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Wood Science Education in China



Guangping Han
Northeast Forestry University
Harbin, China

Outlines

-  **1 Wood Industry in China**
-  **2 Structure of Wood Education**
-  **3 Wood Science Programs**

China:

Surface: 9.6 Mil. km²

Population: 1.3 Bil.

GDP total: 5.8 Tri. USD

GDP/capita: 4,300 USD



Forest:

- 193 Mil. ha. forest (120 Mil. ha. natural forest, 62 Mil. ha. plantation)
- 20.36% forest coverage rate
- 14.5 Bil. m³ standing forest stock
- 13 Bil. m³ forest storage (11 Bil. m³ natural forest, 2 Bil. m³ plantation)
- More than 7500 species
- Deciduous: birch, poplar, oak, northeast China ash
- Coniferous: spruce, Chinese fir, larch, Korean pine

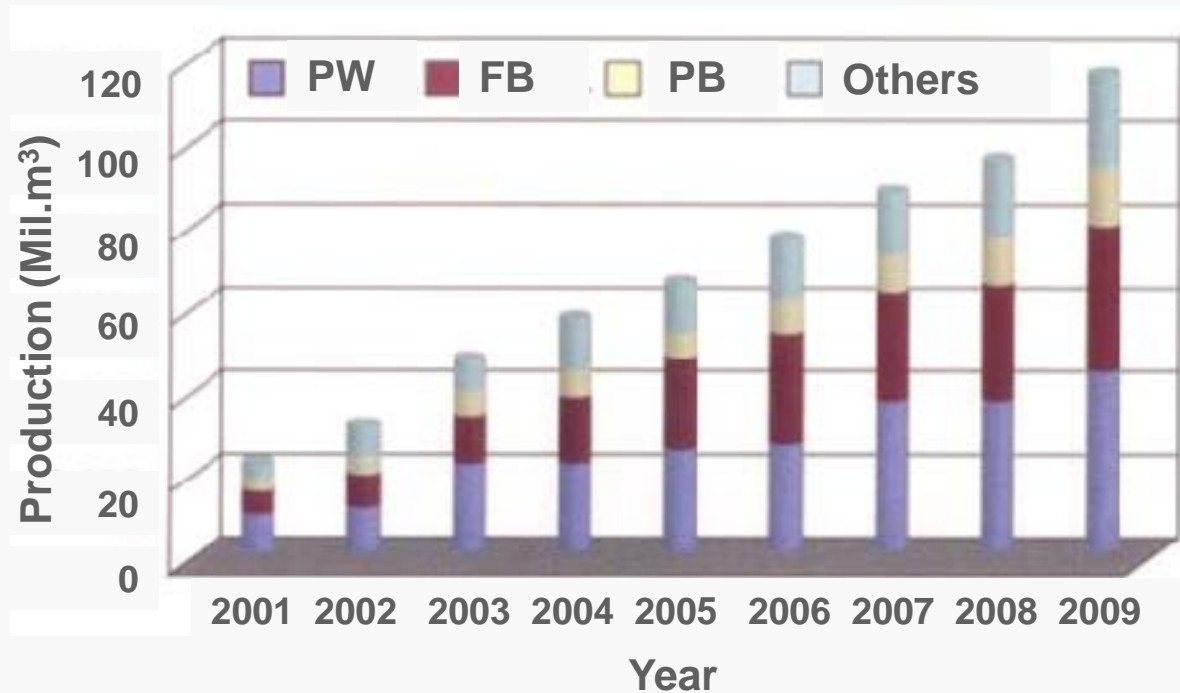


Forest Products Production since Chinese Economic Reform

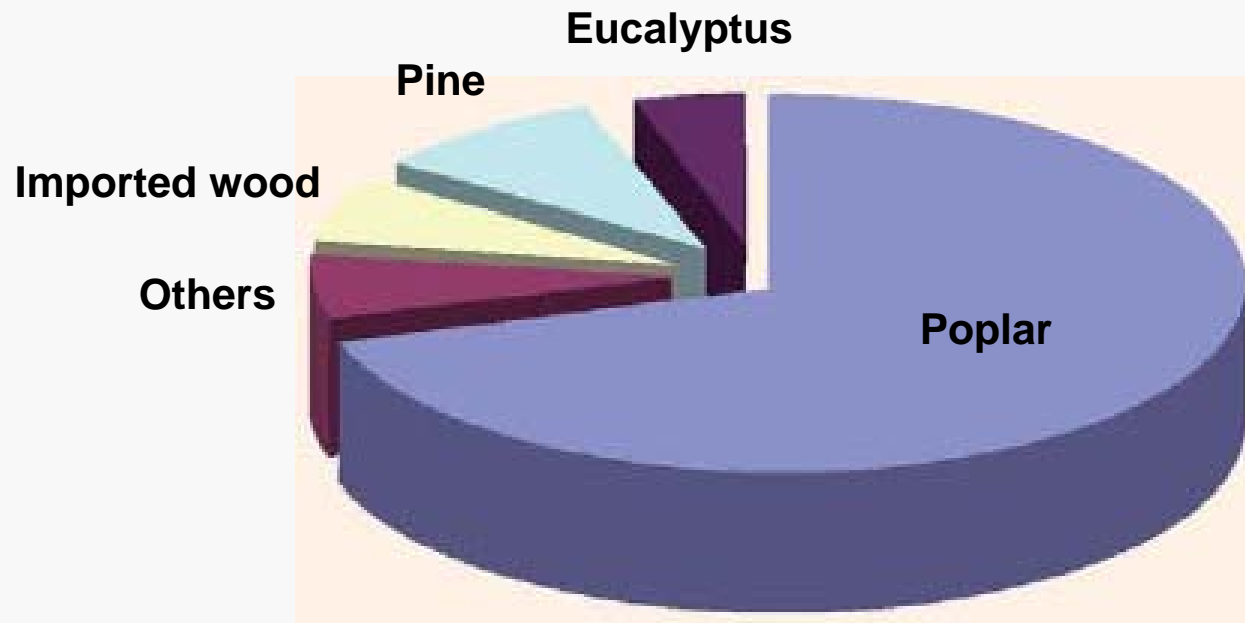
Year	Log Mil. m ³	Sawn Timber Mil. m ³	Panel Mil. m ³	Rosin (x 1000 t)
1978	52	11	0.6	282
1990	56	13	2.4	344
2000	47	6	20	387
2005	56	18	64	606
2009	71	32	115	1000

Panel Industry

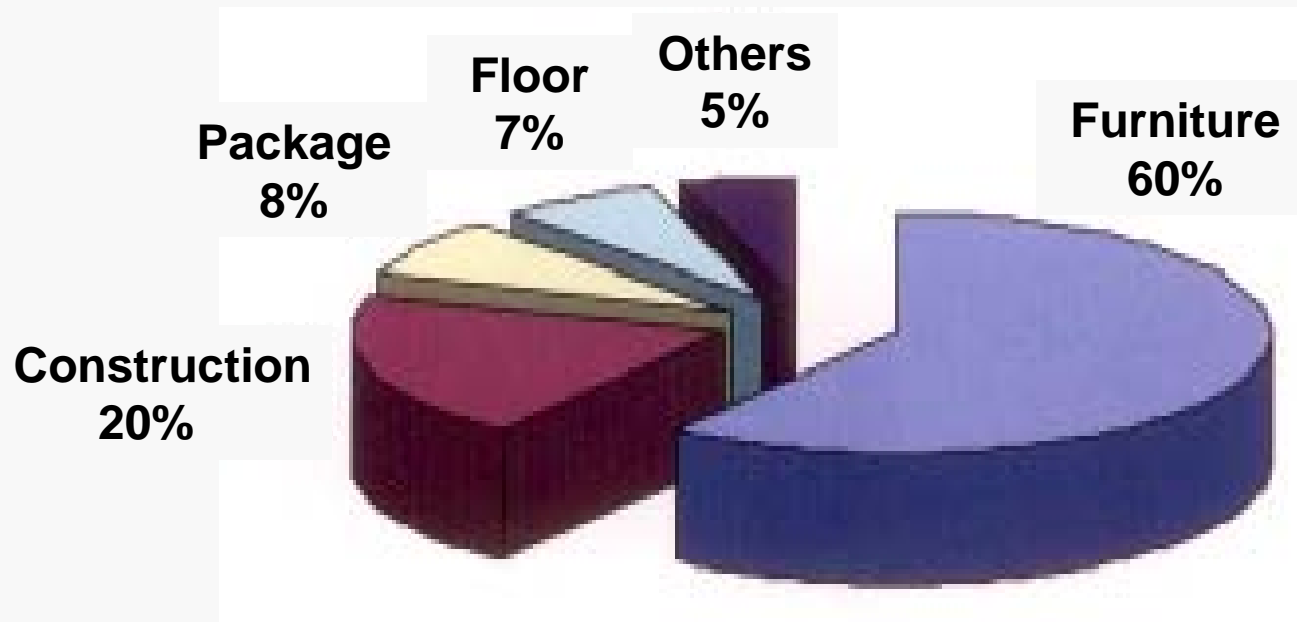
115 Mil. m³ = 44 PW + 35 FB + 14 PB + 22 Other (blockboard)



Major Species for Plywood Production



Panel Applications



Furniture Industry

- Total output value: 135 Bil. USD (Guangdong accounts for 1/3)
- Production in 2010: 770 Mil. Pieces

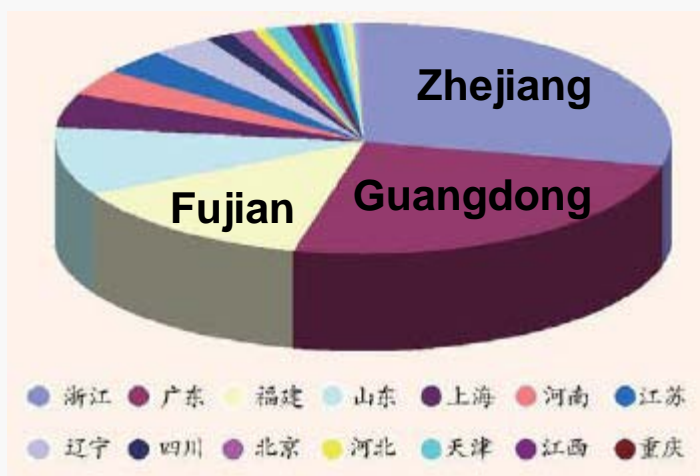
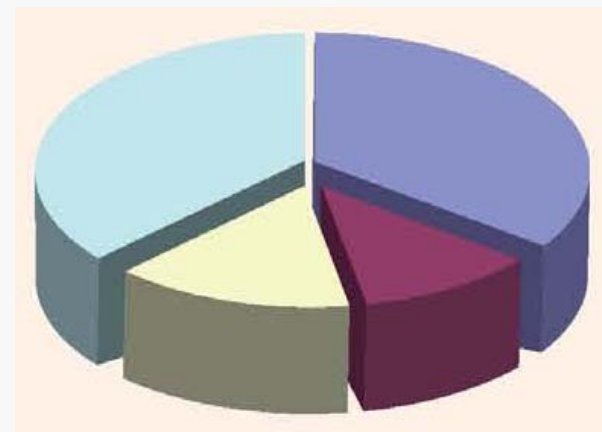


Fig. 1 Furniture output of different provinces



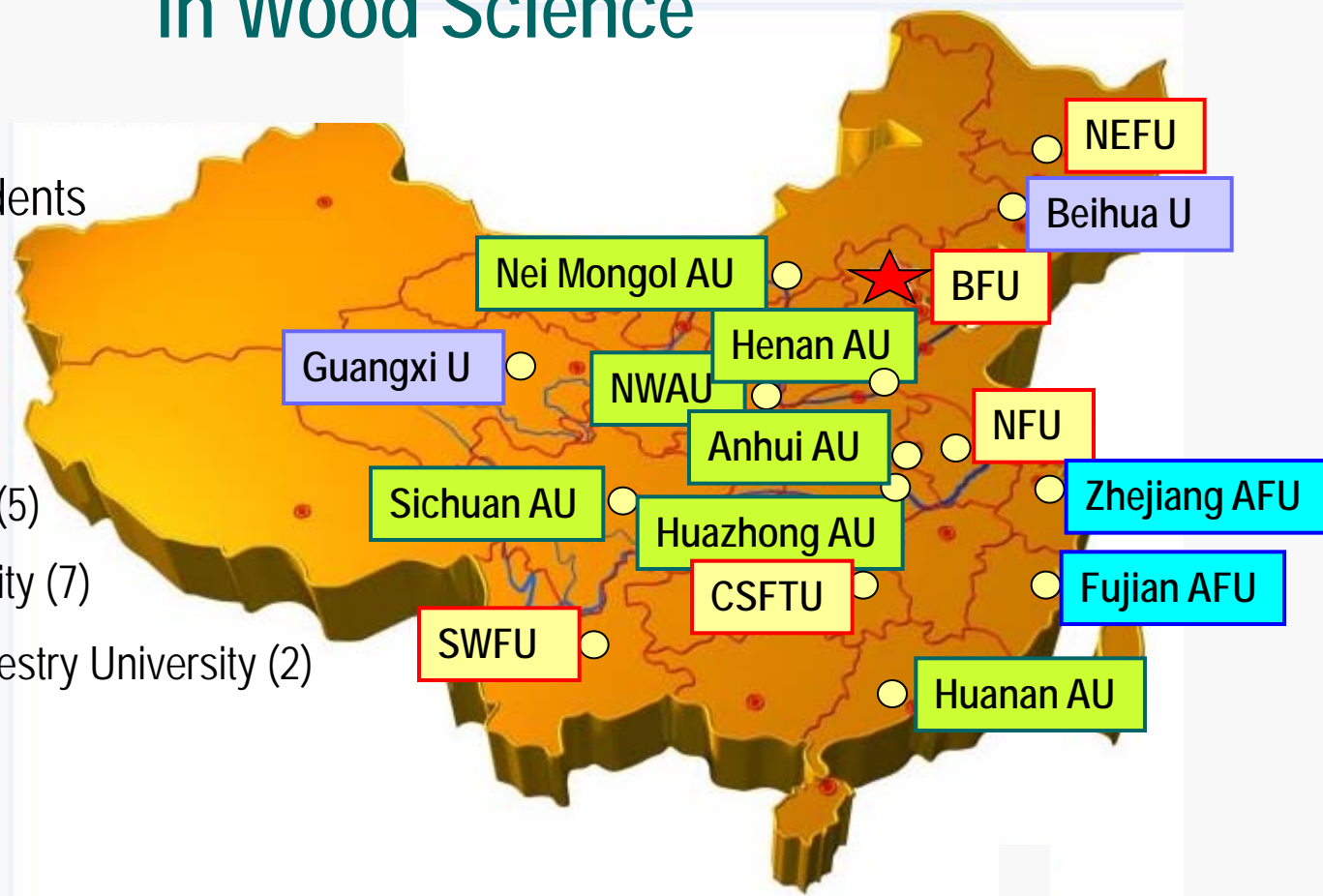
- Composite panels 37%
- Non-wood materials 35%
- Solid wood with joints 16%
- Top-grade solid wood 12%

Fig. 2 Materials for furniture production

Universities with Curricular in Wood Science

Wood Science:

- 16 faculties
- more than 18,000 students
- more than 1,400 staff





NEFU

Founded in 1952 (> 90.000 graduates)

more than 30.000 students + 2.720 staff

17 colleges, 2 forestry stations, 33.000 h of forest land

College of Material Science and Engineering

59 years of professional education (> 6.000 graduates)

1.888 students, 118 staff (31 prof., 36 assoc. prof., 65 Ph.D.)

Majors in:

- Wood Science and Engineering
- Forest Products Chemistry
- Furniture and Interior Design
- Pulp & Paper
- Polymer Material and Engineering
- Material Chemistry
- Art Design (Furniture, Visual Communication)

Undergraduate study – 4 years for B.Sc. (1.567 students)

Graduate study – 3 years for M.Sc. (243 students)

Postgraduate study – 3 years for Ph.D.(78 students)

Beijing Forestry University (BFU), Beijing



BFU

Founded in 1952, its former school (Imperial University of Peking) can be tracked back to the beginning of 20 century.

21.516 students (13.273 undergrad. + 3.171 grad.), 1.035 staff

College of Material Science and Technology

Founded in 1958, 1.700 students and 100 staff (18 prof., 90% Ph.D.)

Undergraduate programs (4 years for B.Sc.):

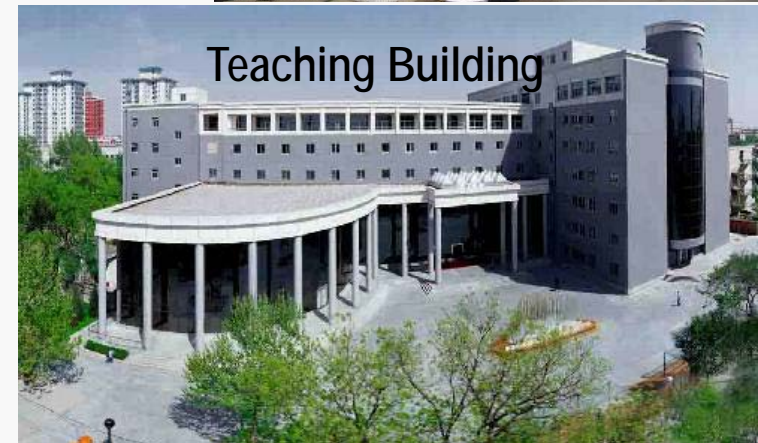
- Wood Science and Engineering
- Furniture Design and Manufacturing
- Fine Chemicals of Forest Products
- Pulp and Paper Technology
- Biomass Energy and Functional Polymer Material
- Environmental Art Design
- Decoration Art Design
- Packaging

Graduate programs (3 years for M.Sc.):

- Wood Science and Technology
- Chemical Engineering of Forest Products
- Art Design

Postgraduate programs (3 years for Ph.D.):

- Wood Science and Technology
- Chemical Engineering of Forest Products



Nanjing Forestry University (NFU), Nanjing

NFU

Founded in 1952 (more than 80.000 graduates)
21 Colleges, 60 Departments, 26.000 students and 1.100 staff

College of Wood Industry

Founded in 1952, more than 1.600 students and 104 staff (36 Ph.D.)

Undergraduate programs (4 years for B.Sc.):

- Wood Science and Engineering
- Wood Composites
- Wood Construction Engineering
- Wood Machinery and Automation
- Package Engineering
- Thermal Energy and Power Engineering
- Environmental Chemical Engineering

Graduate programs (3 years for M.Sc.):

- Wood Science and Technology
- Material Science
- Environmental Engineering
- Machinery Design and Theory
- Control Theory and Engineering

Postgraduate programs (3 years for Ph.D.):

- Wood Science and Technology
- Machinery Design and Theory



Central South University of Forestry and Technology, Changsha

College of Material Science and Engineering

53 years of professional education

80 staff (68 faculty: 14 prof., 21 assoc. prof., 22 lecturer, 37 Ph.D.)

Undergraduate programs – 4 years for B.Sc. (1.350 students):

- Wood Science and Engineering
- Material Chemistry
- Chemical Engineering and Technology
- Forest Chemical Process Engineering
- Polymer Material and Engineering
- Furniture Design and Manufacture
- Pulp & Paper

Graduate programs – 3 years for M.Sc.

- Wood Science and Technology (120 students)
- Forest Chemical Process Engineering (70 students)
- Applied Chemistry
- Chemical Engineering

Postgraduate programs – 3 years for Ph.D.

- Wood Science and Technology (60 students)
- Forest Chemical Process Engineering (36 students)



University

Founded in 1958, 19 colleges + 3 dep.

2.270 staff

1.229 faculty (202 prof., 577 assoc. prof.)

32.000 undergraduate students

1.756 graduate students

380 postgraduate students



Southwest Forestry University, Kunming

University

- Founded in 1939
- 13197 students

College of Material Engineering

- 42 staff: 8 prof., 7 assoc. prof.,

Undergraduate program – 4 years for B.Sc. (260 students):

- Material Engineering (100)
- Furniture Engineering (60)
- Forestry Chemical Engineering (60)
- Package Engineering (40)

Graduate program

(1) Academic course – 3 years for M.Sc. (32 students):

- Biomaterials
- Wood Composites
- Wood Adhesives
- Furniture Design Engineering

(2) Practical course – 2 years for M.Sc. (enrollment from 2011)

Same as above

Postgraduate program – to be available soon



Sichuan Agriculture University (SCAU), Ya'an



SCAU

Founded 1956 (the former Agriculture College of Sichuan University)
more than 34.000 students + 1.600 staff

Material Science and Engineering Department of Forestry College

11 years of professional education

564 students,

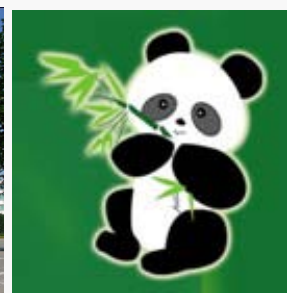
12 staff (3 assoc. prof., 7 lecturer, 2 research assistant)

Undergraduate study – 4 years for B.Sc.

- Wood Process (385 students)

- Furniture and Interior Design (179 students)

No graduate and postgraduate programs



Huazhong Agriculture University (HZAU), Wuhan



HZAU

Founded in 1952

more than 24.000 students + 2.600 staff

15 colleges, 4.95 Mil. m² campus area

College of Horticulture and Forestry Science

9 years of professional education since 2002

2010 undergraduate students, 557 graduate students, 107 Ph.D. students

130 staff (26 prof., 35 assoc. prof., 34 lecturer, 55 others)

Forestry Department

Undergraduate study – 4 years for B.Sc.

- Forestry Science (more than 70 students each year)

Graduate study – 3 years for M.Sc. (No postgraduate programs)

- Wood Science (3-5 students each year)



Anhui Agriculture University (AHAU), Hefei

AHAU

Founded in 1954 (the former Agriculture Department of Anhui Univ. which was founded in 1935)

College of Forestry and Landscape Architecture

- Founded in 1954 (more than 6000 graduates)
- 1600 students (200 graduate students) + 80 staff (16 prof.)

Departments for:

- Forestry
- Landscape Architecture
- Forest Products Industry

Department of Forest Products Industry

- 52 years of professional education
- 29 staff (10 prof., 9 assoc. prof., 14 Ph.D.)

Undergraduate study – 4 years for B.Sc.

- Wood Science and Engineering (220 students)

Graduate course (3 years for M.Sc.):

- Wood Science and Engineering

Postgraduate course (3 years for Ph.D.):

- Wood Science and Engineering



Nei Mongol Agriculture University (NMAU), Hohhot



NMAU

Founded in 1952 (the oldest university in Nei Mongol municipality)
22 Colleges + 1 Research Institution,
31767 students (2163 graduate students)

Material Science and Art Design College

59 years of professional education

78 staff (10 prof., 21 assoc. prof., 27 lecturer, 14 Ph.D.)

Undergraduate programs – 4 years for B.Sc. (1175 students):

- Wood Science and Engineering
- Material Science and Engineering
- Art Design
- Costume Design and Engineering

Graduate programs – 3 years for M.Sc. (52 students):

- Wood Science and Technology
- Material Process Engineering
- Art Design

Postgraduate programs – 3 years for Ph.D. (6 students):

- Wood Science and Technology
- Agricultural Material Science and Technology

Fujian Agriculture and Forestry University, Fuzhou

University

Its former name is Fujian Forestry College (founded in 1958). The university obtained its current name in 2001 after combining with Fujian Agriculture Univ.



College of Material Engineering

53 years of professional education (since 1958)

4 departments: Wood Science, Light-Chemical Engineering, Chemical Engineering, Material Science

49 staff: 13 prof., 14 assoc. prof., 12 lecturer, 10 assistants

Undergraduate programs – 4 years for B.Sc. (1210 students):

- Wood Science and Engineering (380 students)

 - 2 directions: ① Wood Science and Technology

 - ② Furniture Design and Manufacture

- Light-Chemical Engineering

- Material Science and Engineering

- Chemical Engineering and Technology

Graduate programs – 2 years for M.Sc. (55 students):

- Wood Science and Technology

- Forest Products Chemical Engineering

- Pulp and Paper

Postgraduate programs – 3 years for M.Sc. (9 students):

The same with graduate programs

Zhejiang Agriculture and Forestry University, Linan



University

Founded in 1958

17 Colleges, 1600 staff + 23,000 students

College of Engineering

- 105 staff: 16 prof., 23 assoc. prof., 24 Ph.D., 1 NAE member
- 4 departments: Wood Science and Technology, Industrial Design, Mechanical Electronics Engineering, Transportation Engineering

Department of Wood Science and Technology

Undergraduate program – 4 years for B.Sc. (668 students):

- Wood Science and Engineering
- Furniture Design

Graduate program – 3 years for M.Sc. (44 students):

- Wood Science and Technology
- Forest Products Chemical Engineering

No postgraduate program



Northwest Agriculture and Forestry University, Yangling

University

- Founded in 1934
- Students: 20940 undergraduate, 4624 graduate, 1318 postgraduate
- 4599 staff: 257 prof., 368 assoc. prof.

College of Mechanics and Electronics Engineering

Department of Wood Industry

- 30 years of professional education (since 1981)
- 26 staff + 625 students

Undergraduate program – 4 years for B.Sc. (594 students):

- Wood Science and Engineering (500 stud.)
- Industrial Design (48 stud.)
- Package Engineering (46 stud.)

Graduate program – 3 years for M.Sc. (21 students):

- Wood Science and Technology

Postgraduate program (10 students):

- Biomaterial Science and Engineering



700m² Wood Hall, Agricultural Exposition



Beihua University, Jilin



University

Founded in 1952

1496 faculty

19,958 undergraduate students

1101 graduate students

495 foreign students

College of Forestry

5 departments: Forestry, Landscape Architecture,
Environment, Food, and Wood Engineering

Department of Wood Engineering

29 staff (8 prof., 12 assoc. prof., 7 Ph.D.)

Undergraduate programs – 4 years for B.Sc. (322 students):

- Wood and Wood Composites Processing
- Furniture Design and Manufacture

Graduate programs – 3 years for M.Sc. (10 students):

- Wood Structure and Property
- Wood Composites and Adhesive
- Wood Drying

No postgraduate programs

Guangxi University, Nanning



廣西大學
Guangxi University



University

Founded in 1928

College of Forestry

67 staff (13 prof., 25 assoc. prof., 26 lecturer, 3 others)

Undergraduate programs – 4 years for B.Sc. (320 students):

52 years of professional education (since 1959)

- Wood Science and Engineering

Graduate programs – 3 years for M.Sc. (21 students):

6 years of professional education (since 2005)

- Wood Science

- Wood Composites Technology

- Furniture Design and Technology

- Wood Esthetics

- Wood Adhesives

No postgraduate programs



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Thank you



Contact:

Email: guangpingh@hotmail.com

Tel/Fax: +86-451-82191938

Cell: +86-15046691858