Chandrashekhar P. Joshi

Professor of Plant Molecular Genetics
Chair, Department of Biological Sciences
Michigan Technological University

Summary Vita

Research:

- Winner of the highly prestigious University-wide Research Award @ Michigan Tech, 2011
- Distinguished visiting professor at Chonnam National University, South Korea 2009-2013
- Received highly prestigious NSF CAREER award funding during 2003-2010
- Ongoing research projects in lignocellulosic materials for bioenergy production
- Received research funding of about $10 million as PI or Co-PI or Senior personnel
- External research funding from National and International programs: National Science Foundation, US Department of Energy, US Department of Agriculture, US Department of Education, Consortium for Plant Biotechnology Research, World Class University/NRF Korea, Michigan Life Science Corridor, and USDA-McStennis programs
- Major advisor for 7 PhD and 8 MS completed graduate degrees
- Also advised 42 undergrads and 15 postdocs/scientists in their research
- Membership on 58 graduate student committees at Michigan Tech University and Korea
- Published 77 peer reviewed papers and book chapters
- Presented 135 invited/oral/poster presentations
- Over 30 years of research experience at various international organizations
- Published several "highly cited" papers in high impact journals such as Science, PNAS, Plant Journal, TIPS, COPB, NAR, New Phytologist and Molecular Plant as a lead author or co-author with 7,341 cross-citations.
- Edited two books, inventor on four approved US patents and on editorial boards of 5 journals

Teaching:

- Teaching courses in genetics, bioinformatics, genomics, bioenergy & grantsmanship
- Finalist for Michigan Tech's Distinguished Teaching Award, 2004
- Member, Academy of Teaching Excellence, Michigan Technological University, 2004
- Consistent excellent teaching evaluations at Michigan Tech 1999-present
- Established a new Ph.D. program in Forest Molecular Genetics and Biotechnology (FMGB) in 2001and created MS in FMGB in 2004. Recently, worked on interdisciplinary PhD in Biochemistry and Molecular Biology (BMB) degree at MTU.
- Established a new dual MS program as Michigan Tech PI: Transatlantic Dual MS degree program in Forest Resources (ATLANTIS) with NCSU (Raleigh), Swedish Agricultural University (Alnarp) and University of Finland (Helsinki) 2008-2013

Service to Michigan Technological University and beyond:

- Active in service to the University
- Major service activities include Director of Biotechnology Research Center and Director of SFRES graduate programs, Chair of Institutional Review Board, Chair of Faculty Review Committee and many school committees, Membership on Research Advisory Council, faculty search committees and Graduate Faculty Council
- Regularly reviewed manuscripts for 25 plus international journals, evaluated over 100 grant proposals, and served as a panel member for NSF, USDA, DOE programs for five times
- United way volunteer, faculty advisor to Indian Student organization, Science fair judge for UP Michigan school grades 4-9 and graduate student Poster competition judge at Michigan Tech

Chandrashekhar P. Joshi, Ph. D. (Shekhar)

Professor and Chair
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http://www.mtu.edu/biological/department/welcome/

Google scholar profile;

http://scholar.google.com/citations?hl=en&user=JRx87BgAAAAJ&view_op=list_works&is_public_preview=1

Current Research Interests:

- **Molecular genetics and genomics of cellulose and lignin synthesis in trees**
- **Genetic improvements of lignocellulosic products for bioenergy industries**
- **Molecular basis and bioinformatics of tree growth and wood development**
- **Development of fast growing bioenergy trees for efficient cell wall deconstruction to biofuels**

Education:

Ph. D. (Chemistry), University of Poona, India, 1982
M. Sc. (Botany), First rank, University of Poona, India, 1977
B. Sc. (Botany), First rank, University of Poona, India, 1975

Professional Experience:

2013-present	Chair and Professor, Department of Biological Sciences, Michigan Tech
2012- 2013	Interim-Chair and Professor, Department of Biological Sciences, Michigan Tech
2009- 2013	WCU Visiting Professor, Chonnam National University, Gwangju, S. Korea
2008-2013	Professor, SFRES, Michigan Tech University, Houghton, MI
2007-2009	Director, Biotechnology Research Center, Michigan Tech University
2004-2009	Director, SFRES graduate programs, Michigan Tech University
2004-2008	Associate Professor, Michigan Tech University
1999-2004	Assistant Professor, Michigan Tech University
1996-1999	Research Assistant Professor, Michigan Tech University
1990-1996	Research Scientist, Texas Tech University, Lubbock, TX
1988-1990	Research Associate, Ohio State University, Columbus, OH
1985-1988	Senior Scientist, National Chemical Laboratory, Pune, India
1983-1985	Visiting Scientist, Max Planck Institute for Plant Breeding, Cologne, Germany
1980-1983	Scientist, National Chemical Laboratory, Pune, India
1979-1980	Graduate Student, National Chemical Laboratory, Pune, India
1977-1979	Lecturer in Botany, S.P. College, Pune, India

Memberships, Fellowships and Other Honors and Service:

1. Winner of the highly prestigious **Research Award** 2011@ Michigan Tech
2. Appointed as a **fellow of the Sustainable Futures Institute** @ Michigan Tech, 2010
3. Selected for "**Hind Rattan award**" (Jewel of India) by NRI Welfare Society of India for outstanding services, achievements and contributions to my research field (2009).
4. Invited and participated as a **World Class University** Distinguished Visiting Professor by Chonnam National University, Gwangju, South Korea (2010-2013)
5. Recipient of National Science Foundation's prestigious **CAREER** award (2003-2010)
6. Inductee of Academy of **Teaching Excellence**, Michigan Tech (2004)
7. Distinguished **Teaching Award** Finalist, Assistant Professor, Michigan Tech, (2004)
8. **Director** of Biotechnology Research Center, Michigan Tech (2007-2009)
9. **Director** of Graduate Programs, SFRES (2004-2009)
10. **Co-Inventor** of four issued US patents in the field of cellulose biosynthesis in forest trees. Several international patents pending.
11. Major advisor of 7 graduated Ph. D. students (Shashank Pandey, 2016; Fuyu Xu 2009; Shiv Thammannagowda, 2007, Priya Ranjan 2005, Anita Samuga 2003, Udaya Kalluri, 2003, and C. Tsao, 1998).
12. Major advisor of 8 graduated M.S. students (Rajesh Chavli 2001, Zihao Wang 2003, Asha Lakkavaram 2006; Voo S 2006; John Saida 2008; Aparupa Sengupta 2009; Jacob Ladd 2010; and Haley Rupp 2013)
13. Member of 58 graduate student committees at Michigan Tech University and Korea
14. Ad hoc Reviewer of >50 manuscripts in >25 International Journals in last five years
15. Ad hoc Reviewer for >100 grant proposals for National and International agencies
16. Served as a member on 5 proposal review panels: NSF Panel member: Metabolic biochemistry, 2005; DOE Panel member: Energy Biosciences 2006; NSF Panel member: Metabolic Biochemistry, 2006 and 2007. USDA-NRI Bioproducts panel 2008.
17. German Academic Exchange Visiting Scientist Fellowship (DAAD) to Max Planck Institute for Plant Breeding, Cologne, Germany, 1983-1985
18. Late (Mrs.) S.S. Patil Prize for obtaining first rank in M.Sc. (Botany) class, 1977
19. Principal S.V. Shevade Prize for obtaining first rank in B.Sc. (Botany) class, 1975
20. Member of Biotechnology Research Center and Ecosystem Science Center, MTU
21. Included in Who's Who in America, Science and Engineering 5th edition, 2000
22. Included in Who's Who in Sciences and Higher Education, 2004
23. Established a new Ph.D. program in Forest Molecular Genetics and Biotechnology program, Michigan Tech University (2001) and helped creating MS in FMGB (2004). Participated as one of three founding members for PhD in interdisciplinary Biochemistry and Molecular Biology (2010) on Michigan Tech Campus
24. MTU PI on successful transatlantic dual MS program in forest resources (2008-2013)
25. Science fair judge for UP Michigan school grades 4-9 (2000-2003, 2005-2008), United Way volunteer (1998-2002), graduate student Poster competition judge at Michigan Tech (1999-2001, 2004, 2005, 2007, 2013)
26. Faculty advisor to Indian Student Association, Michigan Tech (1997-1998)
27. Established a new collaborative graduate program between MTU and Shenzhen University, China. Also developed a new study abroad program with University of Nicosia, Cyprus (2015-2016)

My Contributions to Undergraduate, Graduate and Postgraduate Education

Teaching Experience:

- September 2016 to December 2016: BL1580 Introduction to Biosciences, Michigan Tech
- September 2016 to December 2016: BL4510 Senior Capstone, Michigan Tech
- September 2015 to December 2015: BL3300 Genomics, Michigan Tech
- September 2015 to December 2015: BL5503: Graduate Seminar, Michigan Tech
- September 2014 to May 2015: BL4510 Senior Capstone (two), Michigan Tech
- March to June 2013: Cellulose Science (Graduate Class), DBST/CNU, Korea
- September- December 2012: Introduction to Genomics (BL3300), Michigan Tech
- September- December 2012: Effective Grantsmanship, FW5850, Michigan Tech
- March to June 2012: Basic concepts in Genomics, DBST/CNU, Korea
- September to December 2011: Introduction to Genomics (BL3300), Michigan Tech
- March-June 2011: Current topics on Wood Bioenergy Technology, DBST/CNU, Korea
- January 2011 to April 2011: Effective Grantsmanship, FW5850, Michigan Tech
- September 2010 to December 2010: Introduction to Genomics (BL3300), Michigan Tech
- March 2010 to June 2010: Co-taught Advanced Bioenergy Science with Dr. HJ Bae (CNU, Korea); also team taught Introduction to Bioenergy Science and Technology with 7 others
- January 2009 to April 2009: Effective Grantsmanship, FW5850, Michigan Tech
- January 2009 to April 2009: Advanced Genomics, FW4500/BL4100, Michigan Tech
- September 2008 to December 2008: Introduction to Genomics (BL/FW3300), Michigan Tech
- January 2008 to April 2008: Tools of Bioinformatics, FW4089/5089, Michigan Tech
- January 2008 to April 2008: Effective Grantsmanship, FW5850, Michigan Tech
- September 2007 to December 2007: Introduction to Genomics (BL/FW3300), Michigan Tech
- September 2006 to December 2006: Effective Grantsmanship FW5850, Michigan Tech
- September 2006 to December 2006: Introduction to Genomics (BL/FW3300) Michigan Tech
- January 2006 to April 2006: Tools of Bioinformatics, FW5089, Michigan Tech
- August 2005 to December 2005: Effective Grantsmanship FW5850, Michigan Tech University
- August 2004 to December 2004: Effective Grantsmanship FW5850, Michigan Tech University
- August 2004 to December 2004: Introduction to Genomics BL3300, Michigan Tech University
- January to May 2004: Bioinformatics (FW4089/5089) Michigan Tech University
- August to December 2003: Introduction to Genomics (BL3300) Michigan Tech University
- January 2003 to May 2003: Plant Bioinformatics (FW4089) Michigan Tech University
- August 2002 to December 2002: Introduction to Genomics (BL3300) Michigan Tech University
- January 2002 to May 2002: Tools of bioinformatics (FW5089) Michigan Tech University
- January 2002 to May 2002: Genome (FW5510) Michigan Tech University
- September 2001 to December 2001: Introduction to Genomics (BL3300) Michigan Tech
- January 2001 to May 2001: Plant Molecular Genetics (FW5510) at Michigan Tech University
- January 2001 to May 2001: Plant Bioinformatics (FW4089) at Michigan Tech University
- March 2000 to May 2000: Molecular genetics of trees (FW567) at Michigan Tech University
- March 2000 to May 2000: Molecular Genetic Ecology (FW450A) at Michigan Tech University
- March 2000 to May 2000: Bioinformatics and Biomolecular Modeling (FW450B) Michigan Tech
- March 1999 to May 1999: Molecular genetics of trees (FW567) at Michigan Tech University
- March 1998 to May 1998: “Molecular Genetics of Trees” (FW5510) at Michigan Tech
- September 1993 to December 1993: “Advanced Plant Genetics” HORT 5325 at Texas Tech
- June 1987 to May 1988: Plant tissue culture (M.Sc. Biotechnology) University of Poona, Pune.
- June 1977 to December 1979: Lecturer of Botany in S.P. College, Pune, India.

Undergraduate Students supervised in their Undergraduate Research Projects: 41

Sara Blumer, Alisha Pagel, Robin Hawley, Maria Val Martin, Chaitnya Acharya, Steve Githens, Zachary Reusch, Gunjan Hariani, Emily Kenny, Jennifer Chiantello, Melissa Gonsalves, Marie Wilkening, Hwee Chi Tay, James Wee, Katherine Kieckhafer, Laura Kluskens, Katie Kruger, Ellen Brenna, Ashley Sharp, Megan McQuillan, Jill Recla, Kristina Flesher, Eric Koronka, Ayushi Kawatra, Danny Latusek, Ian Bonner, Sandra Orlowski, Nathan Fettinger, Eric Hollenbeck, Justeen Beaune, Josh Papacek, Sanjay Sen, Noah Al-Armanzi, Olivia Olsen, Evan Post, Will Lustig Alex Pohl, Dane Wuori, Kyle Glasper, Nickolas Ditta, Robert Baynon

Graduate Student Education: I have served on a total of 59 graduate committees

Current PhD Students for whom I am serving as a major advisor: 2

1. Kavitha Satish Kumar, PhD ongoing since 2014 (Michigan Technological University)
2. Yogesh Ahlawat PhD ongoing since 2015 (Michigan Technological University)

Current Ph. D. Students for whom I am serving as a committee member, major advisors in the parenthesis marked with *: 4

3. Sirikorn Khumwan, PhD ongoing since Fall 2011, Committee member (Dr. Gailing, SFRES*)
4. Roba Bdeir, PhD in BMB since Fall 2012, Committee member (Dr. Gailing, SFRES*)
5. Catherine Bammert, Doctor of Philosophy, Biological Sciences (Dr. Lanrong Bi, Biology and Chemistry)
6. Rupsa Basu, Doctor of Philosophy, BMB (Dr. Ebenezer Tumban, Biology)

Current MS Student for whom I am serving as a major advisor: 1

1. Surratana Boonsai, MS ongoing since Fall 2016

Current MS Students for whom I am serving as a committee member, major advisors in the parenthesis marked with *: 1

1. Tahiyat Alothiam, MS, Ongoing since 2015 (Dr. Tumban, Biology*)

Past Ph. D. Student committees where I was the major advisor or co-advisor: 7

1. Shashank Pandey, PhD Graduated 2016 (Chonnam National University, Gwangju, Korea)
2. Fuyu Xu, Ph.D. Graduated Fall 2009, **Major advisor C.P. Joshi**
3. Shivegowda Thammangowda, Ph.D. graduated 2007, **Major advisor C.P. Joshi**
4. Priya Ranjan, Ph. D., Graduated 2005, **Co-Chairs C.P. Joshi and C. Tsai**
5. Udaya Kalluri, Ph. D., Graduated 2003, **Major advisor C.P. Joshi**
6. Anita Samuga, Ph. D., Graduated 2003, **Major advisor C.P. Joshi**
7. Cheng-Chung Tsao, Ph. D., Graduated 1998, **Co-Chairs V. L. Chiang and C.P. Joshi**

Past Ph. D committees of graduated students where I was a committee member, major advisors in the parenthesis: 19

1. Colina Datta, PhD, Committee member (Dr. Tiwari, chemistry*)
2. Faten Dhawi, PhD graduated 2015, Committee member (Dr. Wusirika and Datta, Biology*)
3. Rosa Flores, PhD, graduated in August 2013, committee member (Dr. Paul Doskey, CEE*)

4. Michael Campbell, PhD graduated in August 2012, committee member (Dr. Shonnard, CE*)
5. Steve Johnson, Ph. D. graduated in 2009, committee member (Dr. Murthy*)
6. Zijun Xu, Ph. D. graduated in 2009, committee member (Dr. Wusirika, Biology*)
7. Nicholas Krom, Ph. D. graduated in 2009, committee member (Dr. Wusirika, Biology*)
8. Christine Zawaski, Ph. D., graduated 2009, Committee member (Dr. Busov*)
9. Raja S Payyavula, Ph. D. Graduated 2009, committee member (Dr. Tsai/Harding*)
10. Rui Tang (Sammi) graduated 2008, committee member (Dr. Zhang, Math*)
11. Sonali Jog, Ph. D. graduated 2005, Committee member (Dr. Murthy)*
12. Barry Garchow, Ph. D. graduated 2005, Committee member (Dr. Murthy*)
13. Pengfei Song, Ph. D. Graduated 2005, Committee member (Dr. Leuking)*
14. Bakul Dhagat, Ph. D., Graduated 2005, Committee member (Dr. Murthy)*
15. Pooja Sharma, Ph. D., Graduated 2003, Committee member (Dr. Karnosky)*
16. Ajay Sundaram, Ph. D. Graduated 2003, Committee member (Dr. Bagley, Biology)*
17. Priit Pechter, Ph. D. Graduated 2001, Committee member (Dr. Tsai, SFWP)*
18. Leah Vucetich, Ph. D., Graduated 2001, Committee member (Dr. Peterson, SFWP)*
19. Laigeng Li, Ph. D., Graduated 1997, Committee member (Dr. Chiang, SFWP)*

Past MS Students for whom I have served as a major advisor: 8

1. Haley Rupp, MS in FMGB, graduated spring 2013, **Major advisor C. P. Joshi** (co-advisor: Bjorn Sundberg, SLU, Sweden)
2. Jacob Ladd, MS in FMGB, graduated Spring 2010, **Major advisor, C.P. Joshi**
3. Aparupa Sengupta, MS in FMGB graduated Fall 2009, **Major advisor, C. P. Joshi**
4. Shaik John Saida; Graduated Fall 2008, (**Major advisor: C. P. Joshi**)
5. Voo Siau, MS, Graduated 2006 (**C.P. Joshi, major advisor**)
6. Asha Lakkavaram, MS, Graduated 2006 **(C.P. Joshi, major advisor)**
7. Zihao Wang, Graduated 2003, **Major advisor C.P. Joshi** (co-advisor Dr. Leuking)
8. Rajesh Chavli, M.S., Graduated 2001, **Major advisor C.P. Joshi**

Past MS committees where I served as a committee member, major advisors in the parenthesis: 17

1. Paige Cox, MS Graduated 2011, committee member (Dr. Busov, Forestry*)
2. Tara Waybrant, MS graduated 2009, committee member (Dr. Dixon, Biology*)
3. James Wee, MS graduate December 2006, committee member (Dr. Leuking, Biology*)
4. Jaisudha Purushothaman, MS, graduated 2005, committee member (Dr. Seidel, CS*)
5. Patience Tenny, MS, Graduated 2005, Committee member (Dr. Wusirika, Biology*)
6. Jen Taylor, MS, Graduated May 2004, Committee member (Dr. Gale, SFRES)*
7. Pengfei Song, MS, Graduated April 2004, Committee member (Dr. Campbell, Biology)*
8. Yanyan Lu, MS. Graduated April 2004, Committee member (Dr. Zhang, Math)*
9. Mike Jones, M.S., Graduated 2003, Committee member (Dr. Orr, SFRES)*
10. Hong Li, M.S., Graduated 2003, Committee member (Dr. Zhang, Math)*
11. Kristina Owens, M.S., Graduated 2003, Committee member (Dr. Orr, SFRES)*
12. Mahita Kadmiel, M.S., Graduated 2003, Committee member (Dr. Sottile, Biology)*
13. Phaik Yin Mark, M.S. Graduated 2002, Committee member (Dr. Tsai, SFRES)*
14. Jun Qian, M.S. Graduated 1999, Committee member (Dr. Huang, CS)*
15. Srikanth Pangulari, M.S., Graduated, 1999, Committee member (Dr. Van Dam, CE)*
16. Hao Zhou, M.S. Graduated, 1997, Committee member (Dr. Huang, CS)*
17. Karla Kinslow, M.S., Graduated, 1997, Committee member (Drs. Podila and Gretz, Biology)*

Supervision of Postdoctoral Research Associates and visiting scientists (their current or last known position in parenthesis): 15

1. Dr. Luguang Wu (University of Queensland, Brisbane, Australia)
2. Dr. Yaw-ching Yang (Genome Therapeutics, Boston, USA)
3. Dr. Laigeng Li (Professor, Shanghai Institute of Plant Physiology, Shanghai, China)
4. Dr. Cheng-Chung Tsao (National Institute of Environmental Health)
5. Dr. Yin Mak (IKPP, Indonesia)
6. Dr. Xiaoe Liang (Duke University, NC, USA)
7. Dr. Suchita Bhandari (Scientist, BILT, India)
8. Dr. Takeshi Fujino (Virginia Tech, Purdue, CNU, now back to home country)
9. Dr. Dongyan Zhang (@Michigan Tech)
10. Dr. Yunxia Liu (now back to home country)
11. Dr. Ramesh Thakur (@Michigan Tech)
12. Dr. Xiaohong Zhu (@Purdue)
13. Dr. Nookaraju Akula (CNU/WCU, Korea ; now back to home country)
14. Dr. A. M. Swaraz (CNU/WCU, Korea ; now back to home country)
15. Dr. Swati Puranik (MTU, now at UK)

My Contributions to Research Fields of My Interest

Highly cited Author:

I have published several "highly cited" papers regarding transcription regulatory sequence motifs in eukaryotic genes. **A total number of citations with me as a lead author or co-author: 7,341.**

Google Scholar lists **7,341 citations** as of December 19, 2016.
(http://scholar.google.com/citations?user=JRx87BgAAAAJ&hl=en)

Patents approved and/or licensed: Four

Cellulose synthase encoding polynucleotides and uses thereof
Authors: Chiang, Wu and **Joshi**, Approved USA patent #7,049,481 on May 18, 2006

Cellulose synthase promoter and method for modifying cellulose and lignin biosynthesis in plants
Authors: Chiang, Wu, **Joshi**, Approved USA patent #7,232,941 on June 19, 2007

Isolated cellulose synthase promoter regions
Author: **C. P. Joshi**, Approved USA patent #7,674,951 on March 9, 2010

Methods for enhancing expression of secondary cell wall cellulose synthases in plants
Author: **C. P. Joshi**, Approved USA patent #8,129,585 on March 6, 2012

Consultant: CuraGen Corporation, New Haven, CT

Research Funding Activities (Other investigators specified) total: $9.40 million

- 2013-2017: NSF AGEP: The Michigan AGEP (Alliance for Graduate Education and the Professoriate) Alliance for transformation (MAA). NSF. **$70,000** (PI: Jacqueline Huntoon, C. Wojick, C. **Joshi, C**. Fredrick).
- 2012-2017: SEP: Sustainable Forest-Based Biofuel Pathways to Hydrocarbon Transportation Fuels: Biomass Production, Torrefaction, Pyrolysis, Catalytic Upgrading, and Combustion. NSF **$1.8 million** (PIs: Shonnard, Ziv, Burton, Mayer, Naber. Senior personnel in Thrust 1: Burton, **Joshi**, Gailing and Froese).
- 2012-2013: Reengineering of wood cellulose synthesis for better bioenergy production. USDA-McIntire Stennis Program **$7,000** (PI: **Joshi**)
- 2011-2014: RET Site: Wood to Wheels. Research experiences for high school teachers in sustainable transportation technologies" NSF **$352,492** (PIs: Shonnard and Baltensperger; Senior personnel: **Joshi**, Naber, Hungwe, and Anderson)
- 2008-2013: EU-US Transatlantic Master's degree program in Forest Resources (EU-USTMDPFR). US Dept of Education: ATLANTIS program; **MTU PI: Joshi $224,000**. Other collaborator Universities include North Carolina State University, NC (PI: Bronson Bullock); University of Helsinki, Finland (PI: Outi Orenius) and Swedish Agricultural University (SLU), Sweden (PI: Eric Agestam and Vilis Brukas)(Total funding about $1.1 million).
- 2008-2011: Genetic master switches controlling cellulose biosynthesis in plants; CPBR and two other member industries **$340,000** (PI: **Joshi**)
- 2008-2011: "Tension wood system" USDA-McIntire Stennis Program $**21,000** (PI: **Joshi**)
- 2003-2010: "CAREER-Cellulose biosynthesis in aspen trees" National Science Foundation-IBN CAREER program, **$741,877** (PI: **Joshi**)
- 2004-2009: "Genetic engineering of cellulose biosynthesis hardwood and softwood trees" USDA-Improved Wood Utilization, Collaborator: Shawn Mansfield, UBC, Canada **$300,000 (**PI: **Joshi)**
- 2006-2009: "Modulation of cellulose crystallinity in transgenic trees" CPBR and two other member industries. **$200,472 (**PI: **Joshi)**
- 2003-2008: Improved wood properties through genetic manipulation. DOE Agenda 2020. **$1,871,029** (**PIs: Joshi**, Chiang and Li)
- 2002-2008: "Molecular Genetics of Cellulose Biosynthesis in Aspen" USDA-McIntire Stennis Program $**35,000** (**PI: Joshi**)
- 2003-2007: Simultaneous expression of angiosperm syringyl monolignol genes in gymnosperm to investigate syringyl lignin biosynthesis in trees. **$190,000** (**PIs: Joshi,** Chiang, Li)
- 2001-2004: "Functional Genomics of Fast-Growing Transgenic Aspen Trees", Michigan Life Sciences Corridor Fund, **$2,013,729** (Tsai, Harding, **Joshi**, and Chiang)
- 2003: Acquisition of an ABI PRISM 3100 Avant Genetic analyzer, Research Excellence Fund, **$50,000**, (Tsai, **Joshi** and Harding)
- 1999-2004: "Genetic engineering of cellulose biosynthesis in trees: A strategy to cellulose augmentation and lignin reduction", USDA Competitive Grants, **$215,000** (Chiang, **Joshi**, Wu)
- 2002: "Enhancement of Research Mentorship" award from Graduate School MTU, **$1,000** (PI: **Joshi**)
- 1996-2000: "Bioinformatics and Biomolecular modeling" MI Research Excellence Fund, $**284,000** (Pandey, **Joshi**, Huang, Podila, Brown, Murthy, Hansmann)
- 2000: Digital photo-documentation system, MTU, $**1,428** (PI: **Joshi**)
- 1998-2001: "Wood Biotechnology" State of Michigan Research Excellence Fund **$75,000** (Tsai, **Joshi**, and Chiang)

List of Research Contributions

(Total 218 contributions: 59 refereed journal papers; 18 refereed book chapters; 4 approved patents, 2 book editorships and 135 presentations)

Peer Reviewed Journal Publications: 59

1. Shashank K. Pandey, Nookaraju Akula, Takeshi Fujino, Sivakumar Pattathil, and **Chandrashekhar P. Joshi*** (2016) Virus Induced Gene Silencing (VIGS) Mediated Functional Characterization of Two Genes Involved in Lignocellulosic Secondary Cell Wall Formation. **Plant Cell Reports**, 35:2353-2367.

2. Puranik Swati, Kavitha S. Kumar, Oliver Gailing and Chandrashekhar P. Joshi* (2014) Modifying plant cell walls for bioenergy production. **CAB Reviews** 9, 017, pp 1-10

3. Nookaraju Akula, Shashank K. Pandey, Takeshi Fujino, Ju Young Kim, Mi Chung Suh, and **Chandrashekhar P. Joshi*** (2014) Enhanced Accumulation of Fatty Acids and Triacylglycerols in Transgenic Tobacco Stems for Enhanced Bioenergy Production. **Plant Cell Reports** 33 (7) 1041-1052.

4. Sera Jung, Dae-Seok Lee, Yeon-Ok Kim, **Chandrashekhar P. Joshi**, and Hyeun-Jong Bae (2013) Improved recombinant cellulase expression in chloroplast of tobacco through promoter engineering and 5′ amplification promoting sequence. **Plant Molecular Biology** 83: 317–328. Published online in June 2013. DOI 10.1007/s11103-013-0088-2.

5. Nookaraju A, Pandey SP, Bae HJ and **Joshi CP*** (2013) Designing cell walls for better bioenergy production. **Molecular Plant** 6 (1): 8-10. *doi: 10.1093/mp/sss111* First published online: October 5, 2012.

6. **Chandrasekhar Joshi*** and Akula Nookaraju (2012) New Avenues of Bioenergy Production from Plants: Green Alternatives to Petroleum. **Journal of Petroleum and Environmental Biotechnology** 3:7-11.

7. Suyeon Kim, Yeon-Ok Kim, Yongjik Lee, Inseong Choi, **Chandrashekhar P. Joshi,** Kyehan Lee, Hyeun-Jong Bae **(2012)** Transgenic poplar as an efficient bioreactor system for the production of xylanase. **Bioscience, Biotechnology and Biochemistry** 76 (6): 1140-1145.

8. Liu Y, Xu F, Gou J, Al-Haddad J, Telewski FW, Bae HJ and **C. P. Joshi*** (2012) Importance of Two Consecutive Methionines at the N-terminus of a Cellulose Synthase (PtdCesA8) for Normal Wood Cellulose Synthesis in Transgenic Aspen. **Tree Physiology** 32(11): 1403-1412 first published online October 17, 2012

9. **C. P. Joshi***, Bullock B, Agestam E and Kovanen M (2011) A TRANSALANTIC MASTER'S DEGREE IN FOREST RESOURCES. **International Forestry Working Group Newsletter** July 27, 2011 issue.

10. **Chandrashekhar P. Joshi***, Shivegowda Thammannagowda, Takeshi Fujino, Jiqing Gou, Utku Avci, Candace H. Haigler, Lisa M. McDonnell, Shawn D. Mansfield, Bemnet Menghesa, Nicholas C. Carpita, Darby Harris, Seth DeBolt and Gary F. Peter (2011) Perturbation of wood cellulose synthesis causes pleiotropic effects in transgenic aspen. **Molecular Plant 4(2): 331-345, 2011.**

11. Fuyu Xu and **Chandrashekhar P. Joshi*** (2010) Overexpression of aspen sucrose synthase gene promotes growth and development of transgenic Arabidopsis plants. **Advances in Biosciences and Biotechnology** 1 (5): 426-438, 2010.

12. Zhu X, Pattahil S, Mazumdar K, Brehm A, Hahn MG. Dinesh-Kumar SP and **C. P. Joshi*** (2010) Virus-induced gene silencing offers a functional genomics platform for studying plant cell wall formation. **Molecular Plant** 3 (5): 818-833 **(cover article)**.

13. Xu F and **C. P. Joshi***: *In vitro* demonstration of interactions among the zinc-binding domains of cellulose synthases in *Arabidopsis* and aspen. **Advances in Biosciences and Biotechnology** 1 (3) 152-161, 2010.

14. Manoj Kumar, Shivegowda Thammannagowda, Vincent Bulone, Vincent Chiang, Kyung-Hwan Han, **Chandrashekhar P. Joshi**, Shawn D. Mansfield, Ewa Mellerowicz, Björn Sundberg, Tuula Teeri, and Brian E. Ellis: An update on the nomenclature for the cellulose synthases genes from *Populus*. **Trends in Plant Science** 14(5):248-254, 2009.

15. Shanfa Lu, Laigeng Li, Xiaoping Yi, **Chandrashekhar P. Joshi**, and Vincent L. Chiang: Differential expression of three eucalyptus secondary cell wall- related cellulose synthase genes in response to tension stress. **Journal of Experimental Botany** 59: 681-695, 2008

16. **C.P. Joshi*** and S.D. Mansfield: The cellulose paradox: simple molecule, complex biosynthesis. **Current Opinion in Plant Biology**. 10: 220-226, 2007.

17. Reginaldo A. Festucci-Buselli, Wagner C. Otoni and **Chandrashekhar P. Joshi**: Structure, organization and functions of cellulose synthase complexes in higher plants. **Brazilian Journal of Plant Physiology** 19(1) 1-17, 2007.

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49. S.W. King, **C. P. Joshi**, H.T. Nguyen: DNA sequence of an ABA responsive gene (RAB15) from water stressed wheat roots. **Plant Molecular Biology** 18, 199-201, 1992.

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52. S.A. Bapat, **C.P. Joshi**, A.F. Mascarenhas: Occurrence and frequency of precocious germination of somatic embryos is a genotype dependent phenomenon in wheat. **Plant Cell Reports** 7, 538-541, 1988.

53. **C.P. Joshi***: An inspection of the domain between putative TATA box and translation start site in seventy-nine plant genes. **Nucleic Acids Research** 15, 6643-6653, 1987.

54. **C.P. Joshi***: Putative polyadenylation signals in nuclear genes of higher plants: a compilation and analysis. **Nucleic Acids Research** 15, 9627-9640, 1987.

55. S. Patankar, **C.P. Joshi**, S.A. Ranade, M. Bhave, and P.K. Ranjekar: Interphase nuclear organization in plants. **Proceedings of Indian Academy of Sciences** (plant Science) 94, 539-551, 1985.

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57. **C.P. Joshi** and P.K. Ranjekar: Visualization and distribution of heterochromatin in interphase nuclei of several higher plant species as revealed by a new Giemsa banding technique. **Cytologia** (Japan) 47, 471-480, 1982.

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(My corresponding authorship in above papers is indicated by *)

Editorial Contributions: 2 books edited and 5 Editorial Board memberships

* I have edited a book on "**Genetics, Genomics and Breeding of Poplar**" with Dr. Stephen DiFazio of West Virginia University for the series on "Genetics, genomics and Breeding of Poplars" (Series editor: Chittaranjan Kole). Published by CRC Press, Taylor and Francis Group, Science Publishers, USA in April 2011.

* I have also edited an 874 page book on "**Handbook of Bioenergy Crop Plants**" with Dr. Chittaranjan Kole of Clemson University and Dr. David Shonnard of Michigan Tech. This unique monograph is published by Taylor and Francis, CRC Press on March 24, 2012

* I am on the Editorial Boards of five journals: "**The Open Forest Science Journal**" since 2008 and "**Journal of Petroleum & Environmental Biotechnology**" since 2010 and "**Frontiers in Plant Science**" since 2011 as an Associate Editor. Since November 2014, I have also been on editorial board of "**Journal of Plant research**" and recently in 2016 joined editorial board of "**Advances in Cell Science and Tissue Culture**".

Refereed Book Chapters: 18

1. **Chandrashekhar P. Joshi**, Nookaraju Akula, Shashank Pandey and Takeshi Fujino: Plant cell wall biotechnology for improved bioenergy production. In Proceedings of Petrotech 2012 meeting held at New Delhi, India during October 14-17, 2012.

2. Stephen P. DiFazio, Gancho T. Slavov, and **Chandrashekhar P. Joshi**: *Populus*: A premier pioneer system for plant genomics. In "Genetics, genomics and Breeding of

Poplars" C. P. Joshi and S. P. DiFazio, eds. Science Publishers, CRC Press, PP. 1-28. **2011**.

3. **C. P. Joshi***, Brunner A, Busov V, Meilan R, Thammanagowda S, Tsai C.: Poplars. In: Compendium of transgenic crop plants: Transgenic forest tree species. C. Kole and T. Hall (Eds). Wiley-Blackwell Publishing, Oxford, UK. **PP 1-34**. **2008**

4. **C. P. Joshi***: Genomics of Wood development. In Aluízio Borém (Ed) Forest Biotechnology. Universidade Vicosa, Brazil, **PP 273-295. 2007 (in Portuguese)**

5. **C.P. Joshi*:** Molecular genetics of cellulose biosynthesis in trees. In Kumar Sandeep and Fladung M. (Eds.) Molecular genetics and breeding of forest trees. Haworth Press, Binghamton, NY, **PP 141-165, 2004**.

6. **C.P. Joshi***: Molecular biology of cellulose biosynthesis in plants. In "Recent Research Development in Plant Molecular Biology" (S. Pandalai, Ed) Volume 1, Research Signpost, Kerala, India. **PP 19-38, 2003.**

7. Podila G.K., **C.P. Joshi** and P. B. Kaufman: Functional Genomics and DNA Microarray Technology. In Handbook of Molecular and Cellular Methods in Biology and Medicine, Second Edition, (Cseke LJ , Kaufman PB, Podila GK, Tsai CJ. eds) CRC Press, NY. **PP 319-346, 2003.**

8. L. Wu, T. Fujino, S. Kimura, **C. P. Joshi**, V. Chiang: A xylem-specific cellulose synthase gene from aspen (*Populus tremuloides*) is responsive to mechanical stress. In "Frontiers in Cellulose Science" (T. Itoh, ed), **PP 2-7, 2000**.

9. **C.P. Joshi**, H.T. Nguyen: Cloning of the 3' non-coding regions from several members of heat shock protein gene families by differential display. In: A. Pardee and P. Liang (eds) Differential display: Methods and Applications, Humana Press, **PP 107-121, 1997**.

10. Boerjan W., Baucher M., Chabbert, B., Petit-Conil M, Leple J.C., Pilate G., Cornu D., Monties B., Van Montagu M., Van Doorsselaere J., Inze D., Jouanin L, Tsai C.J., Podila G.K., **Joshi C.P**., Chiang V.L.: Genetic modification of lignin biosynthesis in quaking aspen and poplar. In : Klofenstein N.B., Chun YW, Kim MS and Ahuja MR (eds.), Micropropogation and Genetic Engineering and Molecular Biology of Populus. PP **193-205**, 1997.

11. H. T. Nguyen, **C.P. Joshi**: Molecular genetic approaches to improving heat and drought stress tolerance in crop plants. In: J. Cherry, ed., NATO Advanced Research Workshop " Role of biotechnology in the improvement of stress tolerance in crop plants", Maratea, Italy, Springer-Verlag, Berlin, P. **279-289**, 1994.

12. H. T. Nguyen, **C. P. Joshi**: RAPD analysis in tetraploid and hexaploid wheats. In: Progress in genome mapping of wheat and related species: Proceedings of the Third public workshop of the International Triticeae Mapping Initiative, (Hoisington D, and A. McNab, eds.), El Batan, Mexico, D.F.: CIMMYT, P. **47-50**, 1993.

13. H.T. Nguyen, C.P. **Joshi**: Molecular and genetic analysis of heat tolerance in plants. In: Mabry TJ, Nguyen HT, Dixon RA, eds., Proceedings of Applications and prospects

of Biotechnology for arid and semi-arid lands. Lubbock. IC^2 Institute, Austin, USA, PP **93-106**, 1993.

14. H. T. Nguyen, K. L. Hendershot, **C.P. Joshi**: Molecular genetics of stress breeding: Heat Shock Proteins. In: International Crop Science Congress I (D. Buxton et al., ed.), Crop Science Society Of America, Madison, USA, PP **541-547**, 1993.

15. H. T. Nguyen, **C. P. Joshi**: Molecular strategies for the genetic dissection of water and heat stress adaptation in cereal crops. In: Adaptation of Food Crops to Temperature and Water Stress, (G. Kuo, ed.), Asian Vegetable Research and Development Center, Taipei, Taiwan, **PP 3-19**, 1993.

16. D.P.S. Verma, G.H. Miao, **C.P. Joshi,** C.I. Cheon, A. Delauney: Internalization of Rhizobium by plant cells: targeting and role of peribacteroid membrane nodulins. In: Plant Molecular Biology II (R. G. Herrmann and B.A. Larkins, eds.) P. **121-130**, Plenum Press, New York, NY, 1990.

17. **C.P. Joshi**, E. Muller-Gensert, A. Steffen, H. Lorz and O. Schieder: Interclassical protoplast fusion between orchard-grass and Petunia. In: Genetic manipulation and plant breeding. (Horn, Jensen, Odenbach, and Schieder, eds.) Walter de Gruter and Co. Berlin. P. **689-691**, 1986.

18. **C.P. Joshi** and O. Schieder: Isolation, culture and regeneration of legume protoplasts. In "Proceedings of Recent advances in plant cell and tissue culture of economically important plants", p**. 1-4**, 1986.

Conference Proceedings: Invited seminars and Presented Posters: 135

1. **C.P. Joshi**: Taught a 2-weeks long short course on “Genomics and Biotechnology” at SP Pune University by invitation of India’s highly prestigious GIAN program during November 7 to 18, 2016. Host Dr. Sujata Bhargava.

2. **C.P. Joshi**: Improving bioenergy production via genetic engineering of plant cell walls. Presented as Professor G. B. Deodikar memorial invited seminar at Agharkar Research Institute, Pune on November 17, 2016. Host: ARI Director Kishore Paknikar.

3. **C. P. Joshi:** VIGS-Mediated screening of secondary cell wall genes for identifying targets for genetic improvement of saccharification efficiency in bioenergy plants. Presented at 5th Pan-American Congress on Bioenergy during August 4 to 8th 2016 at Santa Fe, New Mexico.

4. **C. P. Joshi:** VIGS-Mediated Functional Characterization of Secondary Cell Wall Genes for Improved Bioenergy Production. Presented during May 12-17th 2016 at Minoa Palace, Chania, Greece.

5. (invited seminar) **C. P. Joshi:** Fourth Generation Biofuels: Improving Bioenergy Production via Genetic Engineering of Plant Cell Walls. Presented at Kasetsart University, Bangkok, Thailand on November 17 2015. Host: Dr. Arinthip Thamchaipenet

6. (invited seminar) **C. P. Joshi:** Improving Bioenergy Production via Genetic Engineering of Plant Cell Walls. Presented at Shenzhen University, Shenzhen, China on November 19, 2015. Host: Vice Dean Dr. Beixin Mo

7. (Poster) Yogesh Ahlawat and **C. P. Joshi**: Heterologous expression of Laccases and Peroxidase genes from Arabidopsis thaliana to manipulate the process of lignification in poplars. Presented at 3rd IPPCongress-2015, New Delhi, India on December 11, 2015.

8. (Poster) Yogesh Ahlawat and **C. P. Joshi**: Heterologous expression of Laccases and Peroxidase genes from Arabidopsis thaliana to manipulate the process of lignification in poplars. Presented at LSTI forum at Michigan Tech on October 6, 2015.

9. (Invited seminar) **C. P. Joshi**: Genetic improvement of Plant Cell Walls for Better Bioenergy production. Presented at the BIT's 5th annual congress on Molecular and Cell Biology meeting, Nanjing, China during April 24-28, 2015. Also I chaired the session on Plant and Bacterial cell walls at this meeting.

10. (Invited seminar) **C. P. Joshi**: Genetic improvement of plant cell walls for better bioenergy production. Presented at City University of Hong Kong, China on December 22, 2014; Host: Professor Carol Lin.

11. (Invited seminar) C. P. Joshi: Genetic manipulation of plants for better bioenergy production**.** Presented at Huazhong Agricultural University, Wuhan, China on December 18, 2014; Host: Professor Liangcai Peng.

12. (Invited seminar) C. P. Joshi: Plant Cell Walls for Bioenergy**.** Presented at Shanxi Agricultural University, Shanxi, China on December 15, 2014; Host: Professor Runzi Li.

13. Invited speaker on "Genetic engineering of cellulose synthesis in plants" at Chonnam National University at Gwangju, Korea on April 21, 2014. Host: Professor Hyeun-Jong Bae

14. Invited speaker on "Genetic improvement of cell walls for improved bioenergy production" at Kung Hee University at Suwon, Korea on April 24, 2014. Host: Professor Jae-Heung Ko

15. Invited speaker on "Genetic master switches of cellulose synthesis in plants" at Annual meeting of Council for Plant Biotechnology Research (CPBR) at Washington, DC held March 3-5, 2014.

16. Invited speaker on "Genetic improvement of plant cell walls for bioenergy production" at the Nara Institute of Science and Technology, Nara, Japan, January 31, 2014. Host: Professor Taku Demura.

17. Invited Keynote Speaker on "Genetic engineering of plant cell walls for improved bioenergy production" at the symposium on "New plant GM techniques, prospective GM resources useful for bio-production, and social acceptance of GM resources in

the world" during the Innovative Bio-production Project meeting at Kobe University in Japan (iBioK), January 29-30, 2014.

18. Invited Keynote Speaker on “Designing better cell walls for improved bioenergy production” at Bioenergy Summit 2013 “Enabling Sustainable Energy Access for India” at New Delhi, India on September 11, 2013.

19. Invited as Instructor for 2nd IUFRO Task force on Education in Forest Science’ Learning initiatives “Forests in Climate Change” course during September 2-11, 2013, Artvin, Turkey.

20. (Invited seminar) **C. P. Joshi**: **Cellulose synthesis in poplars.** Presented at POSTECH, Pohang, Korea on June 11th, 2013; Host: Professor Youngsook Lee.

21. (Invited seminar) **C. P. Joshi**: **Designing Plant Cell Walls for Better Bioenergy production.** Presented at the BIT’s 3rd Bioenergy meeting, Nanjing, China during April 25-27, 2013. Also Chaired that session.

22. (Invited seminar) **C. P. Joshi**: **Better Cell Walls for Better Bioenergy**. Presented at Nanjing Forestry University, Nanjing, China on April 22, 2013; Host: Professor Jisen Shi.

23. (Invited seminar) **C. P. Joshi**: **Novel Strategies for Designing Cell Walls of Bioenergy Plants.** Presented at Nanjing Agricultural University, Nanjing, China on April 24, 2013; Host: Dean and Professor Guohua Xu.

24. (Poster) Donghwan Shim, Pennsylvania State University; Won Park, Chonnam National University; Josh Herr, Pennsylvania State University; Charles Addo-Quaye, Pennsylvania State University; Sung Ju Ahn, Chonnam National University; Mi Chung Suh, Chonnam National University; Juyoung Kim, Chonnam National University; **Chandrashekhar Joshi, Michigan Technological University;** Sheng Luan, University of California - Berkeley, CA; Kyung-Hwan Han, Michigan State University; Jungmook Kim, Chonnam National University; John E. Carlson, Chonnam National University. **Transcriptome analysis of Camelina sativa: candidate genes for an emerging stress tolerant biodiesel crop.** Presented at the Plant and Animal Genome Asia, March 17-19, 2013 at Singapore.

25. (Poster) John E. Carlson, Chonnam National University, Gwangju, South Korea, Charles Addo-Quaye , Pennsylvania State University, University Park, PA, Josh Herr , Pennsylvania State University, University Park, PA, Donghwan Shim , Pennsylvania State University, University Park, PA, Juyoung Kim , Chonnam National University, Gwangju, South Korea, Bhargavi Panchangam , Pennsylvania State University, University Park, PA, Mi Chung Suh , Chonnam National University, Gwangju, South Korea, **Chandrashekhar Joshi , Michigan Technological University, Houghton, MI,** Sung Ju Ahn , Chonnam National University, Gwangju, South Korea, Sheng Luan , University of California - Berkeley, CA, Berkeley, CA, Kyung-Hwan Han , Michigan State University, East Lansing, MI, K. Arumuganathan , Virginia Mason Research Center, Seattle, WA, Jungmook Kim , Chonnam National University, Gwangju, South Korea. **The Camelina sativa “CAME” Genome project.** Presented at the Plant and Animal Genome Asia, March 17-19, 2013 at Singapore.

26. (Invited seminar) **C. P. Joshi**: Designing Plant Cell Walls for Better Bioenergy production. Presented at the Bioenergy meeting, Gwangju, South Korea during November 23-24, 2012.

27. (Invited seminar) **C. P. Joshi**: Plant Cell Wall Biotechnology for Better Bioenergy. Presented at the Petrotech 2012 meeting, New Delhi, India during October 14-17, 2012.

28. (Invited presentation) **C. P. Joshi**: ATLANTIS Program@ Michigan Tech, presented at the annual Project director's meeting at North Carolina State University, Raleigh during June 5-9, 2012.

29. (Invited seminar) **C. P. Joshi**: Building better cell walls for better bioenergy production. Presented at the Research Institute of Forestry, Chinese Academy of Forestry, Beijing organized by Professor Meng-zhu Lu, Research Institute of Forestry on June 15, 2012.

30. (Invited seminar) **C. P. Joshi**: Cell wall engineering for better bioenergy production. Presented at the Symposium and Annual Meeting of The Korean Society for Plant Biotechnology at Chung Buk University, Cheong Ju, Korea during June 8-9, 2012.

31. (Invited seminar) **C. P. Joshi**: Cell Wall Biotechnology for Improved Bioenergy Production. Presented at BIT's Second Annual World Congress of Bioenergy meeting, Xi An, China during April 24-April 28, 2012 (also Chaired session 402 on Biomass Feedstock and was on their Scientific Advisory Board).

32. (Invited seminar) Bullock, BP, Agestam E, **C. P. Joshi** and Kovanen, M: ATLANTIS Program: Transatlantic MS degree program in Forest Resources, presented at the annual Project director's meeting at Brussels, Belgium during March 20-24, 2012.

33. Joshua R. Herr[1], Charles Addo-Quaye[1], Donghwan Shim[1], Juyoung Kim[2], Saet Buyl Lee[2], Ji Eun Lee[2], Hyojin Kim[2], Anh Nguyen Quynh[2], K. Arumuganathan[3], Mi Chung Suh[2], Sung Ju Ahn[2], Jungmook Kim[2], Kyung-Hwan Han[2,4], **Chandrashekhar Joshi[2,5]**, Sheng Luan[2,6] and John E. Carlson[1,2], (1) Pennsylvania State University, University Park, PA, (2) Chonnam National University, Gwangju, South Korea, (3) Virginia Mason Research Center, Seattle, WA, (4) Michigan State University, East Lansing, MI, (5) Michigan Technological University, Houghton, MI, (6) University of California - Berkeley, CA, Berkeley, CA: The *Camelina sativa* Genome Project: An Emerging Stress-Tolerant Biofuel Seed Crop in the Brassicaeae. Presented at the Plant and Animal Genome XX Conference (January 14-18, 2012) held at the Town & Country Hotel in San Diego, California.

34. (Invited seminar) **C. P. Joshi**: Tree cell wall biotechnology for improved bioenergy production. Presented at Bioenergy mini-symposium organized by Professor Jae Yeon Kim of World Class University program of Gyeongsang National University (GNU) at Jinju, Korea on June 14, 2011.

35. (Invited seminar) **C. P. Joshi**: Biotechnological Improvements in Tree Biomass and Bioenergy Production. Presented at "Strategy on Development of Forest Genetic Resources against Climate Change" meeting at Ramada Plaza, Suwon, organized by the Department of Energy Science, Korea Forest Research Institute, Suwon, Korea during May 30-June 1, 2011.

36. (Poster) Haley Rupp and **C. P. Joshi**: Unraveling cellulose biosynthesis in poplars. To be presented at the 1 st WoW 2011 Plant Cell Wall conference at University of British Columbia, Canada during June 1-3rd, 2011.

37. (Invited seminar) **C. P. Joshi**: Biotechnology for Bioenergy Production. Presented at the Department of Biology, Capital Normal University, Beijing, China on May 23rd, 2011.

38. (Invited seminar) **C. P. Joshi**: Genetic Engineering of Plant Biomass for Bioenergy Production. Presented at Department of Energy Science, Sungkyunkwan University, Suwon, Korea on May 11th, 2011.

39. (Invited seminar) **C. P. Joshi**: Biotechnological Improvements in Plant Biomass and Bioenergy Production. Presented at the 3rd WCU workshop of the Department of Bioenergy Science and Technology, Chonnam National University, Gwangju, Korea on April 12, 2011.

40. (Invited seminar) **C. P. Joshi**: Genetic engineering of cellulose biosynthesis in poplars. Presented at the ACS 241st National Meeting at Anaheim, CA during March 27-31st, 2011.

41. (Poster) Haley Rupp and **C. P. Joshi**: Cellulose biosynthesis in trees. Presented at the 7th Annual ESC/BRC Graduate Research Forum in the Hesterberg Hall Atrium of the School of Forest Resources and Environmental Sciences on the Michigan Tech campus on Friday, March 25th, 2011.

42. (Invited seminar) Bullock B, Agestam E, **C.P. Joshi** and Kovanen M: Addressing forest sustainability a transatlantic Master's degree program in forest resources. Presented at Project Director's Conference at Free University, Berlin during October 12-14, 2010.

43. (Invited seminar) **C. P. Joshi**: Biotechnological engineering of cellulose synthesis in poplars. Presented at the Nippon Paper Industries, Tokyo, Japan, on June 23, 2010

44. (Invited seminar) **C. P. Joshi**: Cellulose synthesis in poplars. Presented at the Institute of Plant Physiology and Ecology, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai, China, on June 9, 2010

45. (Invited seminar) **C. P. Joshi**: Cellulose synthesis in bioenergy trees. Presented at Department of Biological Science, Sookmyung Women's University, Seoul, Korea, on May 19, 2010

46. (Invited presentation) **C. P. Joshi and J. Kim**: Bioenergy Science and Technology. Presented at WCU International Conference held at JW Marriott Hotel, Seoul, Korea, on May 18, 2010

47. (Invited seminar) **C. P. Joshi**: Functional Genomics based strategies for unraveling cellulose synthesis in bioenergy trees. Presented at Crop Functional Genomics symposium 2010 International Symposium to be held at Ramada Plaza Jeju Hotel, Jeju Island, Korea, on April 14-16, 2010.

48. (Invited seminar) **C. P. Joshi**: Virus-induced gene silencing offers a functional genomics platform for studying plant cell wall formation. Presented at the World Class University 2010 International symposium on Bioenergy Science and Technology, CNU, Gwangju, Korea on March 16, 2010.

49. (Poster by graduate student) Jacob Ladd and **C. P. Joshi**: Growth improvements in Poplar. Presented at the sixth Annual ESC/BRC Graduate Research Forum on Friday, March 26th, 2010 in the Hesterberg Hall Atrium of the School of Forest Resources and Environmental Sciences on the Michigan Tech campus.

50. (Poster by graduate student) Aparupa Sengupta and **C. P. Joshi**: Molecular characterization of transgenic poplar plants altered in cellulose synthesis. Presented at the sixth Annual ESC/BRC Graduate Research Forum on Friday, March 26th, 2010 in the Hesterberg Hall Atrium of the School of Forest Resources and Environmental Sciences on the Michigan Tech campus.

51. (Invited seminar) **C.P. Joshi**: Genetic engineering of cellulose biosynthesis in bioenergy trees. Presented at KTDRC, University of Kentucky at Lexington, KY on January 28, 2010.

52. (Invited seminar) **C.P. Joshi**: Biotechnological improvement of cellulose biosynthesis in bioenergy trees. Presented at World Class University Project meeting at Gwangju, Korea during December 13-14, 2009.

53. (Invited seminar) **C.P. Joshi**: Genetic engineering of poplars for biofuel production via altered synthesis of cellulose. Presented at Tree Biotechnology meeting at Whistler, BC, Canada during June 28-July 2, 2009.

54. **C.P. Joshi**: Transformation of trees to creepers: Contribution of cellulose biosynthesis in secondary cell walls of secondary xylem to growth habit of transgenic poplar trees. Presented at Gordon Research Conference during August 2-7, 2009 at Bryant University, Smithfield, RI.

55. (Invited seminar) **C.P. Joshi**: Building bridges to the cell wall for improved bioenergy production. Presented at Joint Bioenergy Institute, Emerville, CA on May 8th, 2009.

56. (Invited seminar) **C. P. Joshi**: Biotechnological Improvement of Cellulose Biosynthesis in Poplar Trees for Better Bioenergy Production. Presented at “Plant and Bioenergy” Symposium of ASPB during June 21-26, 2008 at Merida, Mexico.

57. (Invited seminar) **Chandrashekhar P. Joshi**, Yunxia Liu, Shivegowda Thammannagowda, Takeshi Fujino, Utku Avci, Lisa M. McDonnell, Robert Sykes, Mark F. Davis, Candace H. Haigler, Rama Joshi, and Shawn D. Mansfield: Metamorphosis of trees to creepers: Perturbation of wood cellulose biosynthesis produces pleiotropic effects in transgenic aspen trees. Presented at the Third meeting on plant cell wall biosynthesis during June 5-8, 2008 at the Asilomar Conference Center, CA.

58. (Invited seminar) **C. P. Joshi**: Towards Genetic Enhancement of Cellulose Biosynthesis in Trees. Presented at the Hanover Forest Science seminar Series on

November 6th, 2007 at Department of Forestry, Michigan State University, East Lansing, MI.

59. (Invited seminar) **C. P. Joshi**: Building better trees for tomorrow. Presented at the 3rd annual banquet meeting of Sustainable Future Institute on October 10, 2007 at Michigan Technological University, Houghton, MI.

60. (Invited seminar) **C. P. Joshi**: Functional genomics based genetic improvement of cellulose biosynthesis in poplars. Presented at the10th International Congress for Biotechnology in the Pulp and Paper Industry (ICBPPI 2007) during June 10-14, 2007 at Madison, WI.

61. S. Thammanagowda, Z. Fei, O. Crasta and **C. P. Joshi**: Use of Affymetrix poplar whole genome arrays for global transcriptome analysis of tension wood formation in aspen trees. Presented at the Annual meeting of American Society of Plant Physiologists during July 7-11, 2007 at Chicago, IL.

62. Yunxia Liu, Takeshi Fujino, Shivegowda Thammanagowda, Fuyu Xu, and **Chandrashekhar P. Joshi**: Spatiotemporal regulation of three coordinately expressed poplar cellulose synthase genes involved in xylem development and tension wood formation. Presented at the Annual meeting of American Society of Plant Physiologists during July 7-11, 2007 at Chicago, IL.

63. Xu Fuyu and **C. P. Joshi**: Genome-wide expression analysis of Sucrose Synthase Genes in the Poplar Trees. Presented at the Annual meeting of American Society of Plant Physiologists during July 7-11, 2007 at Chicago, IL.

64. (Invited seminar) **Chandrashekhar P. Joshi**, Yunxia Liu, Fuyu Xu, Shivegowda Thammannagowda, Rama C. Joshi, Chung-Jui Tsai, Zhangjun Fei, Oswald R. Crasta, Mark F. Davis: Efficacy of poplar genome information in unraveling mystery of cellulose biosynthesis. Presented at the IUFRO Tree Biotechnology meeting, Azores, Portugal during June 3-8, 2007.

65. Lisa M McDonnell, K-Y Kang, P. Brar, **C. P. Joshi** and S.D. Mansfield: Genetic engineering of cellulose biosynthesis in hardwood and softwood trees. Presented at the Second USDA grantee meeting at the Marriott Hotel, Washington, DC during March 12-14, 2007.

66. (poster) F. Xu and **C. P. Joshi**: Structure, Expression and Evolution of Sucrose Synthase Genes in *Populus* Genome. Presented at The Third Annual ESC/BRC Graduate Research Forum on Friday, February 23rd, 2007 in the Hesterberg Hall Atrium of the School of Forest Resources and Environmental Sciences on the Michigan Tech campus.

67. (poster) S. Thammangowda, Z. Fei, O. R. Crasta and **C. P. Joshi**: Global transcriptome analysis during tension wood formation in aspen trees. Presented at The Third Annual ESC/BRC Graduate Research Forum on Friday, February 23rd, 2007 in the Hesterberg Hall Atrium of the School of Forest Resources and Environmental Sciences on the Michigan Tech campus. (Grand prize winner, BRC 2007)

68. (Invited seminar) **C. P. Joshi**: Applications of Nanoscale Sciences to Cell Wall Biotechnology in Trees. Presented at the International Symposium on "Frontiers in Nanoscale Science, Technology and Education", Cochin, India during August 15-19, 2006.

69. (Poster) Xu F and **C. P. Joshi**: Protein-Protein Interactions among Cellulose Synthases from Aspen and Arabidopsis. Presented at the "Plant Biology 2006" Annual meeting of Plant Biologists at Boston, MA during August 5-9, 2006. (Travel grant winner from ASPB and BRC)

70. (Poster) Thammangowda S, Fujino T and **C. P. Joshi**: Perturbation of cellulose biosynthesis in transgenic aspen trees. Presented at "Plant Biology 2006" Annual meeting of Plant Biologists at Boston, MA during August 5-9, 2006.(Travel grant winner, BRC)

71. (Invited seminar) **Chandrashekhar P. Joshi**: Power of Genetic engineering for sustainable future. Presented at the Sustainable Futures Colloquium, MTU on April 12, 2006.

72. (Invited seminar) **Chandrashekhar P. Joshi**, Takeshi Fujino, Shivegowda S.T., Suchita Bhandari, Dongyan Zhang, Pushpinder Brar, Rama C. Joshi, and Fuyu Xu: The ways and means of boosting cellulose production in transgenic trees. Presented at the IUFRO Tree Biotechnology meeting, University of Pretoria, South Africa, Nov 5-11, 2005.

73. (Invited seminar) **Chandrashekhar P. Joshi**: Genetic engineering of cellulose biosynthesis in hardwood and softwood trees. Presented at the First USDA grantee meeting at the Airlie Center, Warrenton, VA on February 27, 2006.

74. Shivegowda, S.T, Takeshi Fujino, and **Chandrashekhar P. Joshi**: Cellulose-deficient wood: A novel phenomenon of cellulose synthesis perturbation via PtrCesA1 overexpression in transgenic aspen trees. Poster presented at The Second Annual ESC/BRC Graduate Research Forum on Friday, February 24th, 2006 in the Hesterberg Hall Atrium of the School of Forest Resources and Environmental Sciences on the Michigan Tech campus. (Merit prize winner, BRC 2006)

75. Fuyu Xu and **Chandrashekhar P. Joshi**: Discovery of Protein-Protein Interactions among Secondary Cellulose Synthases in Aspen. Poster presented at The Second Annual ESC/BRC Graduate Research Forum on Friday, February 24th, 2006 in the Hesterberg Hall Atrium of the School of Forest Resources and Environmental Sciences on the Michigan Tech campus.

76. Pushpinder Brar, Ashalatha Lakkavaram and **Chandrashekhar P. Joshi**: Genomic organization and expression profile of sucrose synthase genes in aspen trees. Poster presented at The Second Annual ESC/BRC Graduate Research Forum on Friday, February 24th, 2006 in the Hesterberg Hall Atrium of the School of Forest Resources and Environmental Sciences on the Michigan Tech campus.

77. (invited seminar) **Chandrashekhar P. Joshi**, Takeshi Fujino, Shivegowda S.T., Suchita Bhandari, Dongyan Zhang, and Fuyu Xu: Transgenic Approaches toward Elucidating Cellulose Biosynthetic Processes in Trees. Presented at the second

meeting on plant cell wall biosynthesis during August 4-7, 2005 at the Asilomar Conference Center, CA.

78. (poster) **Chandrashekhar P. Joshi**, Takeshi Fujino, Suchita Bhandari, Fuyu Xu, Shivegowda Thammannagowda, Dongyan Zhang, Anita Samuga, and Udaya Kalluri: Xylem-specific and tension stress-responsive expression of three secondary wall-associated cellulose synthases and a membrane-anchored korrigan cellulase from aspen trees. Presented at American Society of Plant Biologists meeting at Seattle, WA during July 17-20, 2005

79. (Poster) Takeshi Fujino, Suchita Bhandari, and **Chandrashekhar P. Joshi**: Coordinated Expression of Secondary Wall-Associated Cellulose Synthase and *Korrigan* Cellulase Genes during Tension Wood Formation in Aspen Trees Presented at the second meeting on plant cell wall biosynthesis during August 4-7, 2005 at the Asilomar Conference Center, CA (BRC Travel grant winner).

80. (invited seminar) **C. P. Joshi**: Cellulose biosynthesis in poplars: a progress report. Invited seminar given at University of British Columbia (UBC), Vancouver, Canada on July 14, 2005.

81. (Poster) P. Brar and **C.P. Joshi:** Impact of Overexpression of Cellulose Biosynthesis-Related Genes on Aspen Trees. 1st annual ESC/BRC research Forum, Michigan Technological University, Houghton, MI on February 25, 2005.

82. (Poster) P. Ranjan, **C.P. Joshi** and C.J. Tsai: Diversity, Distribution and Features of LTR Retrotransposons in Selected Plant Genomes. 1st annual ESC/BRC research Forum, Michigan Technological University, Houghton, MI on February 25, 2005.

83. (Poster) S. Thammangowda and **C.P. Joshi**: Transgenic Approaches to Unravel the Cellulose Biosynthetic Process in Aspen. 1st annual ESC/BRC research Forum, Michigan Technological University, Houghton, MI on February 25, 2005 (BRC Merit award winner 2006).

84. (Poster) F. Xu and **C.P. Joshi**: Discovery of Protein-Protein Interactions among Secondary Cellulose Synthases in Aspen. 1st annual ESC/BRC research Forum, Michigan Technological University, Houghton, MI on February 25, 2005 (BRC Merit award winner 2006).

85. (Invited participant) **Chandrashekhar P. Joshi**: Populus genome annotation jamboree. December 6-10, 2004 at Joint Genome Institute, Walnut Creek, CA.

86. (Invited Seminar) **Chandrashekhar P. Joshi**: Biotechnology of cellulose biosynthesis in poplars. Presented at Nanotechnology workshop for the forest product industries during October 17-19, 2004 at Washington, D.C.

87. (Invited seminar) **Chandrashekhar P. Joshi:** Cellulose biosynthesis in Plants. Seminar given at Thapar Institute of Engineering and Technology, Patiala, Punjab, India on August 12, 2004.

88. (Poster) Bhandari S., T. Fujino, **C.P. Joshi**: Expression studies of a membrane anchored endo-1,4 β glucanase, Korrigan (Kor) gene from aspen. Presented at

"Functional genomics of environmental adaptation in Populus" at Gatlinburg, TN during October 11th to 13th, 2004.

89. (Invited seminar) **Chandrashekhar P. Joshi:** Wonderful world of cellulose synthases. Seminar presented at Kansas State University, Manhattan, KS on May 13, 2004.

90. (Invited seminar) **Chandrashekhar P. Joshi,** T. Fujino, X. Liang, F. Xu, S. Thammanagowda, A. Samuga, and U. Kalluri: Differential expression patterns of several cellulose biosynthesis related genes in aspen trees. Symposium honoring Professor Debby Delmer on "Biosynthesis of cellulose and other cell wall polymers" by American Chemical Society. Presented during March 29-March 30, 2004 at Anaheim, CA.

91. (Invited seminar) **Chandrashekhar P. Joshi**: Three amigos: Coordinate expression of three cellulose synthase genes in aspen trees. Chemical Sciences Colloquium, Michigan Technological University, Houghton, MI presented on October 31, 2003.

92. **Chandrashekhar P. Joshi,** Xiaoe Liang, Anita Samuga, and Udaya C. Kalluri: Coordinate expression of three cellulose synthase genes implicated in the cellulose biosynthesis of xylem secondary cell walls in aspen trees. Poster presented at the Gordon Research Conference on "Plant Cell walls" during August 10-15, 2003, Meriden, NH.

93. (Invited seminar) **Chandrashekhar P. Joshi,** Xiaoe Liang, Anita Samuga, and Udaya C. Kalluri: Coordinate expression of three cellulose synthase genes may orchestrate cellulose biosynthesis during the wood formation in aspen trees. Annual American Society of Plant Biologists meeting during July 24-30, 2003 at Honolulu, Hawaii.

94. (Invited seminar) **Chandrashekhar P. Joshi,** Xiaoe Liang, Anita Samuga, and Udaya C. Kalluri: Three distinct Cellulose Synthases may help building the xylem secondary walls in aspen. Presented at Tree Biotechnology meeting during June 7-12, 2003 at Umea, Sweden

95. (Invited seminar) Chung-Jui Tsai, Darren Touchell, Mijeong Jeong, Hongyiang Jiang, Yu-Ying Kao, Maria Hernandez, Tae-Jin Lee, Priya Ranjan, **Chandrashekhar Joshi**, and Scott Harding. Populus Cell Culture as A Component For Functional Genomic Research. Presented by Dr. Tsai at the Tree Biotechnology meeting during June 7-12, 2003 at Umea, Sweden.

96. (Invited seminar) **C.P. Joshi**, X. Liang, A. Samuga and U. Kalluri: Elucidation of cellulose biosynthesis towards modulation of wood composition. Presented at California Institute of Food and Agriculture Conference on "Adding value to Plant Polysaccharides and Polyphenolics, on October 28, 2002 at University of California, Davis, CA.

97. Ranjan P., Kao Y.Y., Harding S., Jiang H., Chiang V., **Joshi C.P**. and Tsai C.: Comparison of metabolic changes in control and transgenic aspen trees by functional evaluation of expressed sequence tags. Poster presented by Ranjan at the First Annual Great Lakes Bioinformatics Retreat, August 27 and 28, 2002 at Waldenwoods Resort, MI.

98. Lu S., Li L., **Joshi C.P**., Zhou Y., Sun J., Zhang Y., Hinchee M., Chiang V.: Molecular cloning and characterization of three cellulose synthases associated with xylem development in Eucalyptus grandis. Poster presented by Lu at American Society of Plant Biologists annual meeting at Denver, CO during August 2-7, 2002.

99. Zhou Y., Li L., **Joshi C.P.,** Lu S., Sun J., Zhang Y., Hinchee M., and Chiang V.: Molecular cloning of cellulose synthase genes from loblolly pine. Poster presented by Zhou at American Society of Plant Biologists annual meeting at Denver, CO during August 2-7, 2002.

100. Samuga A., Chavli, R., Kalluri U., Liang X., **Joshi C.P.:** Isolation of hypervariable II regions from 8 new members of CesA gene superfamily in aspen (Populus tremuloides). Poster presented by Samuga at American Society of Plant Biologists annual meeting at Denver, CO during August 2-7, 2002.

101. Kalluri U., Samuga A., and **Joshi C.P**.: Isolation and characterization of five new full-length cDNAs from cellulose synthase gene superfamily in aspen (Populus tremuloides). Poster presented by Kalluri at American Society of Plant Biologists annual meeting at Denver, CO during August 2-7, 2002.

102. (Invited seminar) **C.P. Joshi:** Xylem-specific and tension stress responsive cellulose synthase genes in aspen trees. Invited seminar given at 24th Biotechnology symposium for fuels and Chemicals, Gatlinburg, TN during April 28-May 1, 2002.

103. (Invited seminar) **C.P. Joshi**, L. Wu, R. Chavli, A. Samuga, V. Chiang: Molecular genetics of cellulose biosynthesis in trees. Invited seminar given at 23rd Biotechnology symposium for fuels and Chemicals, Brackenridge, CO. May 6-9, 2001.

104. (Invited seminar) **C.P. Joshi**, L. Wu, R. Chavli, A. Samuga, V. Chiang: Extent of cellulose synthase gene family from aspen. Invited seminar at the Tree Biotechnology in the next millennium, Stevenson, Washington, July 22-27, 2001.

105. (Invited seminar) **C.P. Joshi**, L. Wu, R.V. Chavli, V.L. Chiang: “Exciting World of Plant Cellulose” presented invited seminar at “In Vitro Biology” meeting, San Diego, CA during June 11-15, 2000

106. L. Wu, T. Fujino, S. Kimura, **C. P. Joshi**, V. Chiang: A xylem-specific cellulose synthase gene from aspen (*Populus tremuloides*) is responsive to mechanical stress. In “Frontiers in Cellulose Science” meeting presented by Chiang, Nov 10-11, 2000 at Kyoto, Japan.

107. (Invited seminar) **C.P. Joshi**: Plant Biotechnology: Are we playing GOD? In Xi Sigma Pi symposium on “GMOs in Forestry” April 8, 2000, Michigan Technological University, Houghton, MI.

108. (Invited seminar) **C.P. Joshi**: "How do plants make cellulose?" Biology Seminar series, May 1999, Michigan Tech University, Houghton, MI

109. (Invited seminar) **C. P. Joshi**, L. Wu, V. Chiang: A novel xylem-specific and tension stress responsive cellulose synthase gene from quaking aspen. Seminar presented at "Forest Biotechnology 99" meeting, Oxford, UK, July 11-16, 1999 pp. 19.

110. L. Li, K. Osakabe, C. C. Tsao, J. L. Popko, T. Umezawa, D. T. Carraway, R. H. Smeltzer, **C. P. Joshi**, V L. Chiang: A clarification of syringyl monolignol biosynthesis. Presented at "Forest Biotechnology 99" meeting by Chiang, Oxford, UK, July 11-16, 1999 pp. 27.

111. **C.P. Joshi**, H. Zhou, X. Huang, V. Chiang: Consensus sequences flanking the translation initiation codon may be useful in genome sequencing of plants. Presented at "Plant and Animal Genome VI" meeting, San Diego, CA, USA, 1998 pp. 77.

112. **C.P. Joshi**, V. Chiang: SAM-dependent Methyltransferase-specific amino acid signatures in plants. Annual American Society of Plant Physiology meeting held in Madison, WI, during June 27-July 1, 1998.

113. Li, L., **C.P. Joshi**, V. Chiang: Molecular cloning and characterization of two O-methyltransferases involved in lignin biosynthesis in loblolly pine (Pinus taeda) Annual American Society of Plant Physiology meeting held in Madison, WI, 1998.

114. Yang Y-C., **C.P. Joshi**, V. Chiang: Fast growth of aspen plants in extremely low frequency electromagnetic fields. Annual American Society of Plant Physiology meeting held in Madison, WI, during June 27-July 1, 1998.

115. (Invited seminar) Li, L., **C.P. Joshi**, V. Chiang: Existence of two multifunctional o-methyltransferases in loblolly pine questions the concept of monofunctional o-methyltransferase in gymnosperms. Invited presentation at IEG-40 workshop on " Wood and Wood Fibers: Properties and Genetic Improvement" held in Atlanta, GA during July 19-22, 1998.

116. (Invited seminar) Hao L., Li L., Yang Y., **C.P. Joshi** and Chiang V.: Application of Differential display in Wood Biotechnology. Invited oral presentation at the Second International Wood Biotechnology Symposium. Canberra, Australia, 1997.

117. Li L, X. Zhang, **C.P. Joshi** and V.L. Chiang: Differential display mediated identification of compression stress induced cDNAs in loblolly pine. American Society of Plant Physiology meeting at Vancouver, BC, Canada, 1997.

118. (Invited seminar) **C.P. Joshi**, Kumar S., Klueva, N, Joshi R., Nguyen H.T., Hao L., Zhang X, Tsao C., Chiang V: Modified Differential display for the cloning of multigene family members in plants. Invited talk at "Differential display and related techniques for gene discovery" meeting, Cold Spring Harbor Laboratory, New York, 1996.

119. (Invited seminar) **C.P. Joshi**, H.T. Nguyen: Differential display mediated rapid cloning and sequencing of the 3' region of several cDNAs from a large heat shock protein gene family. Gordon Research Conference on 'temperature stresses in plants' presented at Oxnard, California, 1995.

120. N. Klueva, **C.P. Joshi**, H.T. Nguyen: A member of HSP26 gene family is associated with thermotolerance in wheat. Keystone Symposium, Stress proteins in biology and medicine. Santa Fe, New Mexico, 1995.

121. **C.P. Joshi**, H.T. Nguyen: Understanding the roles of heat shock proteins in acquired thermotolerance of wheat plants through molecular genetic analysis. Keystone Symp. on 'Improved Crop and Plant Products Through Biotechnology', Keystone, 1994.

122. H.T. Nguyen, K.L. Hendershot, **C.P. Joshi**: Molecular genetics of stress breeding: Heat shock proteins. First International Congress of Crop Sciences, Ames, Iowa, 1992.

123. H.T. Nguyen, **C.P. Joshi** : Molecular strategies for the genetic dissection of water and high temperature stress adaptation in cereal crops. International Symposium on adaptation of Vegetable and other food crops to temperature and water stress, Taipei, Taiwan, 1992.

124. H.T. Nguyen, **C. P. Joshi**: RAPD analysis in tetraploid and hexaploid wheat. International Triticeae Mapping Initiative, CYMMYT, Mexico, 1992.

125. H.T. Nguyen, **C.P. Joshi**: Molecular and genetic analysis of heat tolerance in plants. International symposium on "Applications and prospects of Biotechnology for arid and semi-arid lands" Lubbock, 1992.

126. **C.P. Joshi**, J. Weng, H. T. Nguyen: Molecular cloning and sequencing of wheat ubiquitin gene. Third International Congress of Plant Molecular Biology, Tucson, Arizona, 1991.

127. S. W. King, **C.P. Joshi**, H. T. Nguyen: Analysis of ABA responsive genes in wheat during drought stress. Third International Congress of Plant Molecular Biology, Tucson, Arizona, 1991.

128. Verma D.P.S., G.H. Miao, **C.P. Joshi**, C.I Cheon., A. Delauney: Internalization of *Rhizobium* by plant cell: targeting and role of peribacteroid membrane nodulins. Presented at the VI th NATO/FEBS advanced study Institute on plant molecular Biology, Schloss Elmau, Germany, 1990.

129. **C.P. Joshi** and O. Schieder.: Isolation, culture and regeneration of legume protoplasts. Presented at the National Symposium on "Recent advances in plant cell and tissue culture of economically important plants" held at Hyderabad, India, 1986.

130. **C.P. Joshi**, E.Muller-Gensert, A. Steffen, H. Lorz, O.Schieder.: Interclassical protoplast fusion between orchard grass and petunia . Presented at International Symposium on "Genetic manipulation in plant breeding" held at West Berlin, Germany, 1985.

131. **C.P. Joshi** and O. Schieder: Isolation and culture of mesophyll protoplasts from Vigna radiata and Coronilla varia. The 41st conference in the Easter School Series in Agricultural Sciences held at Nottingham, UK, 1984.

132. S.M. Patankar, **C.P. Joshi** and P.K. Ranjekar: Condensed chromatin in higher plants. The 7th All India Cell Biology Conference held at Hyderabad, India, 1984.

133. **C.P. Joshi**, S.M. Patankar and P.K. Ranjekar: Centromeric heterochromatin in Allium cepa. The 15th International Congress of Genetics held at New Delhi, India, 1983.

134. **C.P. Joshi**, S.M. Patankar and P.K. Ranjekar: Cytomolecular determinants of interphase nuclear structure in plants. The 51st annual meeting of SBC held at Chandigarh, 1982.

135. **C.P. Joshi** and P.K. Ranjekar: A cytochemical technique for heterochromatin visualization. The second FAOB and 49th annual meeting of Society of Biological Chemists (India) held at Bangalore, India, 1980.

Service to my profession:

Michigan Tech University Committees/positions (44) that I served on:

Current Chairmanship and membership: 1
Chairman of the Biological Sciences Department, Michigan Tech (2013-present)

Director: 2
Past Director, University-wide Biotechnology Research Center, 2007-2009
Past Director of SFRES Graduate Program, 2004-2009

Chair: 8
Past Chair of Advisor selection committee, Biological Sciences, 2016
Past Chair of University-Wide Institutional Review Board committee, 2002-2016
Past Interim Chair of the Biological Sciences Department, Michigan Tech (2012-2013)
Past Chair of University-wide Faculty Review (Grievance) Committee, 2006-2009
Past Chair of Promotion and Tenure Committee, SFRES, 2008-2009
Past Chair of Biotechnology Faculty Search Committee (2007-2008), SFRES
Past Chair of graduate studies committee (2000-2003), SFWP
Past Chair of SFWP computer committee (1999-2002), SFWP
**SFRES: School of Forest Resources and Environmental Science; SFWP: School of Forestry and Wood products (prior name of SFRES)

Membership in committees: 33
Past member of departmental coordinator selection committee, Biological Sciences, 2016
Past member of University-wide Research Advisory Committee (2005-2016)
Past member of Responsible Conduct of Research committee (2012- 2016)
Past member of Graduate Dean Selection committee (2015- 2016)
Past member of VPA Chair Selection committee (2015- 2016)
Past member of Chemistry Chair evaluation committee (2015- 2016)
Past participant in Working on Walls (WoW) project at University of British Columbia, Canada (2009-2015)
Past member of Equipment Core Facilities Task Force (ECF) (2012-2013)
Past lead advisor and PI for ATLANTIS program @ Michigan tech (2008-2013)
Past member of the BMB PhD program proposal committee (2010-2012)
Past member of Interschool TPR committee (2011-2012)
Past member of SFRES graduate studies committee; 2010-2012
Past member of Biology faculty selection committee, 2010-2011
Past member of University-wide Graduate Faculty Council, 2007-2009
Past member of SFRES charter revision committee, 2008-2010
Past member of ADVANCE project: University-wide faculty mentoring network, 2008
Past member of Biology faculty selection committee, 2008-2009
Past member of University-wide SFHI faculty search Committee, 2007-2008

Past member of Promotion and Tenure Committee, Biomedical Engineering, 2007-2008
Past member of Promotion and Tenure Committee, SFRES, 2005-2008
Past member of University-wide GA/TA distribution Committee, 2007-2008
Past member of University-wide investigation committee, 2007
Past member of Wetlands Faculty search committee (2005)
Past member of University-wide Graduate Dean Selection committee, 2005
Past Member of Biotechnology Faculty Search Committee (2003-04), SFRES
Past Member of graduate studies committee (2000-2003), SFWP
Past member of SFRES Dean Evaluation committee (2003-04), SFRES
Past Member of plant biotechnology curriculum committee (1998-2000), SFWP
Past Member of University wide computer fees committee (1999-2002)
Past Member of school portfolio/strategic plan committee (1999-2000), SFWP
Past member of SFWP computer committee (1999-2002), SFWP
Past Member of School Council, SFWP, MTU (2001-2002), SFWP
Past Member of Ecology Faculty Search Committee (2002), SFWP

National Proposal Review panels that I have served on: 5

National Science Foundation (Metabolic biochemistry) 2005, 2006, 2007
Department of Energy (Energy Biosciences) 2006
USDA-NRI (Bioenergy and Biobased products) 2008

Reviewed hundreds of papers for the following journals in recent years:

Plant Physiology, Plant Journal, Crop Science, Tree Physiology, BMC Plant Biology, Journal of Plant Physiology, Plant Cell Physiology, International Journal of seed Technology, Phytochemistry, New Phytologist, Journal of Biotechnology, Planta, Journal of Plant Biochemistry and Biotechnology, Cellulose, Molecular Breeding, Journal of Experimental Botany, Plant Cell Report, Plant Biology, Tree genetics and genomics, Molecular Plant, Trees: Structure and Function; Journal of Integrative Plant Biology, Advances in Biosciences and Biotechnology, Journal of Plant Research, Frontiers in Plant Sciences etc.

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