop for Teachers”, held at Melaka Institute of Biotechnology, Melaka, on February 16, 2008.
3. **‘Applications of DNA Recombinant technology and ethics issues’**, February 16, 2008, in “Biotechnology Awareness Workshop for Teachers”, held at Melaka Institute of Biotechnology, Melaka, on February 16, 2008.
  4. **‘Realizing Your Dreams: Career Opportunities In Biotechnology Industry’**, Nov. 18, 2007, in Biotechnology Entrepreneurship Special Training (BeST) Programme 18 - 19 November 2007, held at Le Meridien Hotel, KL Sentral, Kuala Lumpur, Malaysia.
  5. **‘Introduction to techniques used in molecular biology laboratory’**, Sept. 5, 2006, in ‘Molecular Biology Training Program-Basic’ September 5-7, 2006, held at Melaka Institute of Biotechnology, Melaka, Malaysia.

## **16. CONSULTANCY**

- i.* Worked as ‘Technical Consultant’ to Novel Plants Private Limited, Melaka, Malaysia, (off record) Duration: September 2006-December 2007.
- ii.* Within organization at Melaka Institute of Biotechnology to set-up plant tissue culture pilot plant facility for the Institute, 2004.

## **17. MAJOR COMMERCIAL ACHIEVEMENTS**

### **17.1. Commercial Production of Plantlets**

Instrumental in establishing micropropagation protocols, their pilot scale testing at Melaka Institute of Biotechnology, and commercialization through INVITROTECH SDN BHD\*. for economically important plant species listed below:

1. Banana (*Musa species*)
2. Sambung Nyawa (*Gynura procumbens*),
3. Kesum (*Polygonum minus*),
4. Misai Kucing (*Orthosiphon stamineus*),
5. Hempedu Bumi (*Andrographis paniculata*),
6. Keembung (*Inpatiens balsamina*),
7. Dukung anak (*Phyllanthus niruri*),
8. Kemangi (*Ocimum sanctum*),
9. Selasih (*Ocimum basilicum*),
10. Curry plant (*Murraya koenigii*),
11. Lavender [*Lavandula angustifolia*(L)],
12. Carnation [*Dianthus caryophyllus* (L)],
13. Coleus (*Coleus blumei*),
14. Celosia [*Celosia argentea* var *Plumosa* (L)], and
15. Phlox [*Phlox drummondii*]

\* INVITROTECH SDN BHD. is a BioNexus status company in Malaysia.

### **17.2. Training Program Modules**

To fulfill the specific needs of customers, following training programs were designed and offered through Melaka Institute of Biotechnology

1. Plant tissue culture training program
2. Molecular biology training program
3. Biotechnology awareness workshop program for teachers

## **18. PROFESSIONAL SERVICES**

### **18.1. Founding Member**

- i. Founding member of 'Plant Tissue Culture Pilot Plant' for Melaka Institute of Biotechnology, Melaka Biotechnology Corporation, Melaka, Malaysia, -2004.
- ii. Designed, established and operated 'Plant Tissue Culture Pilot Plant' at Melaka Institute of Biotechnology, Melaka Biotechnology Corporation, Melaka, Malaysia, 2004-2006.
- iii. Contributed in designing establishing Molecular Biology Laboratory at Melaka Institute of Biotechnology, Melaka Biotechnology Corporation, Melaka, Malaysia, - 2004.

### **18.2. Expert Panel Member**

- i. Invited Industrial Panel For The Development of National Occupational Skills Standard (NOSS), by Professional ICT Training Academy Sdn.Bhd. appointed by Department of Skills Development, Ministry of Human Resource, Sept. 11, 2007.

### **19. PROFESSIONAL MEMBERSHIPS**

- i. Associate Member (Since 2006) of **Association of Agricultural Scientist of Indian Origin (AASIO)**. AASIO is the international honor society of agriculture research scientists, with a good history of service to science and society.
- ii. Associate Member (Since 2003) of **Sigma Xi**, the Scientific Research Society. Sigma Xi is the international honor society of research scientists and engineers, with a distinguished history of service to science and society.

### **20. NATIONAL SERVICE**

- Completed a period of two years in Indian National Service Scheme (NSS) volunteer from June 1992-May 1994.
- Attended and completed 'National Service Scheme special camp' during February 6-15, 1993 held at Ambijalgaon under the Indian National Service Scheme of the Government of India operated by University of Pune.

### **21. MISCELLANEOUS**

1. Drafted "**The Kedah Technology Roadmap for Agriculture Biotechnology**" for Kedah State, Malaysia, March 2009.
2. Attended one day workshop on "**The Kedah Technology Roadmap for Health-Care Biotechnology**", held at Kulim Golf & Country Resort, Kulim Hi-Tech Park, Kulim, Kedah, Malaysia, January 12, 2009.
3. Coordinated a workshop supported by UPEN, Kedah (Malaysia) for "The Brainstorming on Biotechnology Roadmap Development for Kedah State", held at SP INN, on December 18, 2008.
4. Participated in two days conference on '**GM Technologies: Addressing Global Sustainability Needs and Challenges**', jointly organized by the Malaysian Biotechnology Corporation (Biotechcorp), Malaysian Agriculture Research and Development Institute (MARDI), Universiti Putra Malaysia (UPM), Academy of Science Malaysia, Malaysian Bio-industry Organisation (MBIO), and Malaysian Biotechnology Information Centre (MABiC), and held at Palace of the Golden Horses, KL, Malaysia, on 18-19 Aug. 2008.

5. Participated in one day Biosafety meeting, '**Biosafety Awareness Meeting**', organized by Ministry of Natural Resources and Environment (MNRE) in collaboration with Centre for Research in Biotechnology for Agriculture (CEBAR), University of Malaya (UM), and held at Crystal Crown Hotel, Petaling Jaya, Selangor, Malaysia, June 12, 2008.
6. Participated in '**Food Biosafety Seminar**' organized by PerkinElmer, and held at Hotel Equatorial, Bangi, Selangor Malaysia, Jan. 21, 2008.
7. Participated in '**Asia-pacific conference on Plant tissue culture and agro-biotechnology**', June 17-21, 2007.
8. Participated and represented Melaka Biotechnology Corporation in '**An Industry Dialogue on the Biosafety Bill 2006**', organized by Malaysian Biotechnology Corporation (BiotechCorp), and held at Menara Naluri, Kuala Lumpur, Malaysia, May 29, 2007.
9. Participated in "**BBEC 5<sup>TH</sup> International Conference 2006, Biodiversity Conservation: 2006 and beyond**", held at Kota Kinabalu, Sabah, Malaysia, Dec. 5- 7, 2006.
10. Served as **Moderator** for one day conference on antioxidant, "The Role of Anti-Oxidants in Health Products", jointly organized by Melaka Institute of Biotechnology and Melaka Biotech Holdings Sdn. Bhd., and held at Melaka Institute of Biotechnology, Melaka, Nov. 7, 2006.
11. Participated and represented Melaka Biotechnology Corporation in '**Working group discussion on a new technology platform based on nanotechnology**', organized by Malaysian Biotechnology Corporation, and held at Naluri Tower, Level 23, Kuala Lumpur, Malaysia, Aug. 22, 2006.
12. Participated and represented Melaka Biotechnology Corporation in '**The Development of a National Level Technology Roadmap for Bio-Informatics**', Workshop No. 2, organized by MIMOS, and held at Kuala Lumpur, Malaysia, Sept. 27 - 28, 2005.
13. Voluntarily served as **Lab Manager** (off-record) for Molecular Biology Laboratory of the mentor at National University of Malaysia. As a lab manager, I was bearing the responsibility of ordering chemicals, communicating with chemical suppliers, chemicals stock maintenance, and other related responsibilities for 12 (undergraduate + postgraduate) research students team. Duration: June 2003 to Feb. 28, 2004.
14. Supervision of junior students in the laboratory (off-record responsibility given by project leader/mentor). Duration: June 2001 - Feb.2004.