The Forestry Advisory Council provides advice to the Faculty on curriculum matters and research priorities.

Mr. Thomas A. Buell (Chair)
President & CEO
Weldwood of Canada Ltd.

Mr. T.M. Apsey
President & CEO
Council of Forest Industries of B.C.

Mr. Gerry Armstrong
Deputy Minister
Ministry of Forests

Mr. I.K. Barber
President, Chair & CEO
Slocan Forest Products Ltd.

Mr. Spencer B. Beebe
President
ECOTRUST

Dr. Peter J.G. Bentley
Chairman & CEO
Canfor Corporation

Dr. B. Berggren
President & CEO
Stora Group Executive Management

Mr. Bob Bird
Vice-President
Canwood

Mr. Ted Boswell
President & CEO
E.B. Eddy Corp.

Mr. Pierre Bourdages
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Forest Engineering Research Institute

Dr. Garry Brewer
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University of Michigan

Mr. John Broadhead
Director
Earthlife Canada Foundation

Mr. Bob Chapman
President
Optimill Machinery Ltd.

Dr. Ian de la Roche
President
Forintek Canada Corp.

Mr. Harold Derekson
President & Manager
Intertribal Forestry Assn.

Mr. Bruce Devitt
Executive Vice President
Professional Foresters Assn. of B.C.

Mr. L. Ron Erickson
Executive Director
The Nature Trust of B.C.

Mr. R.B. Findlay
President & CEO
MacMillan Bloedel Ltd.

Mr. Sandy Fulton
President & CEO
Pacific Forest Products

Dr. Yvan Hardy
Asst. Deputy Minister
Natural Resources Canada

Mr. C.T. Hazelwood
President & CEO
Northwood Pulp & Timber Ltd.

Mr. Kimi Ito
President
K. Ito & Associates Ltd.

Dr. Asa Johal
President
Terminal Forest Products

Mr. Chester Johnson
Chairman of the Board
Vancouver International Airport

Mr. John Kerr
Chairman & CEO
Lignum Sales

Dr. Winifred B. Kessler
Chair, Forestry Program
Natural Resources and Environmental Studies
University of Northern B.C.

Mr. Henry H. Ketcham, III
President & CEO
West Fraser Timber Co. Ltd.

Dr. Walter Koerner
Vancouver, B.C.

Mr. Stuart Lang
Vice Chairman
Crestbrook Forest Industries Ltd.

Mr. Graham Lea
Secretary-Treasurer
Truck Loggers Association

Mr. George Malpass
President
Primex Forest Products

Mr. Jake Masselink
Asst. Deputy Minister
Min. of Environment, Lands & Parks

Mr. Jack Munro
Chairman
BC Forest Alliance

Mr. Bill Newnes
President
Newnes Machines

Dr. Gordon H. Orians
Professor
Institute for Environmental Studies
University of Washington

Dr. Marie Rauter
President & CEO
Ontario Forest Industry Assn.

Mr. Erkki Rautiainen
President
Durand-Raute Industries

Mr. Ralph Roberts
Director
Forestry Section, CIDA

Mr. Robert Stewart
R.T. Stewart & Associates

Mr. Gerry Stoney
National President
Western Canadian Reg. Council #1
IWA-Canada

Mr. Horst Wagner
Forestry Advisor
World Bank

George Weyerhaeuser Jr.
President & CEO
Weyerhaeuser Canada

Dr. Peter E. Wrist
President (retired)
replaced by
Dr. Joseph D. Wright
President & CEO
Pulp and Paper Research Institute of Canada
COVER PHOTOGRAPHS
(Clockwise from top left)
- Student exercises at Fall field school
  Photo: Donna Goss
- Student exercises at Fall field school
  Photo: Donna Goss
- Fourth year class field trip
  Photo: Sandy Thomson
- Carmanah field trip
  Photo: Donna Goss

TEXT PHOTOGRAPHS

UBC Media Services
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THE FACULTY OF FORESTRY exists to help society solve problems collectively called "forestry" — the conservation and use of forests and forest products to sustain human material and spiritual welfare. The main way we accomplish this task is through the people we educate — undergraduates for professional careers in land management, graduate students for service in science, and professionals who require updating in the latest scientific information so they can perform their jobs at the high level expected by society. The “student-first” organization of this year’s annual report emphasizes the defining role students have in the Faculty.

During 1994/95, the Faculty supported students by:

- sustaining a high level of performance in teaching,
- initiating new programs specifically relevant to current societal needs,
- developing a new admissions policy,
- raising funds specifically for student aid, and
- making new faculty appointments to support our rapidly growing Natural Resources Conservation Program.

Each of these activities is discussed briefly below.

Sustaining a High Standard of Teaching
Continuous improvement requires regular feedback on performance. Through a formal survey instrument we ask students to evaluate each of their courses each semester. The accompanying figure shows that last year the average for the faculty changed a bit to 2.28 but is still closer to “Very Good” than to “Good”. Faculty members receive the results of these evaluations for their courses along with their comparative ranking with others. Teaching performance figures heavily in faculty promotion and salary decisions.

![Student evaluations of Faculty of Forestry teaching 1980/81 - 1994/95](image)

(Note: 1 = Excellent, 2 = Very Good, 3 = Good, 4 = Fair, 5 = Poor, 6 = Very Poor)

Increasing the Relevance of Undergraduate Education
The application of advanced technology is critical to the long-term success of Canada’s forest products industry, and indeed its economy more broadly. This year, in close cooperation with our Forestry Advisory Council, the Faculties of Forestry and Applied Science developed a new program in wood products processing. In a Canada-wide competition the National Education Initiative of the Wood Products Industry selected this program as the one the Canadian forest products industry would support. The five-year co-op program we proposed will provide the education and experience needed for young people to enter challenging careers in value-added manufacturing industries ranging from high-technology sawmills, remanufacturers, architectural millwork, and the furniture
and cabinet industries. By pushing the limits of change, the committee leading this development — Professors David Barrett, Thomas Maness and David Cohen from the Department of Wood Science and Professors Sidney Mindess, Peter Lawrence and Gary Schajer from the Faculty of Applied Science — was able to arrange the program so we can accept the first students in the fall of 1995.

Following the successful model of external consultation pioneered in the wood products processing program, we have initiated a “blank page” review of our professional forestry program. A small task force, led by Professor Gordon Baskerville, has surveyed a wide range of our alumni, members of the ABCPF and other individuals from the natural resource community to determine the most critical needs facing practicing forestry professionals today. The results from this survey, supplemented by focus group analysis, will provide the basis for a complete revision of the program. One possible outcome is a return to the five-year format UBC supported until 1986, but with a post-baccalaureate credential awarded on successful completion of the fifth year.

This year we graduated the first students from our B.Sc. (Natural Resources Conservation) program. The enormous interest in the program by excellent students indicates that it is responding to a palpable need. The pioneer graduating class has helped us reflect on the changes needed to hone the program. During the upcoming year we will review the program with the idea of implementing necessary modifications in the fall of 1996.

This fall the first students will register in the Diploma in Forestry (Advanced Silviculture) program we now offer in conjunction with the Silviculture Institute of British Columbia.

Last August we were able to attract Mr. Gordon Prest as the Faculty’s first Coordinator of First Nations Forestry and Natural Resources Conservation programs. Gordon has met with many First Nations groups in the province, and has helped the faculty understand First Nations issues with much greater clarity. You can read more about this important program on page 12.

Modernizing Admissions Standards
In response to greatly increased demand for entry into the Faculty of Forestry, three years ago we were forced to limit admissions into the Forestry and Natural Resources Conservation programs. Demand has steadily risen (we had over 800 applicants last year, but can accept only 85 students into Year 1 of these programs) and with it the minimum grade-point average needed for admissions. Of course, enrolling students with better and better academic qualifications strengthens the profession of forestry. At the same time, we are certain that this ever-higher grade-point standard excludes some students who would be excellent professionals when measured by such characteristics as leadership, capacity to communicate and perseverance. Combined with the known uncertainties in measuring academic performance by high school grade-point averages (GPAs), these considerations lead us to develop a pilot project for admitting some students on the basis on criteria other than GPA alone. Judging by the overwhelming, favourable public response we have heard, this new policy seems to respond to a clear societal need. We will implement the policy this fall and will discuss the results in next year’s Annual Report.

Raising Funds for Student Support
As a result of the excellent prospects for responsible professional employment both during the summer and after graduation (last year 96.9% of our graduates were either employed or studying for advanced degrees; see page 7), students in the Faculty of Forestry face a somewhat smaller financial burden to complete their education than do students in some other faculties. However, steady inflation in the costs of operating the university and less-than-commensurate increases in provincial funding are forcing up the tuition and fees that students must pay. Anticipated cutbacks in the federal support for higher education will put additional upward pressure on tuition costs.

In response to these trends, we have heightened our efforts to secure meaningful summer employment for students (especially those in the Natural Resources Conservation program where the pathway to summer jobs is less well trod than it is for Forestry students), and have placed student
support as a prominent need in our faculty development plan. These efforts have been rewarded by five new scholarships:

- Backman Awards in Natural Resource Conservation
- Janet Ketcham Scholarship for First Nations students
- ABCPF First Nations Award
- Pacific Regeneration Technologies Silviculture Scholarship, and
- Namkoong Family Fellowship and Teaching Exchange & Research Award.

One of the most gratifying efforts in this regard is Professor Gene Namkoong’s decision to donate $110,000 of his Marcus Wallenberg Prize to the Faculty of Forestry for a graduate fellowship. His generosity was matched by a contribution of $95,000 by the B.C. Ministry of Forests and $50,000 by the Canadian Forestry Service.

New Faculty Appointments

In addition to the new faculty appointments announced last year, Professor David Tindall joined the Faculty with one third of his appointment in the Department of Anthropology and Sociology. We have an active search for a faculty member in the area of conservation planning/policy, and are currently searching for two faculty jointly with Landscape Architecture (one with an interest in landscape-scale forest planning and the other with a site-planning focus). In addition, with the support of the Ministry of Forests, a number of forest products companies, two environmental organizations and NSERC, we are seeking two faculty members in population genetics to deal with education and research in genetic conservation, biodiversity and tree breeding. During the upcoming year we will commence searches for faculty members in forest operations (jointly with the Forest Engineering Institute of Canada), and in advanced wood products processing. This level of faculty renewal — much of it funded outside of the University’s budget — will provide the teaching and research strength needed to support our expanding student population.

Service through excellence. Putting students first. These themes underlie our capacity to help society solve its forestry problems. Never have these problems been more critical. Young people understand the importance of the forestry problems to our society, and have responded by enrolling in the Faculty of Forestry in record numbers. At the same time, continued pressure on provincial budgets and the impending collapse of federal support for post-secondary education in Canada truly challenge our ability to keep the Faculty’s capacity abreast with societal demands.

I am personally interested in your thoughts on how we are dealing with these changing demands. You can reach me by telephone at (604) 822-2467, fax at (604) 822-8645, or e-mail at binkley@unixg.ubc.ca. I look forward to hearing from you.

Clark S. Binkley
Dean, Faculty of Forestry
THE Faculty of Forestry offers a 4-year degree program in each of the following five areas:

- Forest Resources Management — B.S.F.
- Forest Operations — B.S.F.
- Wood Science and Industry
  B.Sc. (Forestry).
- Forest Science — B.Sc. (Forestry).
- Natural Resources Conservation
  B.Sc. (Natural Resources Conservation).

Forest Resources Management
This major focuses on the multidisciplinary aspects of forest resources biology and management to include resources such as timber, range, wildlife, recreation, fisheries and water. Students deal with the unique characteristics of each resource, their interactions, and the manipulation of forests to yield a variety of desirable products in the context of the social and economic environment of Canadian society. The program prepares graduates for careers in responsible integrated forest management as a professional forester.

Forest Operations
This major prepares the graduate for professional forestry responsibilities, with an emphasis on planning, design and administration of forest harvesting operations. Areas of study include: design and construction of forest roads and drainage structures; selection, planning and supervision of logging systems; site protection and rehabilitation; and the development of computer applications for harvesting systems.

Wood Science and Industry
This major provides a strong technical background in wood as a material and a good understanding of wood products manufacture, marketing, engineering and utilization. There are three areas of concentration:

- business management and marketing;
- industrial process technology; and
- science, engineering and biotechnology.

This major will be replaced by the new Wood Products Technology program in the fall of 1996.

Forest Science
This major is for students interested in more specialized study of the scientific principles related to the growth, development and ecology of forest species. Emphasis is placed on basic and interactional phenomena that influence the establishment, growth and development of trees and other forest resources. These include genetics, soils, weather and climate, tree form, tree function, ecology, microbiology and other foundation courses in entomology, pathology, silvics, silviculture and fire science.

Natural Resources Conservation
This program prepares students for careers in the conservation of renewable natural resources, the management of protected areas, and planning for the integrated use of forests and associated wildlands. Students leave the program with an appreciation for the socioeconomic and biological environments in which decisions concerning the management of protected areas are made, and a working knowledge of technologically advanced tools and quantitative techniques available to renewable resource planners and managers.

PROGRAM CHANGES IN 1994-95

The fourth year of the Natural Resources Conservation degree program was offered, with a small group of students completing their programs. Several forest technology graduates entered the new three-year degree program in Forest Operations.

PLANS FOR 1995-96

The Faculty will implement a new broader-based admissions policy for applicants to the B.S.F. degree programs from high school. This policy will allow for approximately 15% of the students to be admitted on the basis of supplementary criteria. We will monitor the progress of these students to determine the success of the broader-based admissions. We will complete the professional curriculum review of the B.S.F. degree programs, with possible recommendations for some curriculum revision, and also begin a curriculum review of the Natural Resources Conservation degree program. In preparation for the introduction of the new Wood Products Technology program in 1996/97, we will teach a modified curriculum for the first two years of the existing Wood Science and Industry program. The modified curriculum will allow students to enter the program in the 1995/96 session.
Total Enrolment

Enrolment for undergraduate students (in all four years of the forestry programs) is up again this year from 400 to 452 students. The graph below illustrates the past five years' trend in enrolments:

The following chart shows the distribution of undergraduate students by year of program.

As seen in the following table, the majority of our undergraduates are enrolled in the Forest Resources Management program. The Natural Resources Conservation program has the second highest enrolment.

New Student Enrolment

One hundred and seventy-nine new undergraduate students entered the faculty during 1994/95. The numbers entering into the different years are tabulated below:

The average entering GPA from all pathways was 70.8%. Thirty per cent of the new students entered directly from high school and 70 per cent from post-secondary institutions.

Source of incoming students

1990/91 – 1994/95

*First year students.

Female students represented 31 per cent of the above total, up from 29.5 per cent last year and 14 per cent in 1990.

Distribution of students among programs

1994/95

<table>
<thead>
<tr>
<th>Program</th>
<th>Number enrolled</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest Resources Management</td>
<td>201</td>
<td>44.5</td>
</tr>
<tr>
<td>Forest Operations</td>
<td>25</td>
<td>5.5</td>
</tr>
<tr>
<td>Forest Science</td>
<td>25</td>
<td>5.5</td>
</tr>
<tr>
<td>Wood Science and Industry</td>
<td>33</td>
<td>7.3</td>
</tr>
<tr>
<td>Natural Resources Conservation</td>
<td>81</td>
<td>17.9</td>
</tr>
<tr>
<td>Undeclared*</td>
<td>87</td>
<td>19.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>452</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*First year students.
Scholarships and Fellowships Awarded, 1994

First Year Students
Campbell, A.E. Oscar Soderman Memorial Scholarship.
Dekens, C.J. Kapoor Singh Siddoo Scholarship.
Fletcher, J.G. Oscar Soderman Memorial Scholarship.
Gawalko, L.M. H.R. MacMillan Scholarship • Oscar Soderman Memorial Scholarship.
Gelbart, G. Oscar Soderman Memorial Scholarship.
Gold, L.G. H.R. MacMillan Scholarship • Oscar Soderman Memorial Scholarship.
Mohoruk, B.J. Oscar Soderman Memorial Scholarship.
Mui, K.L. Oscar Soderman Memorial Scholarship.
Pena, C.M. Oscar Soderman Memorial Scholarship.
Scott, W.L. Oscar Soderman Memorial Scholarship.
West, J.E. Oscar Soderman Memorial Scholarship.

Second Year Students
Bontkes, R.P. Charles and Jane Banks Foundation Scholarship.
Boyland, M.N. Charles and Jane Banks Foundation Scholarship.
Calabrese, M.D. Charles and Jane Banks Foundation Scholarship • David Bell Little Memorial Scholarship.
Harco, M.E. Charles and Jane Banks Foundation Scholarship.
Nienaber, G.W. Charles and Jane Banks Foundation Scholarship.
Sorg, J.M. Charles and Jane Banks Foundation Scholarship.
Walsh, H. H.R. MacMillan Scholarship • Ted Johnson Scholarship.
Wilson, S.R. Kapoor Singh Siddoo Scholarship.

Third Year Students
Craigie, G.J. Charles and Jane Banks Foundation Scholarship.
Harrod, K.M. Backman Scholarship in Forest Resource Management.
Hashizume, R.Y. Mary and Robert Wellwood Memorial Scholarship.
Illes, J.S. Truck Loggers Association Scholarship • Charles and Jane Banks Foundation Scholarship.
Johnsrude, A.N. John E. Bier Memorial Prize.
Kirkham, C.A. Charles and Jane Banks Foundation Scholarship • J. Stuart Hanna Prize.
Law, S.S.Y. Charles and Jane Banks Foundation Scholarship.
Lim, B.E. Charles and Jane Banks Foundation Scholarship.
Recknell, G.M. Galt Elkington Memorial Scholarship.
Robinson, J.A. Robert J. Craig Memorial Scholarship • Machinery & Supply Companies Group Forestry Scholarship.
Rooke, D.S. Northwood Pulp and Timber Limited Scholarship • Timberline Scholarship • Phil Haddock Prize.
Slaymaker, H.R. Barry English Memorial Award • University of B.C. Forestry Alumni Division Scholarship.
Walters, F.G. Charles and Jane Banks Foundation Scholarship.

Fourth Year Students
Baumber, S.W. Best Graduating Essay – Association of B.C. Professional Foresters.
Dickie, A.J. Forest History Prize.
Douillard, D.J. H.R. MacMillan Prize in Forestry.
Fournier, B.J. Harry Hobson Memorial Prize.
Temple, S.P. Canadian Institute of Forestry Medal • Honours Standing.
Degrees Conferred, May 1994 and November 1994 Congregations

B.S.F. Forest Resources Management
Allen, N.L.  
Andermatt, D.J.  
Atkinson, K.D.A.  
Baumber, S.W.  
Boulet, C.G.  
Bradley, B.E.S.  
Brown, S.M.  
Carmichael, J.M.  
Carter, D.S.  
Childerley, R.J.  
Dickie, A.J.  
Donovan, J.M.  
Elstone, D.O.  
Fleischer, K.A.  
Fournier, B.J.  
Fredrickson, H.S.  
Gammie, K.R.  
Gartshore, K.H.  
Gash, M.G.  
Gillett, G.E.  
Hilslap, G.C.  
Johnson, R.R.  
Jorimann, R.D.  
Joyce, A.E.  
Kendall, K.E.  
Kohlerberger, F.L.  
Kozak, M.  
Kozuki, S.F.  
La Haie, B.W.  
Labelle, J.R.  
Ladyman, J.J.  
Ladyman, S.A.  

Lawrence, K.E.  
Leong, M.A.  
Lewis, D.G.  
Little, K.A.  
MacIntosh, M.F.  
Mamchur, S.P.  
Mariotto, M.R.  
McArthur, D.B.  
McDowell, J.H.  
McLeod, J.A.  
Miller, C.L.  
Nielsen, A.C.  
Paulin, M.  
Penninga, T.J.  
Roberts, J.D.  
Schulz, M.D.  
Smead, B.T.  
Speed, M.D.  
Spence, S.J.  
Staff, W.R.  
Swab, T.S.  
Takarabe, J.M.  
Taylor, G.J.  
Temple, S.P.  
Teschke, E.R.  
Tremblay, D.R.  
Viganio, J.T.  
Wait, H.J.  
Wery, P.B.  
Wilder, N.A.  
Yacyshen, T.

B.S.F. Forest Operations
Andersson, K.L.  
Briscoe, R.G.  
Byng, D.A.  
Campbell, C.L.  
Harris, H.M.  
Karassowitsch, D.F.  
Louwerse, D.A.  
Rittich, C.G.  
Rouck, K.B.

B.Sc. (Forestry) Wood Science and Industry
Bae, J.E.  
Douillard, D.J.  
Evans, M.D.  
Goodison, A.J.  
Khun Khun, D.S.H.  
Spagnut, M.W.  
Wilson, S.D.

B.Sc. (Forestry) Forest Science
Banford, L.J.  
Brewer, R.G.W.  
Gillies, C.T.  
Kubien, D.S.  
Loeb, B.  
Parker, R.M.  
Poole, B.M.  
Vasily, J.L.

GRADUATION STATISTICS

Undergraduate Students

Number of Graduates

Number of students graduating 1984 – 1994

Employment survey of 1994 graduates
(64 of the 87 graduates responded)
GRADUATE PROGRAMS

The Faculty of Forestry offers four graduate degrees:
- Doctor of Philosophy — Ph.D.
- Master of Forestry — M.F.
- Master of Science — M.Sc.
- Master of Applied Science — M.A.Sc.

ENROLMENT TRENDS

The Forestry Graduate Program has grown in student numbers by 73 per cent over the past decade. Today there are 180 graduate students registered in the Faculty. The graph below illustrates the distribution of these students between the different degree programs. The greatest growth has been in the number of Doctoral students — in 1983 there were only 32, today there are 76 students enrolled in the program. In this same period the number of Masters students has risen from 70 to 104.

McLEAN, John A.
B.Sc., M.Sc., Ph.D.
Associate Dean,
Graduate Studies & Research

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Fax: (604) 822-8645
E-mail: gradfor@unixg.ubc.ca

The proportion of female Forestry graduate students is 29 per cent of the Masters and 13 per cent of the Ph.D. students, for an overall average of 22 per cent. The following table shows enrolment data for 1994/95.

Graduate student enrolment 1994/95

<table>
<thead>
<tr>
<th>Degree</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph.D.</td>
<td>66</td>
<td>10</td>
<td>76</td>
</tr>
<tr>
<td>M.A.Sc.</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>M.F.</td>
<td>14</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>M.Sc.</td>
<td>57</td>
<td>28</td>
<td>85</td>
</tr>
<tr>
<td>Total</td>
<td>140</td>
<td>40</td>
<td>180</td>
</tr>
</tbody>
</table>

As of October, 1994.

The proportion of graduate students from outside of Canada has remained fairly constant over the past few years and presently stands at 46 per cent of Doctoral and 26 per cent of Masters students. A total of twenty-four countries are represented in the graduate student body.

Graduate Student Funding

In the 1994/95 academic year, Forestry graduate students were awarded support totalling $1,699,781, an increase of 2.5% over 1993/94 funding levels. This was made up from $990,067 in scholarship funding, $184,088 in graduate teaching assistantships and $525,626 in graduate research assistantships (provided by research supervisors from their research grants).

Graduate student enrolment and funding

<table>
<thead>
<tr>
<th>Department</th>
<th>No. graduate students</th>
<th>Total funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest Resources Management</td>
<td>68</td>
<td>$452,396</td>
</tr>
<tr>
<td>Forest Sciences</td>
<td>72</td>
<td>$722,211</td>
</tr>
<tr>
<td>Wood Science</td>
<td>40</td>
<td>$537,174</td>
</tr>
</tbody>
</table>
MASTERS STUDENTS

Atwood, L. UGF Gyula, G. UGF Oriente, D. VanDusen
Bennett, D. FERIC Hafer, M. McPhee Parker, R. Forestry Faculty
Bogle, T. McPhee Hanel, C. Allen, Cochran McPhee
Brett, R. McPhee He, M. VanDusen McPhee
Breuer, R. NSERC Hoffert, C. McPhee McPhee
Budge, S. UGF Johnson, D. McPhee GREAT
Bullock, C. GREAT Kim, S-H. Korean Smith, R. GREAT
Calendino, M. McPhee Lee, L. Forintek Sun, L. Buckland
Choi, J. Korean Li, M. UGF Thomas, K. Forestry Faculty
Clouston, P. Weyerhaeuser Lin, Y. McPhee Wang, K. McPhee
Clouston, T. Lumber Lisgo, K. McPhee, Backman Bath, T. CSU
Danninger, C. VanDusen MacKenzie, K. McPhee McPhee
Dickie, A. Fort Nelson McCormick, J. Hoffmeister Yawalata, D. CIDA
Duff, J. Commonwealth McKinnon, L. NSERC Yong, T. CIDA
Fuchs, M. NSERC Morrison, J. NSERC Zabek, L. GREAT
Goh, S. Forestry Faculty Nelson, S. UGF Zheng, Y. McPhee
Goodison, A. Forestry Faculty Norlin, P. Swedish UGF

DOCTORAL STUDENTS

Abraham, L. UGF Lau, W. GREAT Sahajanathan, S. VanDusen
Andison, D. NSERC Li, K. GREAT Sheng, T. VanDusen
Chang, X. GREAT Liu, G. Fletcher** Singh, R. McPhee
Cherry, M. GREAT Liu, R. Forintek Steeger, C. Japan McPhee
Clark, D. Fletcher* Liu, J. UGF Sutherland, G. Tri-Council McPhee
Cumming, S. Tri-Council MacDicken, K. UGF Temesgen, H. MacMillan
Defretes, Y. CIDA Mansfield, S. Forestry Faculty Teter, D. UGF
Duralia, T. NSERC Markham, J. UGF Thomas, L. Commonwealth VanDusen
Eagen, R. GREAT Martin, V. UGF Van Ham, M. GREAT
Gao, Y. UGF Matakala, P. UGF Wang, X. GREAT
Huggard, D. Tri-Council McIntosh, R. GREAT Wang, Y. UGF
Kayahara, G. GREAT Mitchell, S. GREAT White, J.B. UGF
Kinyua, P. CIDA Mitchell-Banks, P. VanDusen Zhong, A. Forestry Faculty
Kiskchuk, B. McPhee Mooney, R. UGF
Kozak, R. Forintek, UGF Nelson, K. NSERC

Full Name of Award

George S. Allen Memorial Scholarship.
Backman Scholarship in Forest Resource Management.
Edward, W. Bassett Memorial Scholarship in Foresterization.
Don Buckland Memorial Scholarship in Forest Pathology.
California State University Forgivable Loan/Doctoral Incentive Program.
CFP – Canadian Forest Products Ltd. Fellowship in Forest Wildlife Management.
CIDA – Canadian International Development Agency Scholarship.
Ralph M. and Elizabeth E. Cochran Scholarship.
Commonwealth Scholarship.
Fletcher* Challenge Canada Ltd. Fellowship in Silviculture.
Fletcher** Challenge Canada Ltd. Fellowship in Forest Resource Management.
Special Forestry Faculty Scholarship.
Forintek Canada Corporation Fellowship in Wood Science and Wood Products.
Fort Nelson Indian Band Post-secondary Funding.
GREAT – Graduate Research Engineering and Technology Awards.
Brenda Hanson Memorial Scholarship in Forestry.
Paul Heller Fellowship.
Bert Hoffmeister Scholarship in Forest Wildlife.
Japan Scholarship.
Korean Government Fellowship Award.
Lumber Inspectors' Benevolent Society Scholarship.
MacMillan Bloedel Limited Fellowship in Forest Mensuration.
Donald S. McPhee Fellowship.
NSERC – Natural Sciences and Engineering Research Council of Canada.
Spanish Ministry of Education and Science Scholarship.
Swedish American Foundation Scholarship.
Tri-Council Eco-Fellowship.
UGF – University Graduate Fellowship.
VanDusen Graduate Fellowship.
Weyerhaeuser Fellowship in Wood Design Management.
World Bank Scholarship.

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Degrees Conferred, May 1994 and November 1994 Congregations

M.F.

COPITTHORNE, Robert  Dr. G.G. Young  Effect of yarding operations on log recovery value.

FINN, Steven  Dr. J.D. Nelson  The influence of cut-block size and adjacency rules on harvest levels and road networks.

RIEL, Bill  Dr. P.L. Marshall  Sampling heights of second-growth coastal Douglas-fir in fixed area plots.

M.A.Sc.

GRIFIN, Helen  Dr. J.D. Barrett  An examination of property relationships in the Canadian machine stress rated lumber in-grade program.

M.Sc.

BYFORD, Geoffrey  Dr. J.A. McLean  Warren's collar weevil in lodgepole pine stands in the Kispiox Forest District.

CHRISTIE, Dave  Mr. G.G. Young  Assessing the accuracy of digital elevation models when used for deflection line analysis.

DANIELS, Lori  Dr. K. Klinka  Structure and regeneration of old-growth Thuja plicata stands near Vancouver, British Columbia.

DUFF, Julie  Dr. P.J. Dooling  Total resource design: Documentation of a method and a discussion of its potential for application in British Columbia.

FENG, Yan  Dr. P.R. Steiner  Relating pressure response profile during hot pressing to property development in flakeboard.

Goudie, Derek  Dr. D.H. Cohen  Market survey of California furniture manufacturers.

Kohler, Chris  Dr. T.P. Sullivan  Influence of large-scale food supplementation on diversity of rodent communities.

Liliefna, Leonard  Dr. J.D. Barrett  Structural property relationships for Canadian dimension lumber.

Loewen, Kurt  Dr. G.C. van Kooten  Winter recreational demand and multiple use in the Revelstoke/Golden region of B.C.

Mcintosh, Rory  Dr. J.A. McLean  Dispersal and development of the striped ambrosia beetle Trypodendron lineatum (Oliv.) in industrial sorting and storage areas.

Mengich, Edward  Dr. T.M. Ballard  The effect of season and shrub-grass combination on the fodder quality of three agroforestry plant species grown in Maseno, Western Kenya.

Morgan, Jeffrey  Dr. F.L. Bunnell  Factors influencing summer habitat use of black-tailed deer on South-Central Vancouver Island.

Patterson, Thomas  Dr. R.D. Guy  Variation in nitrogen and water relations traits between two boreal spruce species from an interacting resource gradient in northern British Columbia.

Ransome, Douglas  Dr. T.P. Sullivan  Food limitation and habitat preference of northern flying squirrels and red squirrels.

Runciman, Bruce  Dr. T.P. Sullivan  Influence of conifer release treatments on habitat structure and small mammal populations in south-central British Columbia.

Thomas, Ian  Dr. T. Maness  An approach to automated product valving for real-time valve optimization systems.

Von Trebra, Charlotte  Dr. T. Sullivan  Relationships of small mammal populations to uniform even-aged shelterwood systems.
Woods, Alex Dr. B. van der Kamp
The behaviour and impacts of Armillaria ostoyae in mature stands and plantations in the Shuswap Region of British Columbia.

Wang, Sen Dr. G.C. van Kooten
Old-growth forests for wilderness preservation and timber production in British Columbia: a goal programming model.

Wu, Xiaomei Dr. D.L. Golding
(Non-thesis).

Ph.D.

Dai, Chunping Dr. P.R. Steiner
Modelling structure and processing characteristics of a randomly-formed wood-flake composite mat.

Hartley, Ian Dr. S. Avramidis
Characterization of water in wood below the fiber saturation point.

Jeong, Cheol Dr. L. Paszner
Study of fermentability of pretreated acid catalyzed organosolv saccharification (ACOS) hydrolysate by Saccharomyces diastaticus highly flocculating yeast.

MacDicken, Kenneth Dr. T.M. Ballard
Sustainability of Leucaena leucocephala fallows in shifting cultivations on the island of Mindoro, Philippines.

Nercessian, George Dr. D.L. Golding
Renovation of wastewater by a short rotation intensive culture hybrid poplar plantation in Vernon, B.C.

Soonhuae, Prachote Dr. O. Sziklai
Estimation of genetic variation in Thailand rosewood (Dalbergia cochinchinensis Pierre).

Tak, Kwang-Il Dr. R. North
WITH the formal recognition of aboriginal rights by the B.C. Provincial Government and the imminent resolution of the aboriginal land question through the interim measures and B.C. Treaty Processes, the B.C. First Nations people will be influencing resource management decisions in the future much more than they have in the past.

To date, very few aboriginal people have received formal training and education in forestry or other natural resource sciences. This has restricted their ability to participate effectively in provincial land management decision making and resource harvesting activities. There is clearly a strong need to have professionally trained First Nations Foresters and Natural Resource Managers in these fields.

As a first step in meeting this need, the Vancouver Foundation and the Ministry of Forests are supporting a program to increase First Nations participation in the programs being offered in the Faculty of Forestry.

The program was officially established on August 15, 1994 with the appointment of Gordon W. Prest as the First Nations Coordinator. Mr. Prest is of Coast Salish ancestry from the Sto:lo people and comes with over 25 years of related experience as a Forest Ranger and Operations Manager with the Ministry of Forests and five years as a First Nations Educator with the Nicola Valley Institute of Technology.

We have designed a coordinated program of activities to meet the needs for professionally trained First Nations people in the natural resource science fields. The program:

- Reaches potential First Nations students with accurate information on careers in forestry and conservation,
- Facilitates the entry of First Nations students into the UBC Faculty of Forestry programs,
- Supports First Nations students while in study at UBC, and assists graduating students in career counseling and job placement.

Gordon Prest can be contacted at (604) 822-0651, fax (604) 822-8645 or e-mail gprest@unixg.ubc.ca.

ACHIEVEMENTS IN 1994–95

- Meetings with key individuals from post-secondary institutions, colleges and First Nations organizations to explain forestry and natural resources conservation programs for First Nations students at UBC,
- Contacts with forestry and aboriginal organizations,
- Meetings with UBC Forestry Faculty members to discuss the introduction of a First Nations perspective into current courses,
- Initial development of a proposal to fund a 2-day international conference on curriculum development.

PLANS FOR 1995–96

- Establish a First Nations Advisory Committee for the Faculty,
- Implement one-day First Nations cultural awareness workshops for Faculty members,
- Coordinate the development of a 3-credit course on First Nations perspectives on resource management for delivery at UBC in January 1996,
- Organize and seek funding for international conference on incorporating First Nations perspectives into forestry and natural resource curricula, to be held in summer of 1996,
- Participate in new First Nations Professional Sciences Access Program.
The BC Forestry Continuing Studies Network has now been in operation for nearly four years. It has six offices — the Provincial Office in the Faculty of Forestry at UBC responsible for overall management of the organization and coordination of province-wide training initiatives and five delivery centres responsible for organizing training activities around the province at institutions with forestry/natural resource programs:

- Selkirk College, Castlegar
- University of Northern British Columbia, Prince George
- University College of the Cariboo, Kamloops
- Malaspina University College, Nanaimo
- Northwest Community College, Smithers.

Each office has an advisory board whose members provide valuable input on a range of operational issues and the affiliated institutions also play a constructive role.

The principal role of the Network remains coordination of the delivery of continuing education in sustainable natural resource management throughout the province on a consistently high-quality basis.

One of the driving forces behind the creation of the Network back in 1991 was a need to redress the inconsistencies in availability, quality and cost of continuing education in forestry.

The continuing increase in the numbers of province-wide training activities organized by Network staff is an indication of the recognized value of a consistent approach. Other trends include an increasing involvement of Network staff in the planning and organization of conferences and workshops. Although the initial focus of Network training was the professional and technical audience in forestry, more activities are now being organized for the forest worker. In addition, Network staff are more frequently being asked to participate at an early stage in the design and development of training initiatives.

One major activity in 1994 was the coordinated delivery of the five modules of Forest Practices Code training for staff in the Ministry of Forests, the Ministry of Environment, Lands and Parks, the Ministry of Energy, Mines and Petroleum Resources and the Department of Fisheries and Oceans as well as a small number of industry representatives.

The 1994/95 fiscal year was marked by an increase in the number of requests for the delivery of training to forest workers. In addition, the Network Director was asked to help with the development of the Forest Practices Code Awareness Training for Forest Workers.

This past year has seen a diversification of funding sources with the initiation of several major projects under the Watershed Restoration Program. In addition, the Network and the Association of B.C. Professional Foresters have worked together successfully on a number of initiatives this year.

The highest priority continues to be the identification of new opportunities for continuing education in natural resource management. As in the past, the focus on improving the cost-effectiveness and increasing the range of Network services will continue.
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HARTSON, Donna — Secretary to the Dean
LAI, Charles — Clerk
LI EW, Lily — Undergraduate Programs Secretary, B.A. (Brit. Col.)
QUAY, Patsy — Editorial Assistant
TURNER, Ron — Technician, B.A. (Brit. Col.)
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Adjunct Professors
BONNOR, G. Michael — B.S.F., M.S.F. (Toronto), Ph.D. (State Univ. of New York)
COTTELL, Philip L.
B.S.F., M.F. (Brit. Col.), Ph.D. (Yale), R.P.F.
DEMAERSCHALK, Julien P.
B.S.F. (Louvain), M.F., Ph.D. (Brit. Col.)
ILES, Kimberley — B.S., M.Sc. (Oregon), Ph.D. (Brit. Col.)
McNEEL, Joseph — B.S.F. (West Virginia), M.S., Ph.D. (Virginia Tech.)
MITCHELL, Kenneth J.
B.S.F. (Brit. Col.), M.F., Ph.D. (Yale), R.P.F.
WILLIAMS, Douglas H.
B.Sc. (Simon Fraser), M.Sc., Ph.D. (Brit. Col.)
WOZNOW, Ron
B.Sc. (Alberta), Ph.D. (UNB)

Honorary Lecturers
SANDERS, Peter R.W.
B.S.F., M.F. (Brit. Col.), R.P.F.
SAUDER, Brent J.
B.S.F., M.F. (Brit. Col.), R.P.F.

Sessional Lecturer
WOOD, Paul M.

Staff
AKAI, Heather
Administrative Assistant
AQUINO, David
Res. Assist./Tech.
B.Sc.F. (National Agrarian), M.F. (Brit. Col.)
COUCH, Mary Lou
Secretary
ACHIEVEMENTS IN 1994–95

- A complete review of the structure and content of the forest management program was initiated in late 1994. A small internal Task Force appointed by the Dean have examined the program and surveyed a broad range of the community with respect to the expectations of graduates. This will result in proposals for changes in the undergraduate management curriculum by mid-95.

- There was increased activity in partnerships through university/industry/government funding of collaborative research on terrain stability assessment.

- Brought forestry problems to the agenda of engineers through a special session on Forestry Geotechnique at the 48th Canadian Geotechnical Society conference.

ACHIEVEMENTS AND PLANS

Forest Resources Management Department

PLANS FOR 1995–96

- Following completion of the program review noted above, there will be a fast track approach to introducing changes in the professional curriculum.

- Dr. Ron Woznow, Adjunct Professor, is developing a Centre for Environmental Labelling to provide a common database for ecolabelling and policy analysis around the world (e-mail ecolabel@unixg.ubc.ca).

- The Department is currently recruiting for five faculty positions to support both the conservation and forest operations programs. We hope to have these in place in the fall of 1995.

New Faculty Appointment

TINDALL, David
Dr. David Tindall was hired as a joint appointment in Forest Resources Management and Sociology. His research interests focus on environmental sociology, sociology of natural resources, social movements, social network analysis and sociological theory.

Promotion

VAN KOOTEN, G. Casey — promoted to Professor effective July, 1995.

Retirement

DOOLING, Peter J.
Dr. Dooling retired on December 31, 1994 after 27 years with the Faculty of Forestry. During his service to UBC, Dr. Dooling was instrumental in developing the Faculty’s program in resource recreation. He saw the provincial park system’s expansion to northern B.C. and the recreational land use industry’s growth to include wilderness, recreational waterways, coastal management for recreation and national trail systems.
WOOD SCIENCE DEPARTMENT

David Barrett
Head

Stavros Avramidis
Colette Breuil
David Cohen

Simon Ellis
Frank Lam
Thomas Maness

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STEINER, Paul R. (deceased May 10, 1995)  
Professor  
• Wood Adhesives and Composite Products  

Dr. Paul Robert Steiner  
With great sadness we report that our colleague Professor Paul Robert Steiner, passed away May 10, 1995 following a lengthy illness.  

Dr. Steiner was internationally recognized for his contributions and pioneering research in the fields of wood adhesives and wood composites technology.  
Paul's academic leadership, collegiality and warm personality will be greatly missed by all colleagues, students and staff.  

Dr. Steiner is survived by his wife Louisa and their three children Kevin, Jordana and Naomi.
Visiting Professors

ENAYATI, Ali
B.Sc., M.Sc., Ph.D. (Gorgan Agr. Sci. U., Iran)
- Wood Physics

KANG, Ho-Yang
Ph.D. (N. Carolina State U.)
- Wood Drying

LISS, Steven
B.Sc. (Western), M.Sc., Ph.D. (Saskatchewan)
- Forest Products Biotechnology

Research Associate

WONG, Ken K.Y. — B.Sc. (Carleton), M.Sc. (Ottawa), Ph.D. (Laval)
- Forest Products Biotechnology

Post-doctoral Fellows

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BURGEL, Jochen
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SERREQUI, Alessio
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ZHANG, Lin
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Adjunct Professors

CHOW, Suezone — B.Sc. (Taiwan), M.Sc., Ph.D. (Brit. Col.), O.B.C.

KELLOGG, Robert M. — B.Sc.F. (Maine), M.Sc., Ph.D. (Yale), F.I.A.W.S.

KIRBACH, Eberhard D.
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SMITH, Roger S. — B.Sc., Ph.D. (London)

VAROGLU, Erol — M.Eng. (Istanbul), M.Sc., Ph.D. (Stanford)

Promotion/Tenure

MANESS, Thomas — promoted to Associate Professor and granted tenure effective July, 1995.
ACHIEVEMENTS IN 1994–95

• UBC was selected by the Board of the National Education Initiative to establish a national centre for education in wood products technologies.

• The provincial government, Forest Renewal B.C., the federal government and the Canadian wood products industry committed funding to establish a national Centre for Advanced Wood Products Processing.

• The Wood Science and Industry undergraduate program Years 1 and 2 were restructured to focus on wood products processing technologies education.

PLANS FOR 1995–96

• Implement Years 1 and 2 of the new undergraduate program in Wood Products Technology.

• Create the Centre for Advanced Wood Products Processing.

• Design a professional Master’s degree program in Wood Products Technology.
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Associate Professor  
• Forestry and Wildlife  
B.Sc. (Hons.) (1973), M.Sc. (1976),  
Phone: (604) 822-3543
FACULTY AND STAFF

Forest Sciences Department

VAN DER KAMP, Bart J.
Associate Professor
• Forest Pathology
Phone: (604) 822-2728
E-mail: bart.john.van.der.kamp@mtsg.ubc.ca

WATTS, Susan B.
Lecturer and Assistant Dean
• Forest Entomology
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WORRALL, John G.
Associate Professor
• Tree Physiology, Tree Growth Mechanisms and Climatic Influence
Phone: (604) 822-3516

Research Associates

DANIELS, Lori D.
B.Sc.(Hons.) (Manitoba), M.Sc. (Brit. Col.)
• Tree Population Dynamics/Stand Dynamics Dendroecology

GALINDO-LEAL, Carlos
B.Sc. (U. Autonoma Metropolitana), M.Sc., Ph.D. (Brit. Col.)
• Animal Ecology

KOSHY, Mathew P.
B.Sc., M.Sc. (Kerala), M.Sc. (Wales), Ph.D. (Brit. Col.)
• Forest Genetics

PRESCOTT, Cindy
B.Sc. (Brock), M.Sc., Ph.D. (Calgary)
• Forest Nutrition

SILIM, Salim N. — B.Sc. (Makerene), M.Sc. (New Brunswick), Ph.D. (Brit. Col.)
• Tree Physiology

Honorary Research Associate

CARTER, Reid
B.Sc., M.Sc. (Brit. Col.), R.P.F.
• Forest Ecology and Management

Post-doctoral Fellows

BRUNNER, Andreas M. B.
Diplom-Forstwirt (Munich), Ph.D. (Freiburg)
• Silviculture and Forest Ecology

CHAN-McLEOD, Ann C. Allaye
B.S.F., M.Sc. (Brit. Col.), Ph.D. (Alaska Fairbanks Univ.)
• Physiological Ecology

DOBRY, Jaroslav — B.Sc., Ph.D. (Prague)
• Dendrochronology

FU, Yong-Bi
B.Sc. (Nanjing For. Univ., China), M.Sc. (Lakehead), Ph.D. (Toronto)
• Population/Forest Genetics

GU, Xiaohua
B.Sc. (Hunan Normal Univ., China), M.Sc., Ph.D. (Northeast For. Univ., China)
• Forest Ecology/GIS Application

Adjunct Professors

ALFARO, Rene I. — B.Sc. (U. Chile), M.Sc., Ph.D. (Simon Fraser)

AXELROOD, Paige E. — B.Sc., M.Sc. (Oregon State), Ph.D. (California)
BARKER, John E. — B.Sc. (Brit. Col.), M.Sc., Ph.D. (California)

COMEAU, Philip G. — B.Sc. (Victoria), Ph.D. (Brit. Col.)

DEROCHER, Andrew E. — B.Sc. (Hons.) (Brit. Col.), M.Sc., Ph.D. (Alberta)

DOST, Frank — B.Sc. (Washington), M.Sc. (Kansas), D.V.M. (Washington)

EDWARDS, David George — B.Sc. (Aberdeen), M.F., Ph.D. (Washington)

EL-KASSABY, Yousry A. — B.Sc. (Alexandria), M.Sc. (Tanta), Ph.D. (Brit. Col.)

GROSSNICKLE, Steven C. — B.Sc. (S. Illinois), M.Sc., Ph.D. (Colorado State)


HENRY, Charles L. — B.S., M.S. (Oregon State), Ph.D. (Washington)


KRANNITZ, Pamela G. — B.Sc. (Hons.) (Guelph), M.Sc. (Western Ontario), Ph.D. (Queen’s)

KURZ, Werner A. — Diplom Holzwirt (Hamburg), Ph.D. (Brit. Col.)


LESTER, Donald T. — B.Sc. (Maine), M.F., Ph.D. (Yale)


MILLER, Gordon E. — B.Sc., M.Sc., M.P.M., Ph.D. (Simon Fraser)

MORRISON, Duncan J. — B.S.F., M.Sc. (Brit. Col.), Ph.D. (Cambridge)

OTVOS, Imre S. — B.Sc.F. (Sopron), M.S., Ph.D. (Berkeley)

PRESTON, Caroline M. — B.Sc. (McMaster), M.A. (Carleton), Ph.D. (Brit. Col.)

ROCHELLE, James A. — B.Sc., M.Sc. (Washington State), Ph.D. (Brit. Col.)

SAFRANYIK, Laszlo — B.Sc., M.Sc., Ph.D. (Brit. Col.)

SAVARD, Jean-Pierre — B.Sc. (Laval), M.Sc. (Toronto), Ph.D. (Brit. Col.)

SMITH, Nicholas J. — B.Sc. (N. Wales), M.Sc. (Brit. Col.), Ph.D. (Oregon State)

SPIITLEHOUSE, David L. — B.Sc. (Nottingham), M.Sc. (Saskatchewan), Ph.D. (Brit. Col.)

SUTTOn, Benjamin S. — B.Sc. (Reading), Ph.D. (Brit. Col.)

VAN DEN DRIESSCHE, Robert J. — B.Sc. (N. Wales), M.Sc. (Toronto), Ph.D. (Wales)


WHITE, Eleanor E. — B.Sc., M.Sc. (Brit. Col.), Ph.D. (Swedish Univ. of Agr. Sciences)

Sessional Lecturer

WIELGUS, Robert B. — B.Sc. (Brandon), M.Sc. (Idaho), Ph.D. (Brit. Col.)

Staff

DAUST, Dave — Res. Assist./Tech. B.S.F. (Brit. Col.)

DUPUIS, Linda — Res. Assist./Tech. B.Sc. (Hons.) (Carlton), M.Sc. (Brit. Col.)

DYCK, Wanda — Secretary

GILL, Michael — Res. Assist./Tech.

JOHNSON, Jacklyn — Office Manager B.S.Ed. (Minn.)

KIDD, Joanne — Res. Assist./Tech.

LEE, Eric — Departmental Clerk

NEW, David — Res. Assist./Tech.

OLANSKI, Penny — Res. Assist./Tech.

PALMER, Sharon — Secretary

SETO, Carrie — Administrative Assistant

SREJIC, Zika — Res. Assist./Tech. B.Sc. (Univ. of Belgrade)

STALEY, Candis — Res. Assist./Tech.

TSZE, Min — Res. Assist./Tech.

WANG, Yuewei — Lab. Assist.
Promotion

VAN DER KAMP, Bart — promoted to Professor effective July, 1995.

ACHIEVEMENTS IN 1994–95

- Awarded NSERC Industry Chair positions in Genetics.
- Awarded over $730,000 in NSERC awards and over $1,800,000 in other externally funded research grants and contracts.
- Hired Dr. Susan Glenn as Assistant Professor in Conservation Biology.
- Hired Dr. Scott Hinch as Assistant Professor jointly with Westwater Research Centre and the Fisheries Centre.
- Instituted weekly Forest Sciences Department seminars and weekly social coffee.

ACHIEVEMENTS AND PLANS

Forest Sciences Department

PLANS FOR 1995–96

- Hire senior and junior faculty members in quantitative and population genetics.
- Develop nursery operations into active teaching/research facilities.
- Hire director of nursery for research/teaching.
ALONGSIDE their teaching and research commitments, most Faculty members have committee responsibilities with off campus organizations and groups. These involvements are listed below together with various distinctions and awards (in bold-face type) bestowed on Faculty members during the past year.

AVRAMIDIS, S.
- Chairman, Society of Wood Science and Technology Membership Ctte.
- Member, Moisture Meters Ctte., American Society for Testing and Materials, D4444-D07.01.01.
- Member, Wood Drying Technical Interest Group, Forest Products Society.
- Secretary, Wood Physics Technical Interest Group, Forest Products Society.
- Member, IUFRO Working Party on Wood Drying, S5-04.06.

BREUILL, C.
- Member, Editorial Board, Wood Science and Technology.
- Board Member, International Academy of Wood Science, 1994 to 2000.
- Member, NSERC/Forestry Canada Partnerships Program Grant Selection Ctte.
- Chairman, Sawlumber Sub-committee, Canadian Standards Association.
- Member, Main Ctte., Canadian Standards Association.
- Member, Code for Engineering Design in Wood, Canadian Standards Association.
- Member, Technical Ctte., National Lumber Grades Authority.
- Member, Forest Products Ctte., SCBC.
- Member, Fire Risk Ctte., Forintek/NRC.
- Chairman, 1997 Planning Ctte., Forest Products Society.

BURTON, P.J.
- Member, Executive Council, Vancouver Section of the CIF.
- Member, SIBC Curriculum Ctte.
- Member, Reforestation Info. Bank TAC.
- Member, B.C. Forest Land Use Liaison Ctte.
- Member, Carmanah Valley Forest Management Advisory Ctte.
- Member, B.C. MoEMPR, Reclamation Code Review Ctte.

CARLSON, J.E.
- Member, SCBC Scholarships Ctte.
- Member, Scientific Advisory Board: USDA Tree Genome Project; Poplar Molecular Genetics Cooperative, Univ. of Washington; Tree Genetic Engineering Research Cooperative, Oregon State Univ.

CHAMBERS, A.D.
- Chair, Forest Land Commission.
CHANWAY, C.P.
- Member, Biofertilizers Workshop – Review of Federal Guidelines for Microbial Product Use and Registration.
- Membership Chair, Vancouver Section of the CIF.
- Member, Expert Ctte. on Microbial Inoculants.
- Member, Canadian Society of Plant Physiologists (Western Region) Annual Meeting Organizing Ctte.

COHEN, D.H.
- Chairman, International Program Planning Ctte., Forest Products Society.
- Member, Forest Products Society Planning Ctte. for Industry Conferences, Annual Meeting Technical Ctte., Program Planning Ctte. and Jury for Plenary Session on Forest Products Marketing.
- Associate Director, Canadian Wood Council.
- Deputy Director, Forest Products Marketing Group, IUFRO.

FANNIN, R.J.
- B.C. Asia Pacific Scholars Award.
- Member, RPF/APEGBC Resource Roads Task Force.
- Secretary, Geosynthetics Division, Canadian Geotechnical Society.
- Member, Board of Examiners, Assoc. of Prof. Engineers and Geoscientists of B.C.

FELLER, M.C.
- Member, Pinecone Lake - Burke Mountain Protected Area Strategy Study Team.
- Member, 2nd International Wildland Fire Symposium Steering Ctte.
- Member, Northwest Forest Fire Council Steering Ctte.

GLENN, S.M.
- Member, Legislative Ctte. on Minnesota Resources Peer Review Panel.

GOLDING, D.L.
- Member, Selection Ctte., John G. Bene Fellowship in Social Forestry.

GUY, R.D.
- Western Director, Canadian Society of Plant Physiologists.
- Member, Forestry Grant Selection Ctte., SCBC.
- Member, B.C. Stock Quality Working Group.
- Member, Local Organizing Ctte. for 1997 Joint Meeting of the American Society of Plant Physiologists and the Canadian Society of Plant Physiologists.

HALEY, D.
- Appointed to Editorial Board, Journal of Forest Economics.

HINCH, S.G.
- Member, Technical Review Ctte., Fraser River Sockeye Management.
- Member, Pacific Coastal Mountains Working Group for Regional Assessments of Climate Change.

KIMMINS, J.P.
- Member, Canadian Standards Association, Technical Advisory Ctte. on Certification.
- Invited Participant, House of Commons Ctte. on Natural Resources Hearings on Clearcutting.

KLINKA, K.
- Co-chair, IUFRO SI.02-06.
- Deputy Chair, IUFRO SI.01-00.

LAM, F.
- Member, CSA086 Sub-committee on Sawn Lumber, Canadian Standards Association.

LEMAY, V.M.
- Chair, CIF Measurements Sub-committee.
- Member, Provincial Cruising Task Force.
- Member, Mensuration Sub-committee, ABCPF.
- Member, Canadian Forest Inventory Ctte., Mensuration Sub-committee.
- Member, Canadian Standards Association Mensuration Ctte.

MARSHALL, P.L.
- Board Member, Forest Products Society NW Section.
- Chairman, Industrial Engineering and Operations Working Party (S5.04-13), IUFRO.
• Member, Steering Ctte., Inland Northwest Growth and Yield Cooperative.
• Member, Silviculture Technical Advisory Ctte., Stand Management Cooperative.
• Member, Forest Management Group, Canadian Pulp & Paper Association.

McLEAN, J.A.
• Member, Forest Pest Review Ctte.
• Member, FRDA II Advisory Ctte.
• Member, Forestry Ctte., SCBC.

MUNRO, D.I.
• Co-Chair, MoF Inventory Task Force.

MURTHA, P.A.
• Liaison Officer, Canadian Remote Sensing Society and American Society of Photogrammetry and Remote Sensing.
• Member, Education Ctte., American Society of Photogrammetry and Remote Sensing.
• Member, Education Advisory Board, Radarsat International, Ottawa.

NAMKOONG, G.
• Co-Editor, Canadian Journal Forest Sciences.
• Co-Editor, Silvae Genetica.
• Member, B.C. Tree Improvement Council.
• Member, Biodiversity Steering Ctte.
• Member, United Nations FAO, Panel of Experts, Genetic Resources.

NELSON, J.D.
• Member, FERIC Forest Engineering Advisory Ctte.
• Chair, Forest Harvesting Academic Standards Ctte., ABCPF.

PASZNER, L.
• Member, International UNESCO Expert Council on Chemistry of Vegetal Resources.
• Member, Editorial Advisory Board, Holzforschung.

PEARSE, P.H.
• Member, Canadian National Ctte. on UNESCO’s Man and the Biosphere Program.
• Member of the Board of Directors: The Law of the Sea Institute; World Wildlife Fund Canada; Alcan Aluminium Limited; Vancouver Board of Trade.

PRION, H.G.L.
• Member, CSA 086 Sub-committee on Fasteners.
• Chair, CSA 086 Task Group on Multiple Fasteners.

• Member, Structural Stability Research Council.

RUDDICK, J.N.R.
• Vice President, International Research Group on Wood Preservation.
• Vice Chairman, Wood Preservation Technical Ctte., Canadian Standards Association.
• Membership Chairman, Canadian Wood Preservation Association.
• Member, American Wood Preservers Association.

SALCUDEAN, S.E.
• BC Advanced Systems Fellowship, Year 4.
• Editor, IEEE Transactions on Robotics and Automation.

SADDLER, J.N.
• IUFRO Scientific Achievement Award for scientists under 45 years.
• Member, Steering Ctte., BIOFOR Network (ISTC Network), “Biotechnology for the Forest Industries.”
• Member, EMR Renewable Energy Advisory Group.
• Member, Advisory Ctte., Agriculture Canada Bioenergy Program.

VAN DER KAMP, B.J.
• Member, Forest Pest Review Ctte.
• Member, Danger Tree Assessment Ctte.

VAN KOOTEN, G.C.
• Council Member, Western Agricultural Economics Association.

WEETMAN, G.F.
• Director, Silviculture Institute of B.C. (SIBC).
• Member, SIBC Curriculum Ctte.s. for Modules II, III, IV & V.
• Chair, Board of Examiners, ABCPF.
• Council Member, ABCPF.

YOUNG, G.G.
• Faculty Teaching Prize.
• Member, ABCPF/APEGBC Task Force on Forest Roads.
• Member, Academic Standards Ctte., ABCPF.
• Co-Chair, Planning Ctte., International Mountain Logging and PNW Skyline Symposium.
EXTRAMURAL funding in 1994/95 totalled $5,079,478, a very similar figure as in 1993/94. Based on such measures as success in competitive grants and the overall level of research activity, the Faculty continues to lead Canadian forestry schools. Extramural funding per full-time-equivalent faculty member, while still among the highest levels at UBC, has dropped as the Faculty has added young scholars in the early phases of establishing their careers.

The table below shows that the sources of our funding are well distributed. The federal support (NSERC plus other agencies) has dropped slightly to 51% this year. Ministry of Forests support has risen from 18% to 24% of our extramural funding support. Industrial support decreased slightly from 19% in 1993/94 to 17% in 1994/95.

Extramural funding sources 1994/95

<table>
<thead>
<tr>
<th>Source</th>
<th>$000</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSERC</td>
<td>1,779</td>
<td>35</td>
</tr>
<tr>
<td>Other</td>
<td>804</td>
<td>16</td>
</tr>
<tr>
<td>Provincial</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ministry of Forests</td>
<td>1,211</td>
<td>24</td>
</tr>
<tr>
<td>Other</td>
<td>118</td>
<td>2</td>
</tr>
<tr>
<td>Private</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td>857</td>
<td>17</td>
</tr>
<tr>
<td>Other</td>
<td>310</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>5,079</td>
<td>100</td>
</tr>
</tbody>
</table>

Our location within a large, research-oriented University in close proximity to several major research institutions greatly enhances our broadly diversified research program. We have collaborative projects with other departments at UBC, and with Forintek, Papiican, FERIC, and BC Research. With the help of the research department of Weyerhaeuser (U.S.) we have developed a plan for refocusing the activities at the South Campus Nursery more clearly towards a research and education mission.

We receive valuable research support from endowments provided by Weyerhaeuser and MacMillan Bloedel, the Imajo Cedar Management Fund and the Kathleen and Sheldon Rodwell Research Fund.

The following list reflects funded research activities between April 1, 1994 and March 31, 1995.

S. Avramidis

- Fundamentals of coupled heat and mass transfer in radio-frequency/vacuum drying of wood - **NSERC $86,698**
- Modelling of radio-frequency drying of wood - **COF1 $21,840**

S. Avramidis

- Manipulation of wood composite structure to enhance performance (co-investigator)
  - **NSERC $78,650**
- Moisture sorption studies in wood
  - **NSERC $15,000**
T.M. Ballard
Weatherable nutrients in forest soils
BC MoF $39,034
Impact of harvesting on soil nematodes
CFS/BC MoF/FRDA $17,000

J.D. Barrett
Multiple input grading system for structural lumber (co-investigator) – NSERC $99,000
Reliability of structural lumber in truss applications – Forintek $10,000
French Douglas-fir study
Int'l For. Prod. $3,795
Reliability of wood-based materials
NSERC $17,700
Load configuration factors for MSR lumber
CFS/NSERC/National Lumber Grades Auth. $35,000
Hem-Fir CEN ingrade correlation study
COFI $16,000

C. Breuil
Junior Chair in Forest Products
Biotechnology – NSERC/Industry $94,360
Feasibility study: Production of antibodies to chemicals – Noranda Technology $5,000
Microorganism and enzyme treatments for reducing extractives present in wood chips or pulps – CFS/NSERC/Avenir Inc./Diachem/Weyerhaeuser Canada/Noranda Inc. $90,100
Development of antibody-based immunoassays for resin acids in industrial process streams and effluents – NSERC $51,000
Immunocassay detection of wood preservatives – NSERC/Forintek/Zeneca Agrochemicals $67,944
Controlling sapstain pigmentation
CFS/NSERC/MacMillan Bloedel $21,000
Sapstain control by protease disrupions
Forintek $1,500
Biorational control of forest diseases
BC MoF $15,000

F.L. Bunnell
Management planning to maintain biodiversity in the boreal mixed-wood forest
Alberta Pacific For. Ind. $60,000
Biodiversity in the Clayoquot Sound
BC MoELP $30,000

Forest management: habitat patterns model development – BC MoF $30,000
Evaluating the role of riparian and non-riparian habitat linkages on abundance and movements of vertebrates in managed forest landscape – BC MoF $75,000
Riparian management and the tailed frog
BC MoF $32,000
Kluane National Park Reserve grizzly bear research program – Environ. Can. $47,500
Multiple species habitat dependencies
CFS 25,000
Forest diversity program, habitat conservation plan; Fraser River basin sustainable management plan – Environ. Can. $33,500
Cooperative design of protected areas strategy – Environ. Can. $139,548
North Columbia Mountains biodiversity study – Environ. Can. $47,000
Kootenay/Beaverfoot biodiversity research ecosystem management project
Heritage Can. $47,000
Needs assessment – ecological
Long Beach Model Forest $4,250
Measuring biodiversity for forest policy and management
Wildlife Habitat Can. $2,500

P.J. Burton
Experimental investigation of conifer germination ecology – BC MoF $52,100
Technology transfer of research results regarding tree seed germination ecology, conifer shade tolerance physiology, and non-crop competitive effects
BC MoF $19,891
Planting microsite selection and conifer seedling performance – BC MoF $10,000
Boreal mixedwood fragmentation and landscape modelling
Alberta Pacific For. Ind. $40,000
Influence zones and edge effects in forest stand development – NSERC $15,000

J. Carlson
Rubus DNA fingerprinting – BC Raspberry Growers Assoc. $5,000
Analysis of genetic diversity in western red cedar – BC Research Inc. $8,000

EXTRAMURAL
FUNDING & SPONSORED RESEARCH
Development of automated, PCR-based analytical assay procedure for fingerprinting two pollen parents and five seed cone parent clones of western hemlock  
**BC MoF** $31,000

DNA fingerprinting plants for the B.C. nursery trade (co-investigator)  
**BC Nursery Trades/MoAFF** $30,000

DNA markers for terminal weevil resistance in spruce – **BC MoF** $46,780

Characterization of white pine weevil  
*Pissodes strobi* (co-investigator)  
**Green Plan CFS** $12,000

Biotechnological modification of lignin in poplar (co-investigator) – **NSERC** $139,000

DNA-fingerprinting of trees in an operational spruce seed orchard  
**NSERC/CFS/BC Research Inc.** $45,000

Developmental biology and molecular genetics of trees – **NSERC** $29,000

Multi-locus and multi-genome molecular analysis of genetic diversity in western red cedar and Douglas-fir – **CFS** $14,000

C.P. Chanway  
Root-endophytic and rhizosphere colonizing plant growth promoting rhizobacteria for pine and spruce – **NSERC** $70,200

Conifer root associated bacteria: Diversity and influence on seedling growth and competition – **NSERC** $25,000

D.H. Cohen  
Establishing technology benchmarks in Canadian sawmills for processing quality control and training needs  
**SSHRC** $25,000

Market research in forest products  
**Various companies** $1,000

S.C. Ellis  
Characterization of the wood quality of lodgepole pine resources with respect to wood composites – **NSERC** $20,000

R.J. Fannin  
Improved techniques for terrain stability assessment  
**NSERC/MacMillan Bloedel/Western Forest Products/BC MoF** $44,000

Soil/geosynthetic interaction in reinforcement and filtration applications  
**NSERC** $17,000

M.C. Feller  
Chemical analysis on samples from Flume Creek – **BC MoF** $2,000

Relationships between coarse woody debris, vegetation, small mammals, and forest soils (co-investigator)  
**BC MoF/NSERC** $135,800

Regeneration of Engelmann spruce and subalpine fir from seed in the ESSFwc Subzone – **BC MoF** $9,000

Fire behaviour and effects on vegetation of prescribed burning of forests  
**Green Plan CFS** $30,000

Effects of silvicultural systems on organic matter decomposition and nutrient leaching in a Montane forest (co-investigator)  
**CFS** $48,000

Effects of forest management practices on soils, vegetation, and streams and on ecosystem nutrient budgets  
**NSERC** $15,036

D.L. Golding  
Hydrologic processes in forested and logged watersheds of the Greater Vancouver municipal catchments – **GVRD** $10,000

R.D. Guy  
Comparative physiology of stress acclimation in conifers: water-use efficiency and root respiration – **NSERC** $35,715

S.G. Hinch  
Biophysical modeling of salmon migration and production (co-investigator)  
**NSERC** $253,000

Adult salmon passage project  
**Green Plan DFO** $150,000

Trout habitat capability modeling  
**BC MoE** $25,000

Watershed restoration program study evaluation – **BC MoE** $21,000

Creation and fertilization of coho salmon side-channel habitat  
**BC MoE** $31,500
A.F. Howard
Operational and economic feasibility of alternative harvesting systems in second-growth coastal forests of British Columbia
BC MoF $42,000
Sustainable forest management in the neotropics – Conservation Int'l $30,000
Decision support systems for the forest industry – NSERC $17,500

J.P. Kimmins
Evaluation of the effects of whole-tree harvesting on the sustainability of forest ecosystem productivity – NSERC/BC MoF/Williams Lake TSA Assoc. $80,600
Whistler biosolids fertilization trial, field data collection – BC MoF $95,255
Development of the individual tree version of FORECAST – BC MoF $44,120
Birch biomass and photosynthesis in south-central B.C. – BC MoF $25,000
Stand dynamics following large-scale versus small-scale disturbance: UBC Research Forest – BC MoF $10,450
Recycling urban sewage sludge and other organic waste as slow release forest fertilizer GVRD $20,025
Simulation of forest ecosystem response to natural and management caused disturbance regimes – NSERC $34,257

K. Klinka
The V.J. Krajina/B.C. Forest Service Chair in silvics and silviculture
BC MoF $97,678
F.G. Dodd Operational Research Chair in silvicultural systems research
BC MoF $38,000
Regeneration and productivity of western larch – Weyerhaeuser Canada/NSERC $30,000
Fire history of the interior Douglas-fir forests – BC MoF $7,000
Final synthesis of forested vegetation and environment data for coastal B.C.
BC MoF $10,000
Inventory of western hemlock root biomass in closed canopy stands on various soil nutrient and moisture regimes
BC MoF $14,920
Publication of western red cedar research results – BC MoF $6,000
Relationships between Engelmann spruce and Subalpine Fir Site Index and measures of ecological site quality
BC MoF $39,900
The relationship between white spruce, lodgepole pine, Englemann spruce and Subalpine Fir Index and measures of site quality
Northwood Pulp & Timber Ltd. $15,000
Shade tolerance of tree species
NSERC $16,110

F. Lam
Mechanics of wood-based composites
Forintek/NSERC $99,625
Evaluation of stiffness properties of lumber
Homart Moving $683
Manipulation of wood composite structure to enhance performance (co-investigator)
NSERC $78,650
Robotics system for wood mat formation (co-investigator) – NSERC $58,130
Multiple input grading system for structural lumber (co-investigator) – NSERC $99,000

V.M. LeMay
Estimation and characterization of decay in standing trees – NSERC $14,000

T. Maness
Log sawing simulator – BC MoF $40,000
Stem bucking simulator – BC MoF $29,500
Real time quality control systems
Canadian Forest Products $4,000
Automated rip-chop sawing decision tool
SCBC $15,750
Timber sale area log allocation model
NSERC $14,000

P.L. Marshall
Impacts of potential global warming on the forest sector in the Mackenzie Drainage Basin: A case study in the Peace River Basin
CFS/BC MoF $18,000
EXTRAMURAL FUNDING & SPONSORED RESEARCH

Biomass of uneven-aged Douglas-fir stands under a variety of growing conditions  
*CFS/BC MoF* $5,000

Response of uneven-aged Douglas-fir to alternative spacing regimes  
*CFS/BC MoF* $10,000

**K. Martin**

Behavior, energetics and reproductive physiology of ptarmigan – *NSERC* $30,000

Energetics of ptarmigan (co-investigator)  
*FCAR* $36,000

Structure and function of boreal forest vertebrates (co-investigator)  
*NSERC/CSP* $472,578

Vegetation control and forest bird diversity (co-investigator) – *Environ. Can.* $55,000

**J.A. McLean**

Assessment of the impacts of the white pine weevil at the Kalamalka Research Station reciprocal cross – *Green Plan CFS* $5,000

Biology of the spruce weevil in a reciprocal cross plantation at the Kalamalka Forestry Centre – *BC MoF* $7,000

Characterization of white pine weevil *Pissodes strobi* (co-investigator)  
*Green Plan CFS* $12,000

**G. Namkoong**

Managing forest tree genetic variance for climate change – *NSERC* $70,000

**J.D. Nelson**

Loughborough Inlet forest planning  
*Western Forest Products* $20,000

Quesnel Lake forest planning  
*West Fraser Mills Ltd.* $25,000

A Tactical Landscape Analysis System (ATLAS) – *CFS* $53,000

Integration of Midas harvesting scheduling algorithm into ATLAS Management Decision Support System  
*McGregor Model For. Assoc.* $10,000

ATLAS modelling of total resource plans  
*BC MoF* $11,144

Golden TSA forest planning — strategic research plan for development of a forest planning decision support system  
*BC MoF* $25,000

**L. Paszner**

Fermentation of alcoholic spent pulping liquors – *CANMET* $46,630

Allotropic transformations in processed cellulose fibers – *NSERC* $23,000

**C. Prescott**

Effects of silvicultural systems on organic matter decomposition and nutrient leaching in a Montane forest (co-investigator)  
*CFS* $48,000

Nutrition and sustainability of hybrid poplar plantations (co-investigator)  
*SCBC* $16,610

Influence of tree species on rates of nitrogen mineralization and litter decomposition in coastal B.C. – *BC MoF* $29,954

Litter input and decomposition in the Sicamous Creek Silvicultural Systems Project – *BC MoF* $2,000

Dynamics of coarse woody debris in wet and dry ESSF forest sites – *BC MoF* $2,500

Predicting rates of organic matter decomposition in forests and silvicultural systems in B.C. – *BC MoF* $19,120

**H.G.L. Prion**

Seismic retrofit of building frames with grouted steel tubes – *NSERC* $14,000

Seismic resistance of heavy timber connections (co-investigator) – *Industry, Science & Technology Canada* $50,000

Model verification of glulam beam program (co-investigator)  
*Can. Wood Council* $30,000

Steel plate shear walls in building frames  
*NSERC* $143,000

**J.N.R. Ruddick**

Industrial Research Chair in wood preservation – *NSERC* $25,721

Bioremediation of AAC-treated waste  
*AKZO America* $28,155
J.N. Saddler
Senior Chair in Forest Products
Biotechnology – NSERC/Industry $134,121
Development of antibody-based immunoassays for resin acids in industrial process streams and effluents (co-investigator)
NSERC $51,000
Coordination of quality assurance round-robin for resin acid analyses
Environ. Can. $5,000
Impact of resin acids on biomass yield and granulation in UASB reactors, treating BCTMP pulp mill waste water in the Fraser River Basin – Environ. Can./Quesnel River Pulp/NRC/IRAP $70,438
Analysis of pulp hydrolysate
Alcell Technologies $10,356
Treatment of effluents that are a by-product of RF/V wood drying – COI I $30,975
Mechanism of xylanase prebleaching of kraft pulps (co-investigator)
SCBC $62,800
Use of cellulase enzyme components to determine limitations in hydrolysis of cellulosic substrates – NSERC $85,500
Development of an immunoassay for resin acid detection in pulp waste water streams
MacMillan Bloedel $3,000
Steam pretreatment of softwood residues
CANMET $15,542

S.E. Salcudean
Optimization-based controller design/teleoperation control – NSERC $27,000
Force-feedback control of feller buncher
BCASI $10,000
Vibration isolation with active magnetic suspension – Ca. Space Agency $122,000
Medical robotics/medical devices
IRIS NCE $37,000
Haptic interfaces – IRIS NCE $51,000
Semi-autonomous control of hydraulic machines – IRIS NCE/BCASI $52,000
Motion-scaling teleoperation system for microsurgery – SCBC $75,000

P.R. Steiner
Organization of wood elements in a composite mat – CFS/NSERC/Forintek/MacMillan Bloedel $50,995
Manipulation of wood composite structure to enhance performance (co-investigator)
NSERC $78,650
Robotics system for wood mat formation (co-investigator) – NSERC $58,130
Spatial structure of wood composites
NSERC $24,000

T.P. Sullivan
Standardized methodologies for the inventory of components of biodiversity: pikas and sciurids – BC MoELP $5,000
Influence of vegetation management on diversity of plants, small mammals, birds and furbearers – BC MoF $71,200
Mountain beaver, porcupine, and woodrat: Standardized inventory methodologies for components of biodiversity of British Columbia – BC MoELP $5,000
Relationships between coarse woody debris, vegetation, small mammals, and forest soils (co-investigator)
BC MoF/NSERC $135,800
Integrated management of forest mammal pests: Semiochemicals and diversionary foods – NSERC $111,700

B.J. van der Kamp
Management of root disease in the interior by inoculum removal and use of alternative species – CFS/BC MoF $4,000
Evaluating the resistance of western larch to Armillaria root disease
CFS/BC MoF $28,000
Variability and stability in native forest tree pathosystems during domestication of the host – NSERC $11,550

G.F. Weetman
Publication of the SCHIRP synthesis report
CFS/BC MoF $7,920
Growth response of western hemlock and Douglas-fir to fertilization: A study of response mechanisms – BC MoF $40,000
Forest nutrition and fertilization studies
NSERC $24,786

K.K.Y. Wong
Mechanism of xylanase prebleaching of kraft pulps (co-investigator)
SCBC $62,800

EXTRAMURAL FUNDING & SPONSORED RESEARCH


Kimmins, J.P. 1994. Old-growth forests in Canada. What are they, where are they, how extensive are they, and are they a sustainable resource? pp. 3-10 in Forestry on the Hill. Special Issue #5; Old Growth Forests. Canadian Forestry Association, Ottawa.


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and subsidies on optimal forest rotation age and supply of carbon services. FEPA Working Paper #210, UBC, Vancouver. 16 pp.


THE UBC Malcolm Knapp Research Forest at Maple Ridge and the Alex Fraser Research Forest at Williams Lake support research, education and demonstration in the practice of forestry.

The Faculty of Forestry manages these forests as outdoor scientific laboratories for students and researchers. Since 1949 scientists from UBC and elsewhere have conducted more than 625 research projects on the Malcolm Knapp Forest and over 92 research projects on the Alex Fraser Forest. Not only do these research projects yield valuable data, but they also support our education and demonstration programs. The Faculty holds two field schools annually on the Research Forests, one for third year students at Alex Fraser in the fall and one for fourth year students at Malcolm Knapp in the spring.

Harvesting operations continue to play a major role in the management of both forests, and harvest volumes are maintained at sustainable levels consistent with the needs for research, education and integrated use. Revenues from harvesting partially finance the maintenance and operation of both forests. We offer continuing education programs, in the form of short courses and field trips at both forests. The Forest professional staff participate in teaching academic courses in the Faculty.

ACHIEVEMENTS IN 1994–95

Malcolm Knapp Research Forest

Researchers initiated a total of 18 new projects, mostly in familiar aspects of forestry. However, this year there were some unusual and exciting projects, these included:

- The use of insects in determining time of death of homicide victims and/or illegally killed wildlife,
- Medicinal plants of aboriginal peoples, and
- The UBC/Laval liquid-mirror telescope.

The Forest obtained approval to seek funding for the Loon Lake Camp redevelopment proposal. Harvesting was confined to road construction, rights-of-way construction and wind throw salvage. The Board of Governors approved a Research Forests Endowment proposal and revenues totaling nearly $550,000 from the three year accelerated harvest program (completed in 1994) were directed to this endowment.

Alex Fraser Research Forest

The primary focus was to keep abreast of the tremendous changes in forestry happening throughout British Columbia. Because this research forest is operated on crown land under tenure, the impact of provincial policy has been significant. The Commission on Resources and Environment, the Cariboo Land Use Plan, the Forest Renewal Plan, and especially the Forest Practices Code are major governmental initiatives which will impact significantly on operations.

Harvesting was curtailed to bark beetle salvage with approximately 2,439 m$^3$ cut. Since the creation of the forest, bark beetle infestation salvage has accounted for over 30% of the total volume harvested. Silviculture programs continued with planting of approximately 17,200 trees, and stand tending on 120 ha. Seventeen new research projects were initiated by Faculty, staff, and students from UBC plus investigators from other colleges and government agencies.

PLANS FOR 1995–96

The highest priorities include a continuing emphasis on encouraging significant scientific research projects, increasing flexibility of the harvesting programs and securing contributions to the endowment fund. The Malcolm Knapp Forest will implement an urban interface management plan on a trial basis and will complete planning for the Loon Lake Camp redevelopment. The Alex Fraser Forest plans to construct 6 km of new roads, identify a site for an office and headquarters, revise the Management and Working Plan and complete the wildlife plan.

For further information contact the Malcolm Knapp Research Forest at (604) 463-8148, fax (604) 463-2712 or the Alex Fraser Research Forest at (604) 392-2207, fax (604) 398-5708.
OUR desire to increase the Faculty’s participation in international research and training activities comes at a time when domestic demands for both teaching and research have reached all-time highs. This necessitates a slow, step-by-step approach to ensure that our international work actually enhances our capacity to serve domestic needs.

An important step towards reducing the competition between obligations at home and opportunities abroad is financial independence. This year, for the first time, all of the core funding for international programs was obtained from external sources, and prospects for continued self-sufficiency are excellent.

Early in the year we completed our strategic plan which both the Faculty’s Executive Committee and the external Forestry Advisory Committee approved. The plan is designed to increase the involvement of Faculty in international projects on a strict cost-recovery basis. It calls for the creation of working groups made up of two or more Faculty members with shared interests either geographically or topically. These teams will meet regularly to develop strategies and plans of action for developing and executing programs of research and training. A China working group has already been formed and work has begun to investigate ways to increase our activities in this region of the world where British Columbia has such strong ties.

Another important initiative — planned with the help of the President’s Office — is the internationalization of the undergraduate program. This project has three components: internships, student exchanges, and the development of a joint degree program in International Forestry. The demand by our students for increased exposure to international issues and opportunities for study and work has never been higher. In cooperation with the newly formed UBC Forestry Chapter of the International Forestry Students Association we intend to design and offer a comprehensive program for undergrads which will help open the door to the international world for Canadian students.

MEMORANDUMS OF UNDERSTANDING (MOUs)

There has been considerable activity in connection with our MOUs over the past year. Faculty members have volunteered to serve as Liaison Officers (LO) for our existing MOUs. Their role is to promote activity under the agreements by collaborating with counterparts at the partner institutions in the development of workplans. The status and assigned LOs of previously pending and new MOUs is as follows:

- **Swedish University of Agricultural Sciences, Umeå** — Dr. G.F. Weetman (signed and active).
- **University of Pertanian, Selangor, Malaysia** — Dr. A.F. Howard (signed and active).
- **Institute of Technology of Costa Rica, Cartago** — Dr. A.F. Howard (awaiting signatures).
- **Northeast Forestry University, Harbin, China** — Dr. J. Demaerschalk (under negotiation).
- **Beijing Forestry University, Beijing, China** — Dr. J. Demaerschalk (under negotiation).

RESEARCH AND TRAINING PROJECTS

- **International Conference on Certification of Forest Management Practices**
  **Objectives** — to contribute to the scientific and policy debate on criteria and methods for assessing and certifying that forest products come from sustainably managed forests.
  **UBC participation (ongoing)** — The Faculty of Forestry, in cooperation with the University of Pertanian Malaysia, received $100,000 from the Canadian International Development Agency for Phase I of a plan to sponsor an international conference on certification of forest management practices. The conference will focus on resolving scientific and policy conflicts concerning the establishment of regionally-specific criteria and measures for sustainability which are internationally acceptable and equitable.

- **Sustainable Forest Management in the Neotropics**
  **Objectives** — to conduct research on the economic viability of forest management compared to competing land uses and the ability of forest policy to encourage investment in sustainable management.
  **UBC participation (ongoing)** — The Faculty of Forestry obtained a grant from Conservation International, Washington DC to conduct research in the form of case studies in three countries: Bolivia, Brazil, and Guatemala.

Andrew Howard can be contacted at (604) 822-3794, fax (604) 822-9106 or e-mail ahoward@unixg.ubc.ca.
THE Centre for Applied Conservation Biology in the Faculty of Forestry promotes conservation of biological diversity while maintaining economic development. This Centre is unique in its incorporation of a novel undergraduate program, broad definition of educational targets, close links between basic and applied disciplines, and focus on forested ecosystems where conflicts between biological diversity and economic activities are most contentious.

Education
The educational program has three elements: an affiliated undergraduate program, a rapidly growing graduate program, and short courses for target audiences such as professional foresters, resource managers, the public and the public media. Our teaching staff continues to grow.

We are closely linked to the new undergraduate B.Sc. (Natural Resource Conservation) program recently initiated by the Faculty of Forestry. That program includes a core of natural science courses in forest, plant, and animal ecology, conservation biology and landscape ecology, and a suite of social science and management courses in economics, political science and philosophy to translate natural process into human values.

The “Seminar in Biological Conservation” series supported by the H.R. MacMillan Family Fund combines graduate level instruction and public lectures on important conservation issues. In 1994, noted speakers from Canada, USA, Australia, and Sweden presented 18 public lectures and spent 24 days on campus interacting with students, faculty, and the general public.

Extension
The Centre’s first major outreach program was a series of biodiversity workshops presented with the Forest Service in the southern interior of the province. The Centre, with support of Canadian Wildlife Service, recently produced its second outreach pamphlet examining the importance of down wood to biodiversity. The first pamphlet addressed approaches to maintaining biological diversity in B.C.’s forests. We sponsor conferences for scientists, resource managers and policy-makers to debate issues in conservation biology. The book derived from the first conference, “Incorporating Biological Diversity in Forest Policy and Management Decisions,” will be published by UBC Press.
DEVELOPMENT depends on people. People give to people with causes. In this, our first year of operation, numerous people and organizations have affirmed their support for the Faculty of Forestry and many volunteers have come forward to help. We have found substantial new support for the Faculty. The demand for increased knowledge in forest conservation, management and wood processing along with the calibre of our faculty has led to a great deal of interest in supporting forestry initiatives and education.

ACHIEVEMENTS IN 1994–95

Giving starts at home. Both Faculty and alumni gave to support forestry education, beginning with a leadership gift by Dr. Gene Namkoong who contributed $110,000 (matched by Provincial Government’s $95,000 and Federal Government’s $50,000) toward a Graduate Fellowship in Forest Sciences. When asked why he made one of the largest gifts ever to UBC Forestry, Dr. Namkoong replied “my grandfather in Korea supported education and I always thought when I had the opportunity I would do the same.”

Our 1950-59 alumni class representatives, led by Gerry Burch, received $29,000 in gifts. We also had two successful volunteer alumni telepledge evenings and raised $12,000 for student support.

Forest companies continued their support for the Pacific Forest Science Centre as Lignum Ltd. pledged $125,000 towards naming a room in the new building. In addition an anonymous alumni, who had already given in the campaign, pledged a planned gift of $100,000 towards a room. Mr. George Richards, President & CEO of Weldwood Canada, has agreed to Vice-Chair our forthcoming corporate campaign.

For the first time we received support from a U.S. Foundation — largely through the efforts of Dr. Bunnell — with the Kendall Foundation pledging $50,000 U.S.

Working with Dean Binkley, Dr. Barrett and Dr. Maness, we were successful in preparing a funding proposal for our new educational initiative in wood processing. The Federal Government announced its contribution of $6 million and Forest Renewal B.C. will invest $8.5 million in program endowment. In addition, the Ministry of Skills, Training and Labour will spend $7.5 million to fund the Canadian Centre for Advanced Wood Products Processing. Premier Harcourt called this initiative: “An evolutionary step forward for the forest industry.”

Thanks to our supporters, the Pacific Forest Science Centre is on track, funding for the Centre for Advanced Wood Processing is now a reality and more students will benefit from the creation of new awards. Those include:

- Backman Awards in Natural Resource Conservation,
- Janet Ketcham Scholarship for First Nations students,
- ABCPF First Nations Award,
- Namkoong Family Fellowship and Teaching Exchange & Research Award, and
- Pacific Regeneration Technologies Silviculture Scholarship.

The Faculty thanks all of those who volunteered and contributed to make this year a great success.

PLANS FOR 1995–96

The main focus of our campaign will be:

- To fund, through naming opportunities, equipment and furnishings for our new Pacific Forest Science Centre.
- To build and upgrade facilities at our University Research Forest in Maple Ridge and develop a Sustainable Forest Management Centre of Excellence.
- To increase student support in anticipation of significant Federal government transfer payment cuts for education.
- To support a First Nations curricula development project and symposium.
- To identify support for new Professorships.

As one of our alumni said, “Quality education needs private sector funding so that we may sustain and continue to develop a world class centre of excellence.”

John Pennant can be contacted at (604) 822-8716, fax (604) 822-8645 or e-mail jpennant@unixg.ubc.ca.
H.R. MACMILLAN LECTURE SERIES

During the fall and spring terms, eleven internationally known members of the scientific community were invited to UBC to participate in Conservation 500, a new graduate seminar course in conservation biology. The following speakers to this course gave public lectures on a diversity of topics:

**Dr. Robert Ricklefs**  
University of Pennsylvania  
- Global patterns of tree species richness.

**Dr. Winifred Kessler**  
University of Northern British Columbia  
- Ecosystem management and sustainable management: playing by nature's rules.

**Dr. Jessica Young**  
Hampden-Sydney College, Virginia  
- The role of sexual selection in species formation and conservation.

**Dr. David Hik**  
University of Toronto, Ontario  

**Dr. Gordon Baskerville**  
Forest Resources Management Department, UBC  
- Science and natural systems management: designing it versus making it happen.

**Dr. Stan Boutin**  
University of Alberta, Edmonton  
- Moose and caribou conservation in Canada: have equilibrium concepts clouded our understanding?

**Dr. Lenore Fahrig**  
Carleton University, Ottawa  
- When does landscape spatial pattern affect population survival?

**Dr. Hilary Swain**  
Florida Institute of Technology  
- The landscape through the looking glass: conservation biologists come out of the preserve.

**Mr. Cliff White**  
Chief Park Warden, Banff National Park  
- Managing wicked ecosystem problems: a seat of the pants approach from Banff National Park.

**Dr. Per Angelstam**  
Swedish Agricultural University, Uppsala  
- Managing forest landscapes for biodiversity: the Swedish experience.

**Dr. John Eadie**  
University of Toronto, Ontario  
- Parentage and population dynamics in a cavity-nesting bird: looking for links between behavioural, molecular and resource ecology.

The H.R. MacMillan Lecture Series is made possible by a grant to the Faculty of Forestry from the H.R. MacMillan Family Fund.

THE LESLIE L. SCHAFFER LECTURE

In April 1994, Dr. Jeffery Burley gave the Leslie L. Schaffer Lecture in Forest Sciences. Dr. Burley, CBE, is Director of the Oxford Forestry Institute at Oxford University, U.K. His talk was entitled “World Forestry: The Professional and Scientific Challenges.” Copies of the talk can be obtained by writing to the Faculty of Forestry at UBC.

The Leslie L. Schaffer Lectureship in Forest Sciences was established in memory of Leslie L. Schaffer, D.Sc., former executive vice-president of Western Plywood Co. Ltd., by Mrs. Leslie L. Schaffer. The fund provides support for lectures and publications by visiting forest scientists at the Faculty of Forestry, UBC.

STUDENTS FOR FORESTRY AWARENESS

**Public Lecture Series**

Students for Forestry Awareness (SFA) is an independent, student organization that has been in existence at UBC for over ten years. Through periodic symposia and a continuing speaker series the SFA introduces a variety of philosophical, academic, environmental, and industrial perspectives on forestry related issues to students, faculty and the general public. During the fall and winter terms the speaker series takes place on Thursdays at 12:30 p.m. in MacMillan 166. Speakers and topics during the 1994/95 academic year included:
Garry Merkel
Chair, First Nations Forestry Council, Tahltan
- Trends in B.C. forest management: Transition.

Gerry Furney
Mayor, Port McNeill, B.C.
- Role of resources in rural communities.

Robert Ricklefs
Biology Department, University of Pennsylvania
- Patterns of tree species diversity.

Winifred Kessler
Department of Natural Resources and Environmental Studies, University of Northern British Columbia
- Requirements of university graduates to meet the environmental challenges of tomorrow.

Hugh Sutcliffe
Pacific Forest Products, Vancouver
- Forest practices on private land.

Bryan Evans
Forestry Consultant, Vancouver
- Sustainable forestry: Terms and issues.

Bronwen Beedle
B.C. Ministry of Forests, Victoria
- Opportunities in forestry.

Jerry Franklin
Washington State University, Seattle
- New forestry in the Pacific Northwest.

Warren Mitchell
B.C. Ministry of Forests, Victoria
- B.C.'s Protected Area Strategy: its evolution and future.

Patrick Moore
Forest Alliance of B.C., Vancouver
- Environmentalism and forest practices.

Derek Tripp
Fisheries Biologist, Nanaimo
- Fisheries/forestry guidelines: Compliance.

Merv Wilkinson
Ecoforester, Ladysmith
- Sustainable forestry: The forestry of the future.

Gary Ley
Forestry Consultant, Gary Ley Public Affairs
- Managing land use issues in the media age.

Charles Widman
Publisher and editor for “Widman’s World Wood Review”
- World wood fibre supply.

Gary McKellar
Timberwest, Vancouver
- Forest practice code audits: Where have we been and where are we going?

Bruce McLellan
Ministry of Forests, Revelstoke
- Grizzly bear ecology and management in B.C.

Steve Tolnai
Weyerhaeuser, Kamloops
- Management of a TFL that was granted allowable cut effect.

Chris Pielou
Retired ecologist, Denman Island
- Forest biodiversity.

Bob Nixon
Long Beach Model Forest
- Building bridges between two visions of forest use: First Nations and non-aboriginals — the Long Beach Model Forest.

Public Symposium

In March, the SFA organized a 1½ day symposium entitled “The Path of Professional Forestry in British Columbia: Is This the Road to Oz?” The keynote speaker at the symposium was Bruce McLean, incoming president of the Association of B.C. Professional Foresters. The symposium, which was tailored for students, professionals and the general public, included three panel discussions focussing on academic, industrial and institutional themes.
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