

# 2013 Annual Report



# FORESTRY ADVISORY COUNCIL

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

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Adjunct Professor  
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Canadian Forest Service, Natural Resources Canada

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Partner, Consulting and Deals  
PricewaterhouseCoopers LLP

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Executive Director  
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# **2013 Annual Report**

## **Faculty of Forestry**

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University of British Columbia

April 1, 2013 – March 31, 2014

Cover photos – Masks machined by a CAWP undergraduate student using a Computer Numerical Control Router as a part of final thesis work.

Photos by Jamie Myers.

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2013 was an outstanding year for the Faculty of Forestry. Our undergraduate enrolment reached a record level of 776 students, representing an increase of 53% over the past 5 years and 73% over the past decade. We are making a major contribution to the current and future lack of

skilled workers in the Canadian natural resources sector, and in addition we are increasingly helping to meet the shortage of forest-related graduates in other jurisdictions. Our graduate numbers have also held up, with around 250 graduate students taking a mixture of advanced degrees. Such numbers are very encouraging given the difficulties that many faculty members are encountering in gaining funding for the research being undertaken by their graduate students.

A noticeable feature of the increase in student numbers is the number of international students. The Faculty is proving to be attractive for forestry (broadly defined) students from around the world. These students do not displace domestic students, since we still have a lot of room to grow and we remain one of the few faculties at UBC without a cap on student numbers. We will eventually reach capacity, but this is a problem that few other forestry schools in the western world face, and it is very much better than having to consider closing programs because of a lack of enrolment.

We continue to explore new opportunities: our Master's in Sustainable Forest Management continues to attract students and has room for considerable growth. Our Master's in International Forestry was delayed a year, but will be formally launched in September 2015. Other new programs are also under consideration, but will be subject to internal approval within UBC and approval by the provincial government.

Considerable efforts have gone into improving the student experience at both the undergraduate and graduate level. We have welcomed Tony Loring into the Faculty – he has responsibility for organizing co-op placements for forestry and conservation students. He joins Sudeh Jahan, who continues her role in co-op and recruitment for the Wood Products Processing program. At the first annual Industry Night, companies from across western Canada were able to meet with our students and start what is becoming an increasingly competitive recruitment process.

One trend that is of considerable concern is the level of research funding that the Faculty has attracted. While the overall amount has remained roughly the same over the past few years, 2013 saw the percentage of funding received from the province drop to the lowest level in more than 20 years. In itself, this is not so significant, but it does suggest that research needs within the province are no longer receiving as much attention as in the past.

The Faculty continues to be active internationally, as reflected in our student enrolment. We have been encouraging students to participate in international exchanges, and an increasing number are doing so. We now have organized field courses to both India and China, and are exploring further options. The TRANSFOR-M continues to be popular amongst graduate students and a highlight is the 3-week field course in British Columbia, Alberta and New Brunswick. A major event in August 2013 brought together policy makers, researchers, industry leaders and NGOs from around the world to discuss the future of the world's forests. The results have been summarized in the form of a book which will be formally launched at the IUFRO World Congress in October 2014. Our mid-career training of Indian Forest Service officers continued, and we have won the contract to continue this education for a further 3 years. We also participated for the first time in the Vancouver Summer Program, which enables international students to come to UBC during the summer to take a range of different courses. We offered courses in sustainable forest management and forest carbon, and the initial uptake was encouraging.

Our efforts in the field of Aboriginal forestry continue to be successful, and we played a prominent part in the university's contribution to the Truth and Reconciliation Commission's hearings in Vancouver. We have produced 2 promotional videos, one highlighting the work of some of our Aboriginal alumni, the other featuring the student experience at UBC Forestry. Thanks to the work of Janette Bulkan and Andrea Lyall, we expect that Aboriginal Forestry will continue to grow within the Faculty.

Within the Departments, there has been some turnover. David Tait retired from the Department of Forest Resources Management, and Collete Breuil and John Ruddick retired from the Department of Wood Science. I wish them well in their retirement. A number of new appointments have been made, and we will be welcoming Julie Cool, Bianca Eskelson, Verena Griess, Rajat Panwar, Scott Rennecker, Janine Rhemtulla and Joleen Timko into the Faculty.

Our faculty members continue to excel, and this is being recognized by an increasing number of prizes and awards. Of particular note, Sally Aitken, Rob Kozak and Richard Hamelin all received IUFRO Scientific Achievement Awards. Only 10 Awards are given out globally – and the Awards are only made every 4 or 5 years – we have done exceptionally well. Full lists of our faculty members' successes are provided in the achievements sections of each Department and on pages 44 to 45 of this report.

Our Research Forests continue to support undergraduate and graduate education and the research activities of the Faculty. Thanks to the efforts of Paul Lawson and Ken Day, they are reasonably secure financially, and they also represent important extension arms for the Faculty.

A handwritten signature in black ink, which appears to read "John Innes". The signature is fluid and cursive.

**John Innes**  
Dean, Faculty of Forestry

## Faculty of Forestry activities, 2003/04 – 2013/14

	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Undergraduate enrolment <sup>1</sup>	448	453	454	467	504	507	557	589	689	714	776
Distance education (fte)	9	9	10	10	10	9	7	7	7	6	7
Graduate enrolment <sup>1</sup>	170	197	242	252	265	261	268	244	238	249	246
Teaching Evaluation Index <sup>2</sup>	1.90	1.99	1.89	2.00	4.26	4.29	4.32	4.11	4.12	4.07	4.12
Extramural funding (\$000)	11,379	10,427	12,101	11,699	13,296	13,493	12,229	10,918	12,590	11,206	10,949
Endowment income (\$000)	1,981	1,706	1,698	1,575	1,902	1,843	1,207	1,075	1,050	1,043	1,106
Extramural funding per GPOB-funded faculty member (\$000)	295	260	304	286	365	374	307	279	308	276	266

<sup>1</sup> Headcount unless otherwise noted

<sup>2</sup> Average numerical score of several criteria used by students to assess teaching performance of faculty members.  
Scale used up to and including 2006/07, 1= Excellent; 2=Very Good; 3=Good; 4=Fair; 5=Poor; 6=Very Poor  
New system introduced in 2007/08, 5=Excellent; 4=Good; 3=Average; 2=Poor; 1=Very Poor

## Programs of Study



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### Bachelor of Science in Forestry

#### BSF

This degree integrates science and technology to advance the understanding and practice of sustainable forest management. It enables students to become Registered Professional Foresters.

**Major in Forest Resources Management:** This major focuses on the multidisciplinary aspects of forest resources and the management of forested ecosystems. Students learn about the unique characteristics of each resource, their interactions, and the management of forests to yield a variety of desirable products in the context of ecological, social, and economic objectives. Specializations are offered in Integrated Forest Management, International Forestry and Community and Aboriginal Forestry.

**Major in Forest Operations:** This major focuses on the engineering, planning, development, harvesting, and management of forest lands. It is designed to develop professionals who understand both environmental and social objectives and who can provide the link between the growing forest and its products. Two specializations are available: Harvest Planning and Engineering and Commerce. Students in the first specialization can add courses to create eligibility for registration as a Professional Engineer; the second specialization leads to a Minor in Commerce offered through the UBC Sauder School of Business.

### Forest Sciences

#### BSc (Forest Sciences)

This program develops individuals who can conduct research in forested ecosystems, and are well prepared for graduate studies. Students gain a strong foundation in the basic biological and environmental sciences, with emphasis on the interacting components and functions of forests. Areas of concentration include forest ecology, forest entomology or pathology, forest fire science, forest genetics or biotechnology, forest hydrology and aquatic sciences, forest soils, tree physiology, silviculture, conservation biology, or wildlife ecology. A 4-year International Forestry Specialization is also available.

### Wood Products Processing

#### BSc (Wood Products Processing)

This program is a fusion of science, engineering and business. Students gain a comprehensive understanding of wood science, advanced manufacturing and business operations, and can choose to complement their degree with a Minor in Commerce through the UBC Sauder School of Business. This program was developed in response to the need for university graduates quali-

fied to become leaders in the wood products manufacturing sector. Graduates are always in demand and enjoy diverse career opportunities with the highest average salary compared to other UBC undergraduate degrees.

### Natural Resources Conservation

#### BSc (Natural Resources Conservation)

This trans-disciplinary program provides students with a solid foundation in the function, process, and structure of natural ecosystems, with an appreciation for the political, legal, and socio-economic contexts of conservation and management strategies. The development of communication and problem-solving skills, teamwork, and leadership is emphasized. Students select a major at the end of second year:

**Major in Science and Management:** Students obtain a working knowledge of conservation science and management. A notable feature is the fourth year capstone field school which integrates field and classroom instruction throughout the fall term. Students can readily pursue Registered Professional Biologist or Forester status through this major.

**Major in Global Perspectives:** Students obtain broad knowledge on a range of resource systems. International study is a requirement. A notable feature is the capstone modeling course involving a comprehensive assessment of policy, management, and resource sustainability in developing countries.

### ACHIEVEMENTS IN 2013 – 14

The in-house Forestry Communications course, which was implemented to replace part of 3 credits of English requirement in the Wood Products Processing Program in the 2012 Winter Session, was offered more widely to students in the other programs and was very well received by the students. Additional sections were offered in 2 of our higher enrolment courses: Foundations of Conservation and Introduction to Forest Biometrics.

### PLANS FOR 2014 – 15

- We will continue to explore the concept of a "Forest Sciences Honours Program" with entry after completion of second year.
- Senate has approved our in-house Communications course (WOOD 225). We will continue to offer 2 sections in term 2 so that we can allow for a greater number of students to take advantage of it.
- Course enrolment will continue to be monitored and new sections of courses offered as necessary.



## Co-op Programs

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CO-OPERATIVE EDUCATION (Co-op) enables students to combine classroom learning with practical and relevant work experience. Since 1996, Forestry Co-op has secured work terms for students locally, nationally and throughout the world. Students explore different career options through a variety of work terms, while employers have the opportunity to recruit, train and assess potential future employees.

### ACHIEVEMENTS IN 2013 – 14

- In 2013-14 the Faculty of Forestry Co-op Program hired Tony Loring who will be applying his experience in marketing and program administration to maximize the potential of co-op in the Faculty.
- This year marked an increase in the number of conservation job postings as we recruited employers in proportion to the degree programs represented in the Co-op Program.
- Several new tracking and data capturing mechanisms have been implemented to facilitate more accurate and meaningful reporting on co-op activities.
- A monthly newsletter, TreeRings, was introduced in March to share timely information with students in co-op and students looking to join the program.
- The Faculty of Forestry Co-op students completed work terms with a variety of employers including consultants, government, industry and non-governmental organizations.
- Co-op work terms were completed in BC, Alberta, Saskatchewan, Ontario, and Yukon.
- International co-op work terms were completed with employers including Australian National University, Earth Institute - Columbia University (El Salvador); Fondation Seguin (Haiti); Great Basin Institute (United States); Universiteit Stellenbosch (South Africa); Hochschule Rosenheim (Germany).
- New co-op employers included: Alkali Resource Management, Celtic Reforestation, Chartwell Consultants, City of Surrey (Engineering Department), Dillon Consulting, Earth Institute - Columbia University, A&A Trading, Flatiron, Fondation Seguin, Invasive Species Council of British Columbia, Ministry of Parks, Culture and Sport (Greenwater Lake - Porcupine Plain), Municipality of North Cowichan, Nakusp and Area Community Forest, Regional District of Central Okanagan, Statoil, Tsleil-Waututh Nation, UBC Properties Trust.
- The geographical distribution of co-op work terms was 76% in BC; 7% in Alberta; 3% in Ontario and 2% in the Yukon; and 12% were international placements.

- Four well-attended Co-op Presentation Evenings were held during the year which provided students the opportunity to showcase their learning and experience from their co-op work terms and to network with employers. This also marked the first time the Forestry Co-op Programs held 2 such

#### Number of work terms completed

	10/11	11/12	12/13	13/14
Forestry	9	8	7	12
Forest Sciences	2	4	2	2
Natural Resources Conservation	27	33	49	52
Wood Products Processing	27	35	44	66
<b>Total</b>	<b>65</b>	<b>80</b>	<b>102</b>	<b>132</b>

evenings and they were very well received by students and industry partners.

### PLANS FOR 2014 – 15

- Continue the development of international co-op opportunities to broaden students' cultural awareness and understanding of global issues related to their degree and future careers.
- Increase the number of new employers participating in co-op, particularly non-traditional employers.
- Review employer and student marketing strategies; update and revise co-op policies and procedures.
- Revamp the co-op workshops.
- Continue to partner with other UBC Co-op programs to develop joint employer marketing initiatives as a member of the UBC Co-op Council.
- Submit an accreditation application in August 2014 to the Canadian Association for Co-operative Education.

[www.forestry.ubc.ca/co-op](http://www.forestry.ubc.ca/co-op)

## Student Services and Recruitment



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THE UBC FORESTRY STUDENT Services team provides support to prospective, new and continuing undergraduate students. Our priorities include attracting strong students to our degree programs, enhancing the student experience, and raising the profile of the Faculty of Forestry at UBC and beyond.

### ACHIEVEMENTS IN 2013 – 14

#### Student Services

Student Services staff provide many different types of assistance, including admissions and registration support, orientations and tours, personal and program advising, referrals to other UBC services and more.

Our first annual Industry Night was held in October 2013 which brought out representatives from a number of large Forestry companies and organizations.

We successfully coordinated our first Vancouver Summer Program which brought a group of students from China to the Faculty for a 4-week academic and cross-cultural experience.

#### Recruitment Activities

Ana Curcin and Chiara Longhi are the staff members dedicated to recruiting and advising both international and domestic students, supported by the rest of the Student Services team as required. Our recruitment priority this year has been to increase student enrolment and retention, from China and the US in particular. The 2+2 transfer agreements with several Chinese universities are resulting in increased numbers of students from China entering our programs. Xinxin Zhu has been working directly with Dr Guangyu Wang, Assistant Dean, Asian Strategies, to support these students in their transition to UBC. Currently, Chinese students represent the largest proportion of our international students.

#### Outstanding Students

This year's Canadian Institute of Forestry Gold Medal award went to James Hogan. James is pursuing his Bachelor of Science in Forestry degree with a Major in Forest Resources Management. The Gold Medal is given to the most outstanding student of his or her graduating class. Aside from his strong academic performance, James has been an active member of the student body throughout his degree, and has served as Treasurer for the Forestry Undergraduate Society.

#### Forestry Mentoring Program

This program encourages students to build professional networks, and improve their time management, leadership and communications skills. Most of the mentors are Forestry alumni and co-op employers, including industry and government professionals, natural resources and forestry consultants, entrepreneurs, and retirees. .

#### Student Events

This year's Forestry Undergraduate Society (FUS) Council representatives were: Owen Johnston (President), Vince Luu (VP External), Nicole Bonnett (VP Internal), Nyla Burnside (VP Internal), James Hogan (Treasurer), Susie Hudson (Secretary), Mylène Labonté and Shiori Ito (Social Coordinators), Tara Stephens and Nani Yahya (Special Events). Student Services worked with the FUS to organize and support the following student events:

- "Imagine" – the university-wide orientation session on the first day of classes;
- Forestry Week – to showcase our Faculty to the campus;
- Trip to Newfoundland for the Canadian Institute of Forestry (CIF) conference and Forestry Student Quiz Bowl competition;
- Dean's Welcome Back BBQ;
- CIF Chili Cookoff – once again won by 2 of our students in the Natural Resources Conservation program;
- CIF Silver Ring Ceremony – our undergraduate students were once again joined by students graduating from the Master of Sustainable Forest Management program as well as from the BCIT forestry program.; and
- "Coconut" – legendary year-end event, held this year at the UBC Farm.

### PLANS FOR 2014 – 15

- Send a Forestry Quiz Bowl team to Salt Lake City, Utah for the 106th CIF Conference and AGM, where they will compete against international college and university forestry teams and, hopefully, bring back the Quiz Bowl trophy to UBC!
- Continue to find ways to improve and streamline Student Services activities to maximize recruitment and the overall student academic experience.
- Establish and support the new Student Engagement Officer role which will focus on bridging the gap students experience between their academics and future careers by finding appropriate volunteer opportunities for students to be involved in, as well as coordinating numerous workshops to aid students in personal and professional development.
- Continue to grow the Vancouver Summer Program and make it accessible to more international students and to use it as a tool to show case our programs to potential degree seeking students
- Continue to enhance the reputation of the Faculty of Forestry and increase awareness of our undergraduate programs, both on campus and beyond.

## Enrolment Statistics

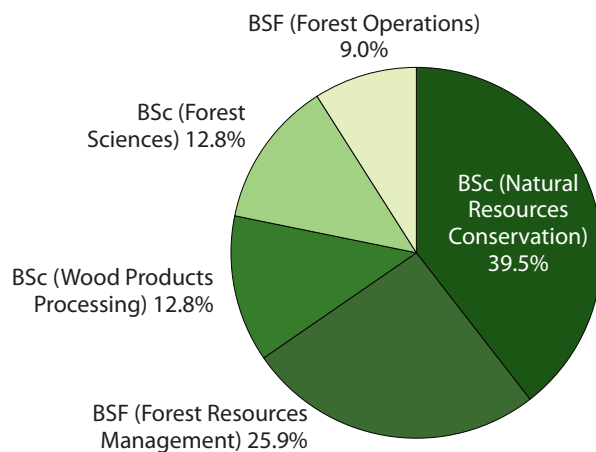
## New Student Enrolment

New student enrolment this year was 280. Our admission GPA for students entering directly from secondary school increased slightly to 80% for the Forest Sciences and Natural Resources Conservation programs. It remained at 75% for Wood Products Processing and BSF Forest Resources Management and Forest Operations Majors.

New students entering into different program years are tabulated below.

New students 2013 – 14	
Year of study	Number of new students entering
1	229
2	42
3	9
4	0
<b>Total</b>	<b>280</b>

## Total Enrolment



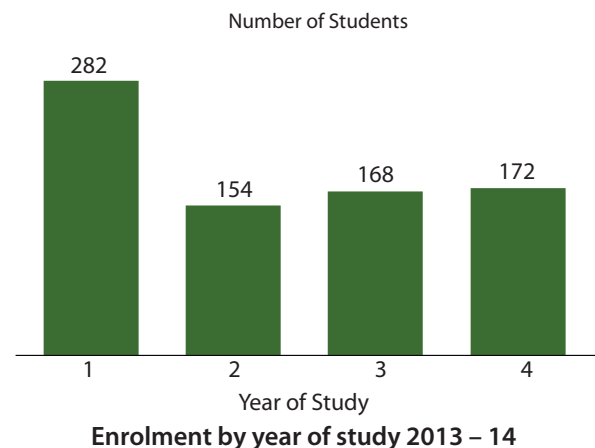
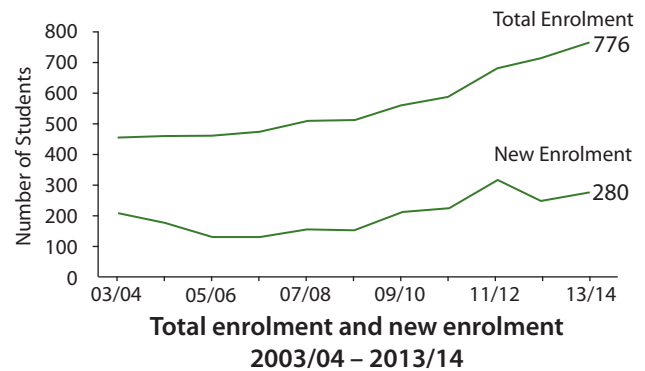
## Breakdown of new enrolment 2013 – 14

Total undergraduate enrolment grew to 776, an increase of 62 students over the previous year and an overall increase of 91 students over the past 2 years. We continue to set records when it comes to the number of undergraduate students – this is the largest group yet! This increase is a consequence of the higher secondary school entrance standard we have adopted in the past few years, which has resulted in higher retention rates (fewer failures) as well as a larger new student intake. We remain an attractive location for undergraduate visiting and exchange students from elsewhere in Canada and the world.

In addition to visiting and exchange student enrolment, the number of international students enrolled in our degree programs continues to increase. This year we had 202 international students, up from 170 the previous year. The primary sources of our growing number of international students are China and the United States. The Faculty of Forestry has partnership arrangements with Nanjing Forestry University, Fujian Agriculture and Forestry University, Beijing Forestry University and Zhejiang Agriculture and Forestry University, as well as memoranda of

understanding with several other Chinese universities which have helped us with attracting suitably qualified students.

The percentage of female students in our undergraduate programs is 42%. This percentage varies considerably among our programs, from about 55.6% for the Natural Resources Conservation program to about 9% for the Forest Operations Major.



## Enrolment by program 2013 – 14

	Number enrolled	% of total
Forest Resources Management (BSF)	169	21.8
Forest Operations (BSF)	54	7.0
Forest Sciences (BSc)	76	9.5
Wood Products Processing (BSc)	128	16.5
Natural Resources Conservation (BSc)	349	44.9

## Awards

## First Year Students

Bryn-Thorn, Arlo	TRUCK <sup>1</sup>
Knapp, Allan	TRUCK <sup>1</sup>
Vause, William	TRUCK <sup>1</sup>
Zhang, Jingyi	NORTHWOOD, JOHNSON <sup>1</sup>

## Second Year Students

Bhuthal, Sukhdip	CANADIAN, WOOD
Feng, Danlin	WOOD
Friesen, Patrik	ROLLER
Gao, Yi	WOOD
Hawkins, Timothy	GOLOUBEV, McINTOSH <sup>1</sup>
Hill, Lindsay	ABCFP <sup>1</sup> , LITTLE
Lee Yan Sheng, Gervais	MACMILLAN <sup>3</sup> , INTERNATIONAL
Li, Mengqi	MACMILLAN <sup>3</sup> , INTERNATIONAL
Rao, Qiang	WOOD
Rimland, Joseph	CANADIAN, WOOD
Smidstra, Robert	TRUCK <sup>2</sup>
Voigt, Charlotte	INTERNATIONAL

## Third Year Students

Chance, Curtis	McINTOSH <sup>1</sup>
Chen, Kate	DEAN, CANADIAN, WOOD
Ing, Amy	DEAN
King, Sean	DEAN
Larock, Fraser	HUSBY
Leclerc, Marie-Eve	McINTOSH <sup>2</sup>

**ABCFP** Scholarship in Forestry<sup>1</sup>, Graduating Prize in Forestry<sup>2</sup>, UBC-O Award<sup>3</sup>

UBC Forestry **ALUMNI** Division Scholarship<sup>1</sup> and Entrance Scholarship<sup>2</sup>

**BACKMAN** Scholarship in Forest Resources Management

Charles and Jane **BANKS** Scholarship

John E **BIER** Memorial Prize in Forest Pathology

Emily and Francis **BINKLEY** Scholarship

Gerry **BURCH** Scholarship in Forest Sciences

**CANADIAN** Woodworking Machinery Distributors Association Prize

**CARIBOO** Woodlot Education Society Scholarship in Forestry

Canadian Institute of Forestry (**CIF**) Medal

**CLASS** of 1961 Forestry Award

Robert J **CRAIG** Memorial Scholarship

August and Cristina **CRUCIL** Scholarship in Forestry

**DEAN** of Forestry Scholarship

Galt **ELKINGTON** Memorial Scholarship

Barry **ENGLISH** Memorial Prize

West **FRASER** Scholarships in Forestry

United Benefit Group **FUJIAN** Forestry Scholarship

Joseph & Joyce **GARDNER** Scholarship in Forestry

Merriman, Nicholas	CARIBOO
Scholfield, Oliver	DEAN
Sklar, Daniel	MACMILLAN <sup>3</sup> , SIDDOO <sup>2</sup>
Wang, Weijie	FRASER
Williams, Chloe	MACMILLAN <sup>3</sup> , SIDDOO <sup>1</sup> , WORRALL

## Fourth Year Students

Bennett, Derek	WOOD
Chen, Xu	WOOD
Chen, Zhao	WOOD
Chi, Yao	WOOD
Degner, Jonathan	GARDNER, ELKINGTON, SPLAN, BANKS, BIER
Dettlaff, Margarete	HADDOCK
Dobko, Ashley	KETCHAM, BINKLEY, KENWOOD
Erasmus, Hans	BACKMAN, PRT, SMITH, SISCO
Field, Samuel	WRIGHT
Foerter, Reid	LEACH
Forge, Brendan	SMITH
Fraser, Elijah	ABCFP <sup>3</sup>
Hogan, James	ENGLISH, ALUMNI <sup>1</sup> , CRAIG
Holt, Oliver	MILLS <sup>1</sup>
Jackman, Thomas	BACKMAN, BANKS, DEAN, SOPRON
Johnson, Roslyn	SODERMAN

Peter Andrew **GOLOUBEV** Scholarship in Forestry

**GRADUATING** Class of Forestry 1957 Prize

Phil **HADDOCK** Prize in Silviculture

Harry **HOBSON** Memorial Prize

Dave **HUSBY** TLA Scholarship in Forest Operations

Faculty of Forestry **INTERNATIONAL** Student Scholarship

Charlie and Sue **JOHNSON** Forestry Entrance Scholarship<sup>1</sup>

Ted **JOHNSON** Scholarship in Forestry<sup>2</sup>

Bart van der **KAMP** Prize in Forestry

Gary and Louise **KENWOOD** Forestry Award

Janet **KETCHAM** Scholarship

Malcolm **KNAPP** Spring Camp Prize

Tony **KOZAK** Scholarship in Forest Measurement

Mann **KUAN** Scholarship

Charles **LARRE** Memorial Graduating Prize

Howard A **LEACH** Scholarship in Operations Research

David Bell **LITTLE** Memorial Scholarship

Independent **LUMBER** Remanufacturers Association Scholarship in Wood Products

**MACHINERY** and Supply Companies Group Forestry Scholarship

H R **MACMILLAN** Prizes in Forestry<sup>1</sup>, Forest

King, Carolyn	JOHNSON <sup>2</sup>
Lam, Trueman	WELLWOOD, STEINER, WOOD
Lee, Joanna	SODERMAN, DEAN
Lu, Yuhao	KOZAK, INTERNATIONAL
Meng, Jie	INTERNATIONAL
McGillivray, James	WOOD
Morrell, Nina	MACHINERY, SODERMAN, DEAN
Poulsen, Erik	WOOD
Powell, Evan	MILLS <sup>2</sup>
Radu, Alexandru	CLASS
Rechtschaffen, Eli	INTERNATIONAL
Romanchych, Benjamin	WOOD
Sheppard, Julie	DEAN
Villemaire-Cote, Olivier	CRUCIL, GOLOUBEV, ROLLER
Xiong, Huan	WOOD
Xu, YuanYuan	INTERNATIONAL
Ye, Ziyu	INTERNATIONAL

Graduating Awards  
(Spring 2012)

Errico, Claire	HOBSON
Grills, Chantelle	ABCFP <sup>2</sup> , LARRE
Lambke, Kristen	MACMILLAN <sup>1</sup>
McGregor, Rob Roy	ABCFP <sup>2</sup>
Sanchez Badini, Olivia	CIF
Trommel, Steven	MACMILLAN <sup>2</sup>

Harvesting<sup>2</sup>, Scholarship in Forestry<sup>3</sup>

Jim and Gerry **McINTOSH** Award in Forestry<sup>1</sup> and Scholarship in Forestry<sup>2</sup>

James Russell **MILLS** Memorial Award<sup>1</sup>

Robert **E MILLS** Memorial Award<sup>2</sup>

**NORTHWOOD** Pulp and Timber Limited Scholarship

PacificRegeneration Technologies Inc (**PRT**) Silviculture Scholarship

KJ **ROLLER** Sopron Scholarship in Forestry

Kapoor Singh **SIDDOO** Scholarships in Forestry<sup>1</sup> and Forest Ecology<sup>2</sup>

Dave White **SISCO** Memorial Award in Forestry

J Harry G **SMITH** Award in Forest Resources Management

Oscar **SODERMAN** Memorial Scholarship

**SOPRON** Alumni Scholarship

William John **SPLAN** Scholarship in Forestry

Paul Robert **STEINER** Memorial Scholarship in Wood Science

**TRUCK** Loggers Association Scholarship<sup>1</sup> and Scholarship in Harvesting<sup>2</sup>

Mary and Robert **WELLWOOD** Memorial Scholarship in Wood Science and Industry

University of BC **WOOD** Products Processing Awards

John **WORRALL** "Tree Enthusiast" Prize

**WRIGHT** Scholarship in Forestry



## Graduation Statistics

## Bursaries

The following bursaries have been made available specifically for students enrolled in the Faculty of Forestry. Due to the confidential nature of bursary applications, recipients cannot be identified.

British Columbia KILN Association  
Bursary in Forestry  
Canfor Corporation Bursary  
Coastal Silviculture Committee Bursary  
Doris M Dowling Memorial Bursary  
EG & WD Touzeau Bursary  
Eurocan Pulp & Paper Co Bursary  
Gerry and Jack Burch Bursary

Henri J Pigeon Bursary in Wood Science  
and Industry  
Herschel H Boydston, Jr Memorial  
Bursary in Forestry  
Ian T Cameron Memorial Bursary  
JD Hetherington Memorial Bursary  
Jeanette Lindsay Memorial Bursary  
John Worrall Alumni Bursary in Forestry  
Norris-Mebius Bursary

Oscar Soderman Memorial Bursary  
Oscar Sziklai Memorial Bursary in  
Forestry  
PL Northcott Memorial Bursary  
Tommy Burgess Memorial Forestry  
Bursary  
Tudor Ommaney Memorial Bursary in  
Forestry  
Vinten Fund Forestry Bursary

## DEGREES CONFERRED, MAY 2013 AND NOVEMBER 2013 CONGREGATIONS

**BSc (Natural Resources  
Conservation, Global  
Perspectives Major)**

Belvas, Romain  
Bowes, Wesley  
Cheng, Zhaohua  
Cheung, Matthew Jay  
DeRoy, Bryant Chase  
Fraser, Thomas Reid MacGregor  
Jim, Barbara  
LaForce, Alexander Julian Greenfield  
Li, Zi Tian  
Moore, Kevin Scott  
Parkinson, Scott James  
Patrizio, Alec Yves  
Read, Caitlan  
Sarin, Hellene  
Schittecatte, Gabrielle  
Smolen, Samantha Julianna  
Tawseef, Adeeb  
Thompson, Fiona  
Zhou, Xiao Cheng

**BSc (Natural Resources  
Conservation, Science and  
Management Major)**

Begin, Eric  
Boivin, Laura Angela  
Bradwell, Jody  
Chevrier, Tim  
Clarke, Shannon Mary  
Derksen, Eryn  
Docherty, Cassandra  
Ellis, Paul  
Gilmour, Marilyn Anastasia  
Gyuro, Elaina Kathryn  
Harry, Michael  
Hubbard, Erin  
Jorgensen, Alexis  
Kho, Alexis Sandra  
Lambke, Kristen Nicole  
Lane, John-Francis

Lesko, Melissa Alexandra Kay  
MacLean, James Owen  
McHugh, Sydney April  
Meisner-Matter, Ashley Nicole  
Rudek, Jared  
Watkins, Jeremy David  
White, Taylor  
Wong, Bryan Kenrick  
Wu, Shuyao  
Yen, Leslie Lay

**BSc (Wood Products Processing)**

Chen, Albert  
Chen, Qiuwen  
Chung, Tae Jun  
Firoozmand, Mohammad  
Grills, Chantelle  
Heo, Jihoon  
Hiebert, Matthias  
Iskandar, Andre Mahajaya  
Jin, Xingguo  
Kwan, Jonathan Jun Ming  
Li, Junyi  
Prpic, Ivan Jakov  
Regan, Kerry Mark  
Shi, Michele Wai Cheung  
Tam, Robert Patrick  
Wang, Shiyao  
Xie, Sheng Hao  
Xu, Shikai  
Yip Tu, Manuel Alfonzo  
Yuan, Lin

**BSc (Forest Sciences)**

Brookes, Wesley  
Crowell, Madison Dabney  
Girard, Amanda Jean  
Huang, Andy Hsin-Hsiang  
McGregor, Rob Roy  
Ratcliffe, Blaise Atom  
Sahid, Ziad Rehman  
Sarmiento, Carlo Climacosa

Shum, Erin  
Song, Xiao  
Takaro, Tristan  
Wallace, Cory  
Yuan, Qiao Si

**BSF (Forest Operations)**

Kan, Jonathan  
Plavetic, Michael James  
Trommel, Steven Jeffrey

**BSF (Forest Resources  
Management)**

Ackroyd, Emily  
Cai, Qinyu  
Chen, Wan Hui Allison  
Connors, Bridget  
Errico, Claire  
Francis, Emily Marie  
Gleasure, Elizabeth Anne  
Heath, Earl John Franklin  
Hobbs, Jerin Stanley  
Jobber, Shane Allanach  
Lenze, Justin  
Malo, Jessica  
Matute Arrieta, Pamela Andrea  
Melnick, Anthony  
Shi, Qinglong  
Shi, Yue  
Walters, Duncan Rhys  
Warkentin, Jayson

## Enrolment Statistics



**Cindy Prescott**  
BSc (Hons), MSc, PhD  
Associate Dean  
Graduate Studies  
and Research  
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Awards and Scholarships  
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THE FACULTY OF FORESTRY offers 5 graduate degrees:

- Doctor of Philosophy – PhD (in Forestry)
- Master of Science – MSc (in Forestry)
- Master of Applied Science – MASc (in Forestry)
- Master of Sustainable Forest Management (MSFM)
- Master of Forestry – MF

## Enrolment and Graduation Trends

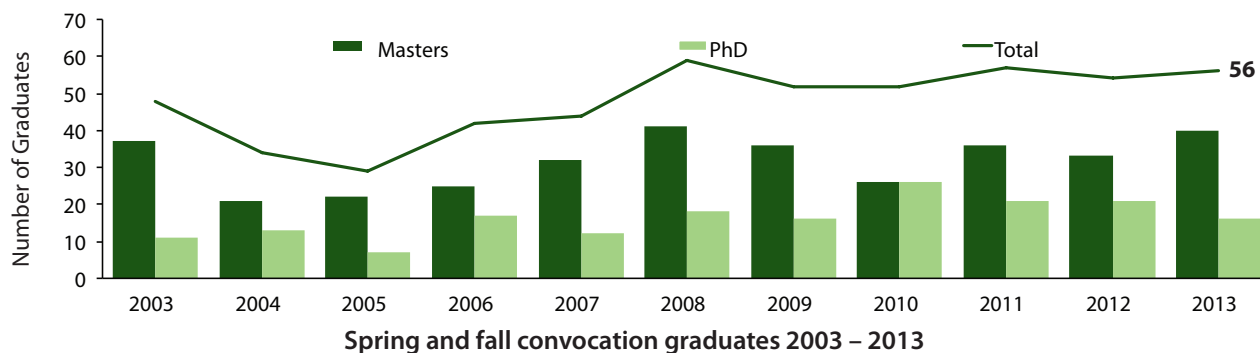
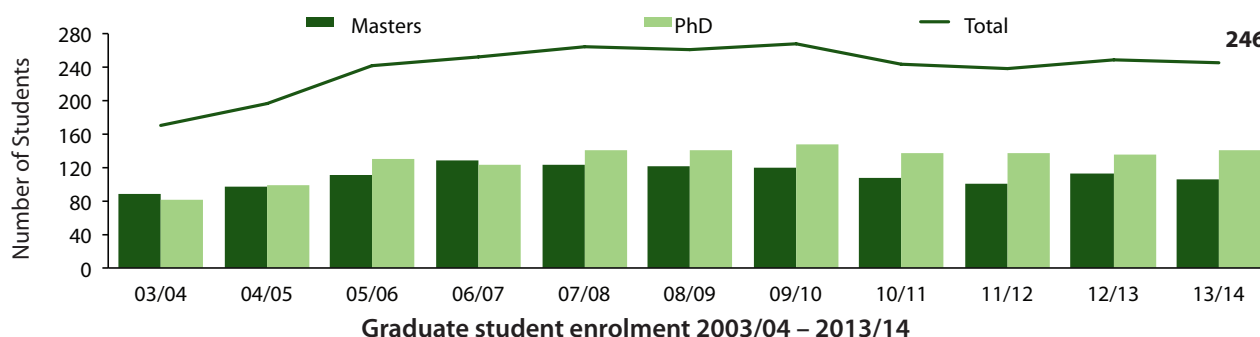
The Forestry Graduate Program had 246 registered students this past year, with 57% enrolled in PhD programs. Women comprised 53% of our master's and 47% of our doctoral students. We welcomed 26 new PhD students and 27 new MASc and MSc students in 2013/14. In addition, 14 new students registered in the MSFM program and 4 began the MF program, which included the TRANSFOR-M program.

The average thesis-based graduate student complement of supervising faculty members is 5. Fifty-six students successfully completed their graduate programs last year, 40 with master's degrees and 16 with PhD degrees. Average time-in-program of students finishing their programs in 2013 was 3 years for research-based master's students, and 5.6 years for doctoral students.

Distribution of students by  
degree program 2013 – 14\*

	Male	Female	Total
PhD	74	66	140
MSc	35	40	75
MASc	2	3	5
MF	8	4	12
MSFM	5	9	14
<b>Total</b>	<b>124</b>	<b>122</b>	<b>246</b>

\*As of November, 2013

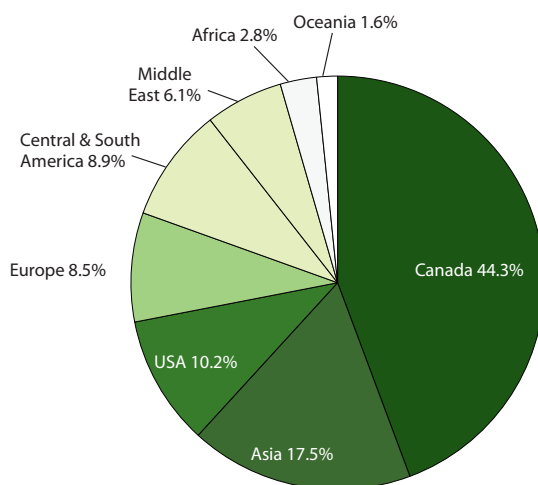


## Achievements and Plans

### The Forestry Graduate Program – An International Community

The Master's program in Sustainable Forest Management (MSFM) accepted its second cohort of students in Summer 2013 – a total of 14 students, 9 from Canada and others from China, United Kingdom and Kazakhstan. This is a 1-year intensive course-based program that prepares students for careers as forestry professionals in North America and overseas. We are pleased to announce that the degree is now accredited by the Canadian Forestry Accreditation Board, which is a major milestone in our development and implementation of this program, and a first for forestry graduate programs in Canada. MSFM program graduates can apply to become Registered Professional Foresters (RPF) with member agencies of the Canadian Federation of Professional Foresters Associations (CFPFA), including the Association of BC Forest Professionals. The program continues to be ably run by the Director, Dr Steve Mitchell, and Coordinator and Lecturer, Ms Deborah DeLong, with teaching contributions by many members of the Faculty of Forestry.

We also successfully completed the third year of the TRANSFOR-M dual degree master's program with our Canadian and European university partners. Two UBC students spent the year studying in Europe (SLU in Sweden and Freiburg University in Germany) and 3 UBC students returned from Europe to complete



**Origins of graduate students 2013/14**

the second year of their degree here in Vancouver. In addition, the Faculty of Forestry hosted 2 European students who took courses and were active members of our graduate student community.

The Faculty of Forestry continues to attract excellent graduate students from around the world. This year 56% of our graduate students were from countries other than Canada – we had students from 35 different countries. This year 22 current students served as “buddies” for incoming students from Bangladesh, China, Ghana, India, Iran, Mexico, Nepal, Spain, Taiwan, Tunisia, and the United Kingdom. The Forestry Graduate Student Association (FGSA) hosted the 6th annual Global Tea House talk series with presentations by students from Ethiopia, Florida, Kenya, Nepal and Tunisia, about the forests and culture in their native countries.

### ACTIVITIES AND ACHIEVEMENTS IN 2013 – 14

The FGSA once again played a key role in helping us provide a sense of community for our graduate students. In collaboration with the Faculty, the FGSA hosted the 3rd Annual FGSA Future Forestry Leaders Symposium in December, which included student presentations and posters, as well as a networking evening with industry and government professionals. They also organized several large social events, including the wine and cheese night, open-mic evening and international food night, as well as numerous sporting activities throughout the year, including ping-pong and soccer tournaments, and a curling bonspiel.

The FGSA executive and representatives were Yaseen Mottiar, Emily Murphy, Janson Wong, Jennifer Nielsen, PK Moniruzzahan, Leticia Hermoso, Tanya Gallagher, Mehdi Piltan, Angela Boag, Letitia Da Ros, Tonya Smith, Darcie McNeill, Jean Eagleson, Sofiya Lazarova, Mahsa Mojahedinia, Vanessa Mascorro and Amanda Mathys.

The FGSA continues to work with the IFSA-UBC, a local committee of the International Forestry Student Association (IFSA). IFSA-UBC is actively planning for the 42nd IFSA Symposium in August 2014, which they will host at UBC. This is the largest forestry and conservation student conference in the world and will bring over 130 students to Vancouver from across the globe. Our students participated in the 4th annual UBC “Three Minute Thesis” (3MT) competition, with the Forestry graduate program heat attracting 8 competitors. Forestry heat finalists were: Paul Pickell (Coops) and Polo Zhang (Smith). The 3MT presentations can be viewed on the Faculty YouTube page ([www.youtube.com/user/UBCForestry](http://www.youtube.com/user/UBCForestry)).

Claudia Cambero received the Faculty of Forestry Best Graduate Teaching Assistant Award. Andrés Varhola (PhD, Coops) received the Best PhD Thesis Award and Shaghaygh Akhtari (MSc, Sowlati) received the Best Master's Thesis Award. Andrew Innerd received a Just Desserts Award from the Forestry undergrads in recognition of his service as a Teaching Assistant. Yaseen Mottiar, Emily Murphy, Simon Nadeau, Arnaud De Grave and Estefania Milla were recognized at the 10th Annual UBC Student Leader Recognition Reception hosted by Professor Toope.

Dr Phil Evans again offered a 12-workshop series on advanced scientific writing for graduate students and postdoctoral fellows. John Palmer offered a Science to Policy seminar series to assist students in considering how to make their research relevant and usable for policy decision-making. Our graduate students also continued to benefit from graduate courses in oral presentation and technical writing offered by Dr Susan Watts. Our dedicated graduate program staff continued to provide excellent multi-faceted service to both prospective and current graduate students and their supervisors.

### PLANS FOR 2014 – 15

- Continue development of the course-based Master of International Forestry degree program for launch in 2015.
- Explore possible renewal of the TRANSFOR-M dual degree master's program with Canadian and European universities.

## Scholarships, Fellowships &amp; Awards

## Graduate Student Funding 2013 – 14

Adequate funding of our graduate students is a priority in the Faculty of Forestry. More than \$4.5 million was invested in graduate student stipends in 13/14. The average annual stipend for doctoral students (during the first 4 years of their program) was just over \$22,000; for research-based master's students (during the first 2 years of their program) it was just over \$15,000. Graduate research assistantships (\$2,054,501) were the secondary source of student stipends for PhD students, and primary source of stipends for master's students, while graduate teaching assistantships contributed about 8% of our student funding (\$345,293). Competitive awards (\$2,128,257 not including tuition awards) contributed about half of doctoral student stipends and about 32% of master's student stipends.

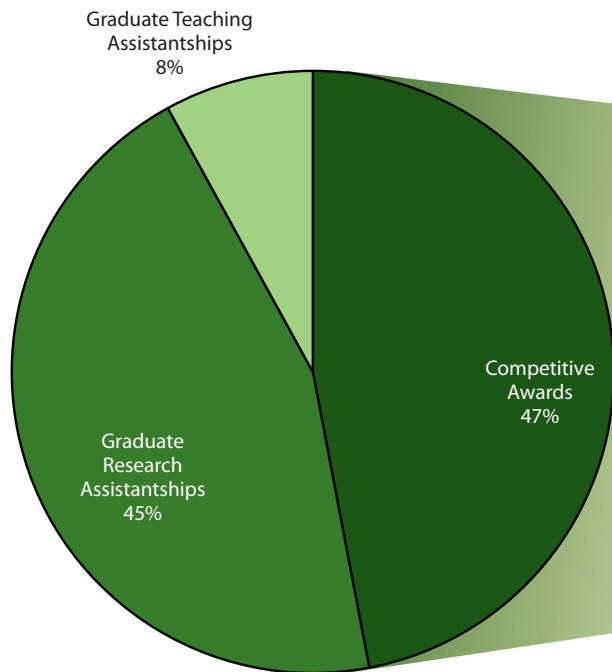
Twenty-one Forestry graduate students received Tri-Council (NSERC and SSHRC) scholarships. Tri-council scholarships accounted for 23% of the \$2.1 million received by our graduate students in competitive awards in 13/14. The Faculty of Forestry allocation of Four Year Fellowship – Graduate Entrance Scholarships (FYF-GES) were awarded to incoming doctoral students Arthur Bass, Matthew Wilson, Kirsten Dales, Tanya Gallagher and James Halperin. Faculty of Forestry Strategic Recruitment Fellowships (SRF) were awarded to an additional 36 incoming MSc and PhD students. The SRF program is funded

through the Graduate Student Initiative program at UBC. A total of 56 Forestry graduate students received University Awards (FYF, SRF or Affiliated Fellowships) worth \$604,561, which accounted for 44% of the total received in competitive awards.

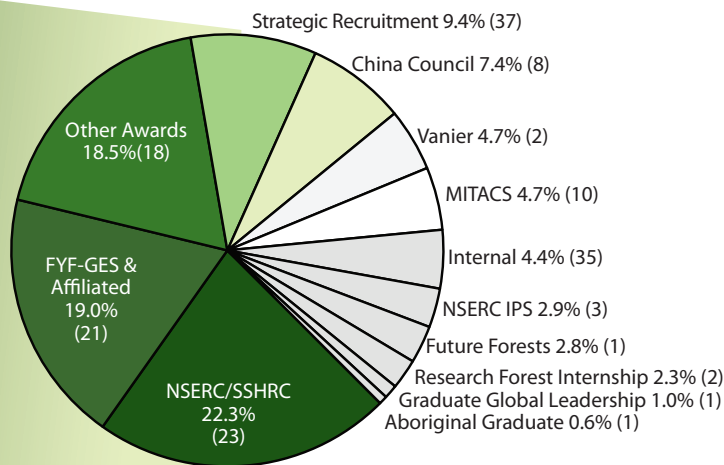
Endowed, merit-based, Faculty of Forestry awards continue to be a vital resource for our graduate students; this year 35 students received part of their stipend from these internal awards. Sara Fryer Barron held the Future Forests Fellowship, sponsored by a private foundation. Gloria Borona received a Graduate Global Leadership Fellowship, sponsored by the Faculty of Graduate and Postdoctoral Studies. Research Forest Internships (also supported through a private foundation) were awarded to Helene Marcoux, Matthias Splittgerber, and Joe Yu.

In keeping with our international student body, several of our graduate students received funding from international scholarships; these include the Chinese Scholarship Council (8 students), Turkish Government Scholarship (1), Bolashak Scholarship (1), Islamic Development Bank Fellowship (1), Saudi Arabia Scholarship (1), La Caixa-Canada Scholarship (1), Brazilian Scholarship (1), and a Canadian Rhodes Scholarship (UK – 1).

Additional student support came from programs such as TerreWeb (6) and MITACS (10).



Breakdown and percentages of all graduate funding sources (\$4,528,051) 2013/14



Breakdown by percentages (and counts) of competitive awards (\$2,128,257) 2013-14



## Scholarships, Fellowships &amp; Awards

## Doctoral Students

Abraham, Yonas	FYF-GES
Addo-Danso, Shalom	FYF-GES
Ahmed, Suborna	HANSON, MACAREE
Akhtari, Shaghaygh	MACAREE
Alharbi, Faisal	Saudi Arabia Scholarship
Appleton, Robyn	SRF
Arias-Bustamante, Jose	SRF, CONICYT
Baker, Kahlil	SSHRC, SRF, MACAREE, MCPHEE, JOHAL, MITACS
Bass, Aurther	SRF, FYF-GES
Beaudoin, Jean-Michel	FYF, MITACS, COCHRAN, MCPHEE, MACAREE
Bett, Nolan	FYF, NSERC, SRF
Bolton, Douglas	CANFOR, MACAREE
Borona, Gloria	GGLF
Bull, Justin	FYF, NSERC
Burke, Jordan	SRF
Cambero, Claudia	CONACYT
Carr, Hollie	Canadian Rhodes Scholar, SRF
Chara, Ana	Colombian Government Scholarship ALLEN, MACAREE, MCPHEE
Chavardes, Raphael	NSERC, FYF
Chouaib, Wafa	Islamic Development Bank Scholarship
Cook, Katrina	SRF, NSERC
Dale, Angela	MCPHEE, MACAREE
Dales, Kirsten	FYF-GES, SRF
Dou, Xiaoli (Emily)	CSC
Elleouet, Joane	SRF
Ferster, Colin	MCPHEE
Frazier, Ryan	FYF-GES
Fryer Barron, Sara	Future Forests Fellowship
Furey, Nathan	VANIER
Gallagher, Tanya	FYF-GES
Germain, Ryan	NSERC, MACAREE, HOFFMEISTER
Greene, Gregory	NSERC IPS, SRF
Greenwood, Jennifer	NSERC, SRF
Halperin, James	FYF-GES, SRF
Haghdan, Shayesteh	SRF, MACAREE
Hansen, Lisa	SRF
He, Wenchang	CSC
Hermoso Barroso, Leticia	La Caixa-Canada Scholarship
Hernandez, Martinez	CONACYT
Hilsendager, Kyle	Aboriginal Graduate Fellowship
Hooper, Robyn	VANDUSEN, MCPHEE

Hu, Jinguang	CSC
Ibarra, Tomas	CONICYT, MACAREE, MCPHEE
Jaung, Wanggi	SRF
Klady, Rebecca	FYF, SSHRC
Liu, Yang	MCPHEE, MACAREE
Lockhead, Kyle	MACAREE
Masse, Jacynthe	NSERC, BASSETT, MACAREE
Mathys, Amanda	TREWEB, SRF
Mottiar, Yaseen	NSERC, SRF, MCPHEE, MACAREE
Nadimi, Fattane	FYF-GES
Nesbitt, Lorien	SRF
Philpott, Timothy	NSERC, SRF
Piltan, Mehdi	HELLER
Powers, Ryan	NSERC, SRF, MCPHEE, MACAREE, WEBER
Ramey, Tonya	FYF-GES
Ramon Hidalgo, Ana Elia	FYF-GES
Read, Wolf	ALLEN, MACAREE
Reid, Anya	NSERC, SRF, MCPHEE, SMITH, GRAHAM
Rickbeil, Greg	LUMBER, MACAREE, VANDUSEN
Rossetti de Paula, Felipe	Brazilian Scholarship
Sam-Brew, Solace	FYF-GES
Schuster, Richard	MACAREE
Shabani, Nazanin	MACAREE
Singh, Devanyi	FYF-GES, MITACS
Singh, Monika	CCFA
Sopinka, Natalie	FYF
Tomaselli, Fernanda	FYF-GES, AFFLECK, MACAREE, MCPHEE
Tomscha, Stephanie	NAMKOONG
Tooke, Rory	MCPHEE
Tsai, Ying-Li	Forest Product Society's 2013 Wood Preservation Fund
Tsuruta, Kai	FYF-GES
Tweig, Brendan	NSERC
Tysor, Susannah	VANIER
Van Leeuwen, Martin	MCPHEE
Wang, Weiye	CSC
Wilson, Matthew	FYF-GES
Yao, Danyu	CSC
Yu, Joe	Research Forest Internship
Zhai, Rui	CSC
Zhang, Xiaoyue	CSC
Zhong, Na	CSC

## Master's Students

Amerongen Maddison, Julia	NSERC, TerreWEB
Anderson, Jeffrey	NSERC IPS
Barreau, Antonia	MACAREE
Boag, Angela	SRF

## Scholarships, Fellowships & Awards

Castro-Miravalles, Claudia	CONACYT	Milla, Estafania	SRF, MCPHEE, MACAREE
Crombie, Merle	NSERC	Minke-Martin, Vanessa	NSERC, SRF
Da Ros, Letitia	SRF	Molander, Mariko	Mitacs
Hammett, Craig	SRF, NSERC, MACAREE	Moshofsky, Molly	VANDUSEN, MACAREE, Mitacs
	VANDUSEN, BUCKLAND	Nadeau, Simon	VANDUSEN, MACAREE
Huang, Chen-An Andrew	AFFILIATED	Nassyrkhanov, Arsen	Bolashak Scholarship
Johnson, Kate	SRF	Nilausen, Chelsea	MACAREE, MITACS
Johnson, Amanda	MACAREE	Pogue, Alexandra	SRF
Laidlaw, Meghan	NSERC IPS, TerreWEB	Shahverdi, Mahdi	SRF
Lotter, Barend	MACAREE	Siller, Diana	SRF
Louw, Deon	TerreWEB	Skaien, Cora	SRF
Madero, Alvaro	CONACYT	Splittergerber, Mattias	Research Forest Internship, MITACS
Mahony, Colin	TerreWEB, FMIBC, VANDUSEN	Tozal, Yahya	
	MACAREE	Turkish Ministry of National Education Study Abroad Scholarship	
Marciniak, Amberly	SRF, NSERC	Vasquez Fernandez, Andrea	MACAREE, VANDUSEN
Marcoux, Helene	Research Forest Internship	Wang, Weiye	CSC
Middleton, Collin	NSERC	Zukswert, Jenna	SRF
		Zustovic, Matthew	TerreWEB

### AFFILIATED Fellowships

Peter N **AFFLECK** Memorial Graduate Scholarship in Forest Policy  
 George S **ALLEN** Memorial Scholarship  
 Edward W **BASSETT** Memorial Scholarship in Reforestation  
 Don **BUCKLAND** Memorial Scholarship in Forest Pathology  
**CANFOR** Corporation Fellowship in Forest Ecosystem Management  
 Canadian **Fujianese Friendship Association**  
**China Scholarship Council**  
 Hugh Robert Duncan **CHISHOLM** Scholarship in Forestry  
 Ralph and Elizabeth **COCHRAN** Scholarship  
**CONACYT** National Council of Science and Technology (Mexico)  
**CONICYT** National Commission for Scientific and Technological Research (Chile)  
 Environmental **Systems Research Institute** Scholarship  
 Forest **Management Institute of British Columbia**  
**Four Year Fellowship**  
**Four Year Fellowship – Graduate Entrance Scholarship**  
**FRQNT** Fonds de Recherche du Québec – Nature et Technologies  
**Graduate Global Leadership Fellowship**  
 Kenneth **GRAHAM** Memorial Scholarship  
 Brenda **HANSON** Memorial Scholarship in Forestry  
 Paul **HELLER** Fellowship  
 Werner and Hildegard **HESSE** Fellowship in Ornithology  
 Bert **HOFFMEISTER** Scholarship in Forest Wildlife  
 International **Doctoral Research Centre Awards**  
**IMAJO** Cedar Management Fund

Asa **JOHAL** Graduate Fellowship in Forestry

**KILLAM** Graduate Teaching Assistant Award

**KOERNER** Foundation

**LUMBER** Inspector's Benevolent Society Scholarship

Mary and David **MACAREE** Fellowship

Donald S **MCPHEE** Fellowships

**Michael Smith Foreign Study Supplement**

**MITACS** Accelerate Program

**NAMKOONG** Family Fellowship in Forest Sciences

**Natural Sciences and Engineering Research Council of Canada**

**NSERC** Industrial Postgraduate Scholarships

**Organization of American States Scholarships**

**Pacific Institute for Climate Solutions**

**RIX** Family Leading Edge Student Awards

Kathleen and Sheldon **ROTHWELL** Fund

**RUFFORD** Small Grants Foundation

J Harry G **SMITH** Scholarship in Forest Resources Management

**Strategic Recruitment Fellowship**

**Social Science and Humanities Research Council of Canada**

**Terrestrial Research on Ecosystems & World-wide Education & Broadcast (NSERC CREATE)**

**VANDUSEN** Graduate Fellowships in Forestry

**VANIER** Canada Graduate Scholarship

Adrian **WEBER** Memorial Scholarship in Forest Ecology

**WELWOOD** of Canada Limited Scholarship in Forestry

**WRIGHT** Fellowship in Forestry

## MAY 2013 AND NOVEMBER 2013 CONGREGATIONS

## MASc

**Shaghaygh Akhtari***Dr Taraneh Sowlati*

Economic assessment and optimization of forest biomass supply chain for heat generation in a district heating system

**Sabrina Burkhardt***Dr Jack Saddler*

Forest residues as a potential feedstock for a biorefinery: material balance and pretreatment strategies

**Colin Olsen***Dr Jack Saddler*

Empirical process modeling of the acid catalyzed steam pretreatment of radiata and lodgepole pine

## MF

**Emma Berglund***Dr Robert Kozak*

Investigating the potential of a Vancouver Island model forest

**Anders Gemmel***Dr David Cohen*

Pacific northwest market study: Paper birch and red alder

**Robyn Hooper***Dr John Innes*

An overview of climate change impacts and forest management adaptation measures in British Columbia, Canada: Examining provincial and forest community surveys as benchmarks

**Vlad Strimbu***Dr Val LeMay*

Nearest neighbour imputation (NN) to impute biomass per ha from hyperspectral data for forests in central Chile

## MSc

**Amanda Asay***Dr Suzanne Simard*

Mycorrhizal facilitation of kin recognition in interior Douglas-fir (*Pseudotsuga menziesii* var *glauca*)

**Carolina Chanis Morales***Dr Jack Saddler*

Strategies to increase the sugar concentration and overall sugar recovery from steam pretreated wheat straw and corn stover

**Tsung Jeng (Kent) Chen***Dr Shawn Mansfield*

Investigating the role of sucrose synthase in *Arabidopsis thaliana* and hybrid poplar.

**Francis de Araujo***Dr Shawn Mansfield*

Wood quality of trembling aspen (*Populus tremuloides* Michx) and white spruce (*Picea glauca* (Moench) Voss) in the boreal mixedwood forest

**Gregory Demille***Dr Kevin Lyons*

Unexpected events while manually falling trees

**Philip Grace***Dr Harry Nelson*

Assessing the keys and barriers to success in the value-added wood product manufacturing sector: A multiple-case study analysis of small and medium-sized enterprises

**James Foster Hart***Dr Shawn Mansfield*

Wood quality and growth characterization across intra- and inter-specific aspen hybrid clones

**Jingshu (Angela) Liu***Dr Mike Meitner*

Shape perception, harvest design and forest aesthetics

**Nina Lobo***Dr Sally Aitken*

Clinal variation for putatively adaptive polymorphisms in mature populations of Sitka spruce (*Picea sitchensis* (Bong) Carr)

**Helene Marcoux***Drs Lori Daniels & Sarah Gergel*

Towards improved management and understanding of mixed-severity fire regimes in mountain forests

**Daniel Nadir***Dr Robert Kozak*

Red alder: A qualitative supply chain analysis in Coastal British Columbia, Canada

**Greg Rickbeil***Dr Nicholas Coops*

Employing citizen-science avian data and environmental data for improved species distribution estimates and avian conservation in British Columbia

**Andrea Rivers***Dr George Hoberg*

Perceptions of advocacy and credibility in policy-relevant natural resource science

**Kendra Robinson***Dr Scott Hinch*

Physiological, behavioural, and survival effects of assisting the post-capture ventilation of adult sockeye salmon exposed to capture and release in fresh water

## Degrees Granted

### Lori Sparrow

*Drs Janette Bulkan & Gary Bull*

Forest carbon offset projects in BC: Aboriginal criteria, awareness and preferences

### Nai-Yu (Emily) Teng

*Dr John Kadla*

Dispersion of multi-walled carbon nanotubes and their incorporation into lignin based fibres

### Olivier Tsui

*Dr Nicholas Coops*

Integrating discrete-return scanning LIDAR and spaceborne radar to support aboveground biomass assessments

### Nohara Wada

*Dr Stavros Avramidis*

Internal moisture evolution in hem-fir timbers exposed to ambient conditions following kiln drying

### Li Zhang

*Dr Robert Guy*

Photoperiodic competency for dormancy induction in *Populus balsamifera* L

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### Masahiro Saiga

### Navdeep Saini

### Aiden Wiechula

## PhD

### Trisha Atwood

*Dr John Richardson*

Effects of predators on the carbon dioxide dynamics of freshwater ecosystems

### Trevor Blenner-Hassett

*Dr Suzanne Simard*

Juvenile growth of subalpine fir (*Abies lasiocarpa*) in the montane spruce ecological zone of British Columbia Canada

### Louise Blight

*Dr Peter Arcese*

Glaucous-winged gulls *Larus glaucescens* as sentinels for a century of ecosystem change – long-term trends in their population, diet, and egg production in North America's Salish Sea

### Carolyn Churchland

*Dr Sue Grayston*

Green-tree-retention harvesting as a tool to maintain soil microbial diversity and function in harvest forests

### Ian (James) Dallmeyer

*Dr John Kadla*

Preparation and characterization of lignin nanofibre-based materials obtained by electrostatic spinning

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Substrate properties that influence the enzymatic hydrolysis of organosolv-pretreated softwoods at low enzyme loadings

### Mahmood Ebadian

*Dr Taraneh Sowlati*

Design and scheduling of agricultural biomass supply chain for a cellulosic ethanol plant

### Yu Huang

*Dr Gary Bull*

Global legality requirements and chain of custody certification: Potential Impacts of recent changes on China's wood products industry

### Lee Kalcsits

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An isotope mass balance approach to measure variability in nitrogen fluxes, allocation and assimilation in balsam poplar (*Populus balsamifera* L) and other plants

### Reza Korehei

*Dr John Kadla*

Encapsulation of T4 bacteriophage in electrospun biopolymers

### Linoj Kumar

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Steam pretreatment as an effective front end for a softwood based biorefinery



**Pontus Lindgren***Dr Tom Sullivan*

Pre-commercial thinning and repeated fertilization of young lodgepole pine stands: Long-term impacts on tree growth, plant diversity, and range

**Xiaoqin (Lisa) Liu***Dr Frank Lam*

Three-dimensional modeling of metal plate connected wood truss joints

**Jamie Stephen***Dr Jack Saddler*

The viability of lignocellulosic ethanol production as a business endeavour in Canada

**Andrés Varhola***Dr Nicholas Coops*

The use of remote sensing to characterize forest structure and improve the modeling of snow processes in extensively disturbed watersheds

**Hendrik Voeckler***Dr Younes Alila*

Modeling deep groundwater flow through fractured bedrock in a mountainous headwater catchment using a coupled surface water - groundwater model, Okanagan Basin, British Columbia



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THE FACULTY OF FORESTRY at UBC is characterized by its large and growing number of international undergraduate and graduate students as well as a range of significant international research and teaching activities. We are committed to further internationalization and better communicating our ongoing successes within UBC, our community and globally. The challenges faced by forests around the globe affect people locally and the issues facing local forests have global impacts.

### International Students and Student Exchange

The Faculty has one of the most diverse student bodies on campus, with 26% of our undergraduate students and 56% of our graduate students coming from outside Canada. Although many of our international students come from the USA and China, there is still considerable diversity. In the past year, our undergraduates represented 25 countries and our graduate students represented 35 countries. We provide students with opportunities for international experiences through Go Global programs. Academic exchange programs offer partner institutions in 36 countries that share agreements with UBC. During the past year, 20 of our students took advantage of this study abroad program and studied in Australia, China (11 of our students took part in the "Exploring forestry and conservation in China" summer program), India (5 students participated in our International Conservation and Forest Resources Management Field school), Denmark, Netherlands, New Zealand, Sweden, and United Kingdom. We hosted 14 international exchange/visiting students from Australia, China, Germany, New Zealand, United Kingdom and the USA.

### China and Asia Pacific Region

The Faculty continues to strengthen collaborations with the Asia-Pacific region (APR). Transfer programs with Nanjing Forestry University (NFU), Beijing Forestry University and Fujian Agriculture and Forestry University are supported by faculty members' on-site teaching, video-conferencing, lecturing, and comprehensive orientation programs in conjunction with UBC's Jump Start program. The UBC-UBG Forestry Scholarship has provided financial support for 8 new transfer students in 2013. The Zhang family from China also created a scholarship for transfer students from China during their studies at UBC.

Our group study program with NFU continued in 2013.

This 4-week program provides students with an opportunity to explore forestry and conservation issues in China. In cooperation with Taiwan and the BACT program, 3 UBC Forestry students were able to enrich their international learning by exploring biodiversity, agriculture, and culture in Taiwan.. We launched a Vancouver Summer Program in 2013 to provide students in several partner universities with a cross-cultural learning experience. The program provides the opportunity for undergraduate students to learn about forestry and resource management issues in Canada, while also exploring Canadian society and culture through interactive lectures, various social activities and intercultural workshops.

In response to the urgent need for training in sustainable forest management from the Asia-Pacific region and sponsored by APFNet, we are working with Beijing Forestry University on developing an online program for senior undergraduate and master level students in the APR. In the first phase, 6 courses will be developed. The project will also provide training for instructors at partnering universities in the APR once all the courses are in place.

### Europe

This was the third year of our Transatlantic Forestry Master dual-degree program (TRANSFOR-M) which is funded by the European Commission and Human Resources and Skills Development Canada. TRANSFOR-M is a consortium of 3 Canadian and 4 European universities: University of British Columbia, University of New Brunswick, University of Alberta, Albert-Ludwig-University (Germany), Bangor University (Wales), University of Eastern Finland, and the Swedish University of Agricultural Sciences. In August 2013, Canadian partners organized a 3-week field course in British Columbia, Alberta and New Brunswick to provide students with opportunities to compare forest policies and management practices in each province.

### International Partnership for Forestry Education

We have a leadership role in the International Partnership for Forestry Education (IPFE) through Dr Hosny El-Lakany, the elected Chair, and through hosting the network's secretariat jointly with the University of Eastern Finland. IPFE has collaborated with several Forestry institutions in facilitating student training and placing recent graduates at international forestry

research centers such as the Center for International Forestry Research and the World Agroforestry Center.

### International Events and Collaboration

In August 2013, the International Union of Forest Research Organizations (IUFRO) Task Force chaired by Dean John Innes gathered more than 120 policy makers, researchers, industry leaders and NGOs at a Resources for the Future Conference organized by our Faculty. The conference examined implications of globalization for the world's forests, the role of plantations in future wood supply, new and advanced bioproducts and building systems, and the role of ecosystem services in future forest management. The conference was supported by IUFRO, Natural Resources Canada, the Commonwealth Forestry Association, Council of Forest Industries, British Columbia Ministry of Forests, Lands and Natural Resource Operations, Forestry Innovation Investment, Government of Alberta and Genome British Columbia.

The third Future Forestry Leaders Symposium for graduate students was held in February 2014. The Symposium was organized together with the School of Environmental and Forest Sciences, University of Washington.

Our students have been actively engaged with the International Forestry Students Association (IFSA). In 2013, some of the activities included an International Food Night; Countries in Focus: Guyana; movie nights; hikes; participation in Day of the Longboat; and a scavenger hunt for International Day of Forests 2013. Seven UBC students attended the 41st annual International Forestry Students' Symposium in Spain in August 2013. Two UBC students were elected/appointed to positions within IFSA: Anna Stemberger as the North American Regional Representative and Joanna Li Yung Lung as the IFSA-CFA Liaison Officer. IFSA-UBC also organized Showcase Forestry in Spain, and a Re-inventing Conferences Workshop. Currently, 25 UBC students are involved in organizing the 42nd annual International Forestry Students' Symposium this August (Our Roots, Our Future). This 2-week event is co-organized with the IFSA Local Committees at Thompson Rivers University and the University of Northern British Columbia and will welcome over 110 delegates from 32 different. IFSA-UBC is determined to continue to forge strong relationships with IFSA partners and Local Committees around the world. Together with UBC student groups, we hope to launch a mentorship program and host more engaging events showcasing international forestry at UBC.

We also facilitated collaboration between major international research institutions such as CIFOR and ICRAF through Hosny El-Lakany (board member of both organizations). The Faculty is also well represented in IUFRO and in the Commonwealth Forestry Association (Dr John Innes serves as chair of the latter) and the Asian Pacific Network for Sustainable Forest Management and Rehabilitation.

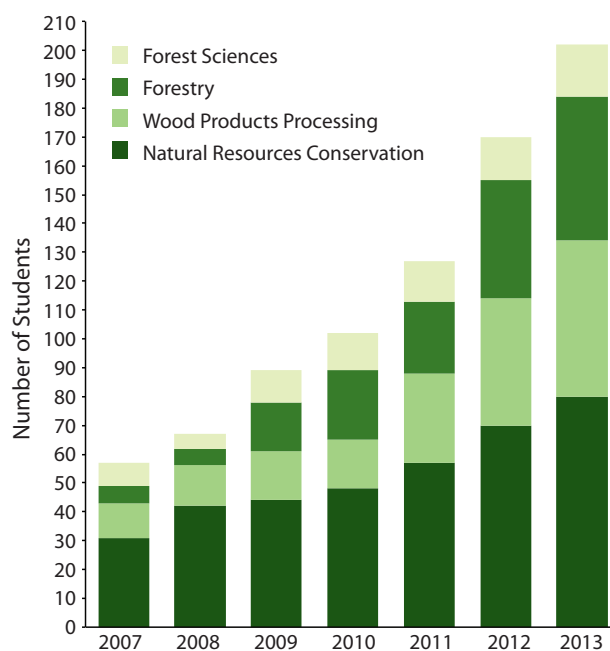
The Faculty established collaboration with the Wildlife Institute of India (WII), which is an autonomous institution under the Indian Ministry of Environment and Forests. In 2013, Dr Suzie Lavalley developed an international field school for UBC students jointly with the WII. Activities involve travel to Northern and Southern India for field tours, interviews, lectures, field exercises, and workshops.

We hosted a number of international delegations during the year, including several members of Parliament of Finland, Finnish city planners and representatives from regional centers, Ecole

Supérieure du Bois, Okayama University (Japan) and Swedish University of Agricultural Sciences. We also received delegations from our partner universities and institutions in China: State Forestry Administration, Chinese Academy of Forestry, Gansu Province Forestry Department, Xinjiang Province Forestry Department, Northwest A&F University, Renmin University, Beijing Forestry University and Vice Governor of Qinghai Province and his delegation.

### Mid-career Training for the Indian Forestry Service

For the past 4 years we have provided top-level leaders of the Indian Forest Service with mid-career training through programs delivered jointly by the UBC Faculty of Forestry, BC Ministry of Forests, Lands and Natural Resource Operations, BC Ministry of Environment, and the Canadian Forest Service. Ten groups of 30 participants have been trained in the period 2010-2013. The purpose of these programs is to provide participants with an increased knowledge of strategic planning, policy making and governance aspects of forest management. The programs are coordinated by a consortium consisting of the UBC Faculty of Forestry, the Maxwell School of Citizenship & Public Affairs at Syracuse University in New York, the Indian Institute of Management in Bangalore and the Indira Gandhi National Forest Academy in Dehradun. We are expecting 7 more groups to participate during the next 3 years.



Undergraduate international student enrolment  
by program 2007 – 13

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FOR MORE THAN 20 years, the Faculty has been developing and implementing its First Nations strategy. Starting with recognition of the increasing importance of British Columbia's First Nations in the forest sector, the strategy is expanding to include the importance of indigenous peoples in all aspects of ecosystem management, including conservation policy, land use planning, and park co-management.

In British Columbia, the need for First Nations involvement in forested land activities is evident. In November 2004, the Canadian Supreme Court ruled in the Haida and Taku cases that First Nations must be consulted at a strategic level in forestry management. The BC courts and Supreme Court of Canada have continued to insist that the government consult and accommodate Aboriginal rights, whether proved or likely to be proved.

These and other events contributed to Premier Campbell's decision to enter into a "New Relationship" with First Nations in BC. Leaders of the First Nations Summit, BC Assembly of First Nations and the Union of BC Indian Chiefs agreed to work on developing the New Relationship in 2005. A New Relationship document described the BC Government's intent to establish new legislation and policy affecting First Nations rights and access to traditional territories. First Nations are gaining greater access to forest resources and currently hold over fifteen percent of the harvesting rights in British Columbia. A new forest tenure was announced in 2011, the First Nations Woodland Licence, and is hailed as superior to the previous Forest and Range Opportunities, because area-based is a long term and replaceable agreement.

The challenge remains to increase the number of First Nation Registered Professional Foresters and land managers. The UBC Faculty of Forestry wishes to provide assistance to First Nations and the wider forest community in order to meet these challenges and opportunities through its First Nations strategy.

Below is an abbreviated list of achievements over the past year. They are a reflection of strategies and efforts employed to maintain established relationships while fostering new ones.

## ACHIEVEMENTS IN 2013 – 14

- Dr Janette Bulkan began her second year in the Faculty as assistant professor of Indigenous Forestry. Dr Bulkan incorporates modules on Aboriginal histories and systems of knowledge and on decolonizing methodologies in courses taught (FRST 270 – Community forestry, and FRST 449C, Section 104 – Land, trees and tenure), in a pilot course (FRST 521C – Social, community and indigenous forestry) and in guest lectures.
- Dr Bulkan was also the scriptwriter/consultant for a video titled, 'Why should the Truth and Reconciliation Commission hearings on the Indian Residential Schools system be of interest to a UBC forestry student?', that formed a part of the Faculty's contributions to the Truth and Reconciliation Commission of Canada hearings in Vancouver on 18 September 2013. That video can be viewed on: <http://irsi.aboriginal.ubc.ca/2013/09/13/why-should-the-truth-and-reconciliation-commission-trc-hearings-on-the-indian-residential-schools-system-be-of-interest-to-a-ubc-forestry-student/>.
- Dr Bulkan contributed to the UBC Forestry research guide: <http://guides.library.ubc.ca/forestry/indigenous>.
- Dr Bulkan received a Mentorship award of CAN \$10,000 from the Peter Wall Institute for Advanced Studies to conduct collaborative research on stewardship of customary lands with indigenous researchers and communities in Guyana. Preliminary findings were presented at 'The Wall Hour' on 7 November 2013. This fits with the Strategic Plan's commitment to 'increase the amount of research being undertaken in collaboration with Aboriginal communities'.
- Andrea Lyall, Registered Professional Forester and alumna from the Faculty of Forestry, began her second year as the Aboriginal Initiatives Coordinator. Andrea works directly with student services and the First Nations House of Learning for student support.
- Andrea also served as a sessional instructor to instruct Conservation 370 Aboriginal Forestry for the winter term of 2014.
- The First Nations Council of Advisors met November 14, 2013. The group discussed UBC's role in establishing mechanisms for community led research and Aboriginal community engagement.
- Alumni news: Ts'elxwéyeqw Tribe Management Ltd managed by alumnus Matt Wealick, RPF, won Joint Venture Business of the Year from the BC Aboriginal Business Awards. The honourees celebrated at a gala ceremony on December 5th, 2013 at the Westin Bayshore. This was the fifth annual event hosted by the BC Achievement Foundation.
- With the help of donor support many recruitment and retention activities occurred over the year:
- Andrea, along with 2 undergraduate work/learn students completed many recruitment and retention activities. Support for current students included monthly get-togethers for bannock making, lunches, workshops for resume clinics, applying for awards advice, and career planning.
- Andrea and the students visited greater Vancouver high schools to talk about the student experience at UBC Forestry. Andrea visited over 12 communities, Aboriginal-led forestry businesses, high schools and career fairs.



- The Faculty hosted 2 lunches at the First Nations House of Learning for Aboriginal students across campus.
- Andrea and students provided content and Robert Kwei developed a new Aboriginal Initiatives website: <http://aboriginal.forestry.ubc.ca/>.
- Andrea and the communications team in the Dean's office coordinated 2 promotional videos, one highlighting 3 of our alumni and their work leading land management in their respective communities and another video that shares the student experience at UBC Forestry. The videos can be found on the Aboriginal initiatives website: <http://aboriginal.forestry.ubc.ca/>.
- Andrea and 2 undergraduate work/learn students developed a Facebook page that posts award opportunities, job postings and current events. Find us on Facebook: [www.facebook.com/AboriginalFoF](http://www.facebook.com/AboriginalFoF).
- A total of 9 undergraduate students and 4 graduate students self-identified as Aboriginals enrolled in forestry programs in 2013-2014. Graduating from the Faculty of Forestry this year are 1 undergraduate and 1 graduate student.
- Many award opportunities for Aboriginal students are available at UBC Forestry from the Faculty and UBC Central. During the past year undergraduate students were awarded a total of \$9,275 and graduate students a total of \$13,464.

## PLANS FOR 2014 – 15

Continued effort will be directed towards funding and implementing of the Faculty of Forestry strategic plan and the new community and Aboriginal forestry specialization in the forest resources management degree program.

*Strategic Plan – Commitment 4 Aboriginal Engagement “Our commitment: We will work with Aboriginal peoples interested in partnerships, including First Nations, Metis, and Inuit in Canada, and indigenous peoples from around the world, to help solve challenges associated with the conservation and management of forests and the goods and services they provide”.*

## First Nations Council of Advisors

In 1994, the Faculty of Forestry began the formation of a community-based advisory group to provide ongoing input on Aboriginal Initiatives and to evaluate work as it progresses. This committee meets once a year, with bi-monthly phone calls as necessary. Members are comprised of Aboriginal alumni, community leaders and industry and association groups including forest industry, government and the ABCFP.

<b>Keith Atkinson</b>	FNCOA Co-Chair, CEO BC First Nations Forestry Council
<b>Jeremy Boyd</b>	Forester and Operations Forester Sasquatch Forest Products LLP
<b>John Innes</b>	Dean of Forestry, UBC
<b>Lennard Joe</b>	Forester and General Manager, Stuwix Resources Ltd
<b>Linc Kesler</b>	Director, First Nations’ House of Learning Professor
<b>Peter Marshall</b>	Associate Dean of Forestry, UBC
<b>Garry Merkel</b>	FNCOA Co-Chair, Forester, Forest Innovations
<b>Jim Munroe</b>	President, Maiyoo Keyoh Society
<b>David Nordquist</b>	Forester, Adams Lake Indian Band
<b>Angeline Nyce</b>	Lawyer and Forester, A Nyce Law Corporation
<b>Gordon Prest</b>	ABCFP Honorary Member
<b>Darrell Robb</b>	Director, Aboriginal Affairs Branch, Ministry of Forests, Lands and Natural Resources
<b>Brian Robinson</b>	Forester, Director of Professional Development and Member Relations Association of BC Forest Professionals
<b>Carleigh Smart</b>	Teacher, Coquitlam
<b>Matt Wealick</b>	Manager and Chief Operations Officer, Ts’elxwéyeqw Tribe Management Ltd
<b>Adrienne Vedan</b>	Director of Aboriginal Programs and Services, UBC Okanagan

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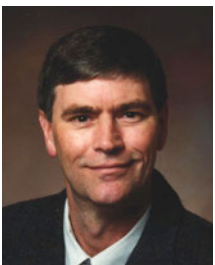
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### Retirement

**Dr David Tait** has retired after more than 30 years at UBC. David taught classes on computer programming to second-year students and helped with course administration by steering the complex waters of our course navigation system using his operational programming expertise. His unique view of forest education and management will be missed. However, we hope that he will continue to contribute to graduate workshops and other activities during his retirement.

## Achievements and Plans

### ACHIEVEMENTS IN 2013 – 14

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- The Department is undergoing a period of renewal with retirements of 2 long time colleagues, Dr David Tait (February 2014) and Dr John Nelson (June 2014) and the move of Dr David Tindall to Sociology (July 2014). Searches were conducted during the year for 3 new faculty members in the areas of forest management, forest biometrics and sustainable business management (jointly with the Department of Wood Science). Searches were also begun for new appointments in the areas of international forestry and socio-ecological systems.
- Drs Innes, H Nelson and Sheppard received SSHRC funding. Drs Alila, Coops, and Meitner received ongoing NSERC funding.
- Dr Coops received an NSERC Tools grant and NSERC Strategic grants.
- Dr Alila received the 2012 Editors' Citation for Excellence in Refereeing for Water Resources Research, one of the lead journals of the American Geophysical Union.
- Dr Nicholas Coops is the co-winner of the prestigious Carl Pulfrich Award 2013. The award honours the memory of Carl Pulfrich, a famous physicist and optical systems researcher who particularly valued the transfer of technology to practice. The award is intended to acknowledge Nicholas' continuous and excellent contributions using remote sensing and LiDAR technologies for ecosystems research and development and for the impact this work has had on Earth Science.
- The new course-based Masters of Sustainable Forest Management program continues to attract students with 20 expected in its third year.
- A classic textbook on forest economics by Professor Emeritus Peter Pearse and co-authored by Daowei Zhang was relaunched in China in November.
- Andres Varhola's PhD thesis (supervised by Dr Coops) received the Faculty of Forestry Best PhD Thesis Prize for 2013.

### PLANS FOR 2014 – 15

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- New appointments are set to begin in July 2014 for 3 new faculty positions in the areas of forest management (Dr Verena Griess), forest biometrics (Dr Bianca Eskelson) and sustainable business management (Dr Rajat Panwar, jointly with the Department of Wood Science). We will also be hiring Dr Joleen Timko as lecturer and coordinator of our new master's in international forestry program as well as completing our search for a new faculty member in the area of social-ecological systems.
- Continue development of the new course based Masters in International Forestry program.
- David Tindall will move to a 100% Sociology appointment, effective July 1, 2014. He will continue to be connected to our department through an affiliated appointment.
- Dennis Bendickson will reduce his appointment to 50% for the next year.
- Stephen Sheppard will move to a 100% Faculty of Forestry appointment effective July 1, 2014.



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## Achievements and Plans

### ACHIEVEMENTS 2013 – 14

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- Dr Sally Aitken stepped down after almost 10 years as the director of the undergraduate program in Forest Sciences. During this time, the program has been well managed and the degree of commitment to the students has increased. Dr Allan Carroll has replaced Dr Aitken in this role.
- Dr John Richardson travelled to Nanjing Forestry University in China to teach Aquatic Ecosystems to prospective 2+2 students.
- Dr John Richardson was invited to be keynote speaker at conferences in Germany and Japan. He also delivered the William Main Lecture at UC Berkeley.
- Dr Scott Hinch received the annual Certificate of Achievement from the Washington-British Columbia Chapter of the American Fisheries Society. The certificate is given out annually to someone who has demonstrated significant professional achievement.
- Dr Steve Mitchell received the 2013 Silvicultural Prize from the Institute of Chartered Foresters for his review paper "Wind as a natural disturbance agent in forests: a synthesis" published in *Forestry* (2013) 86 (2): 147-157.
- Drs Sally Aitken and Richard Hamelin were recipients of this year's IUFRO Scientific Achievement Award. The awards will be presented in October 2014.
- Dr Maja Krzic received the 2013 Mentoring Award from the Association for Women Soil Scientists (AWSS). The award recognizes Maja's significant contributions to the education, professional growth, and achievement of many females in soil science.
- Professor Emeritus James Peter (Hamish) Kimmins, CM, PhD, DSc (Hon) has been appointed to the Order of Canada, in recognition of his contributions as an ecologist promoting environmental sustainability in forest management.
- Dr Sally Aitken co-chaired the Forest Genetics 2013 conference which was held July 22-26 in Whistler.
- Dr Allan Carroll organized a joint meeting of IUFRO working groups 7.03.05 and .07 held in Banff in September 2013.
- The Department hosted the Schaffer Lecture on February 18, 2014. Dr Colden Baxter, Associate Professor, Stream Ecology Center, Department of Biological Sciences, Idaho State University, gave a presentation on "Fire and Ice: Responses by stream-riparian ecosystems to shifting disturbance regimes and some consequences for forest management".
- The Department convened a very successful 1-day Open House on April 12 for research groups, and labs. The event was also open to other members of the Faculty and the university. The event was a great demonstration of the enthusiasm and scope of what our department is about.
- Drs Aitken, Arcese, Chanway, Daniels, El-Kassaby, Grayston, Guy, Hamelin, Hinch, Martin, Prescott, Richardson, Ritland and Simard held ongoing NSERC Discovery grants.
- Andrew Huang, an MSc student with Dr Martin, won the 2013 William C Andersen Award for Best Poster Presentation at the International Raptor Research Foundation Meeting in Bariloche, Argentina in October. Andrew's presentation was entitled, "SARA-listed (Species at Risk Act) barn owls (*Tyto*

*alba*) in British Columbia: Genetic diversity, connectivity, and divergence".

- Ting Pu, an MSc student with Dr Hamelin, won the Best Poster Award at the 2013 Canadian Phytopathological Society – BC Regional Meeting held in Victoria in October. Ting's poster was entitled, "Single nucleotide polymorphism (SNP) discovery in *Cronartium ribicola* using Genotyping-by-Sequencing (GBS) approach".
- Dr Elizabeth Perkin, a post-doctoral fellow with Dr John Richardson won the Best Oral Presentation in Applied Research of the 2013 annual meeting of the Society for Freshwater Science.

### PLANS FOR 2014 – 15

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- A search is underway for an instructor in Forest Biology. Besides teaching undergraduate students in the classroom and in the field, the instructor will also participate in our international teaching program.
- Dr Robert Guy will help organize the International Poplar Symposium VI on July in Vancouver, BC. The Symposium theme is "Domestication of *Populus* and *Salix*: How far have we come, and how far do we still have to go?"
- We will maintain a high rate of proposal submissions to NSERC, Genome BC/Genome Canada and other funding agencies.
- Plan for a new, introductory course in genetics (genomics) with Dr Kermit Ritland.
- We will convene a year-end departmental gathering activity in April 2014.
- We will continue our weekly departmental seminars.



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### Retirements

The Department of Wood Science saw 2 long-serving faculty members retire in 2012/13 – **Dr Colette Breuil** in July 2013 and **Dr John Ruddick** in December 2013. Dr Breuil's research and teaching interests revolved around microbiology, biotechnology, and genomics with a focus on the interactions of sapstaining and decay fungi and bacteria on wood. She was extremely active in serving both the university and the community-at-large, notably as the Associate Dean of Research and Graduate Studies in the Faculty of Forestry and as a long-standing member of various NSERC adjudication committees. Dr Ruddick's research and teaching interests were in the fields of wood chemistry, preservation, and durability, in both the theoretical and applied domains. He will be remembered for his dedication to teaching undergraduate students, for which he was awarded the Killam Teaching Prize in 2007/08. Both Drs Breuil and Ruddick made innumerable contributions to the success of the Department of Wood Science and the undergradu-

ate Wood Products Processing program. While they intend to remain active within their disciplines, their presence will be missed. We wish them the best in their retirements.

### ACHIEVEMENTS IN 2013 – 14

- A total of 129 students were enrolled in the Wood Products Processing (WPP) program (just one below our all-time high). This total includes 54 international students which is an all-time high. The new student intake was 35.
- Our co-op program continued as an integral and highly successful component of the WPP program. Sixty-six co-op work term placements were completed which equaled the previous all-time high.
- Sixty-eight graduate students were supervised by Department members during the year.
- Following a comprehensive review of the curriculum of the WPP program, a range of curriculum proposals were submitted to and approved by UBC Senate. These changes will be enacted in September, 2014.
- The Department is undergoing a period of renewal with the retirements of 2 longtime colleagues, Drs Breuil and Ruddick. Searches for 3 new appointments were conducted and appointments are set to begin July, 2014 in the areas of Wood Processing (Dr Julie Cool), Wood Chemistry/Bioprocesses (Dr Scott Rennecker) and Sustainable Business Management (Dr Rajat Panwar), this last appointment being joint with the Department of Forest Resources Management.
- Of the 5 nominees for the Killam Teaching Prize in Forestry, 4 came from the Department of Wood Science (Drs Kozak, McFarlane, Mansfield and Sowlati). The prize will be awarded in May, 2014.
- The Centre for Advanced Wood Processing (CAWP) has continued to expand its range of industry services and training, including capacity-building projects with manufacturers of engineered wood products, furniture and cabinets, doors and windows and other value-added wood products,

## Achievements and Plans

and with 3 BC First Nations. CAWP continued to deliver certificate programs in industrial wood finishing, kiln drying and management skills, and added a course on Green Marketing and Business Practices to its online portfolio.

- Together, with the First Nations House of Learning at UBC and members of the Haida Nation, Mr Gunther and Mr Leung from CAWP were involved in the restoration of the Bill Reid 'Looplex X' canoe. Currently, we are exploring the possibility of suspending this canoe in the atrium of the Forest Sciences Centre.
- The Department/CAWP installed a Hundegger K2-ROBOT, a computer-controlled heavy timber processing machine that represents state-of-the-art technology in the fabrication of members for wooden structures. CAWP also acquired a new integrated work cell through a special agreement with Homag Canada, consisting of 3 production machines (an edgebander, CNC drill and dowel inserter and a 3-axis CNC router). Finally, CAWP acquired a large-format laser engraver/cutter and a 3D printer (with capability of printing using a wood-fibre filament material) in an effort to expand its design and fabrication infrastructure.
- The Department became a node for UBC's Centre for Biointerface Characterization, a Canada Foundation for Innovation (CFI) funded consortium involving the Faculties of Science, Applied Science and Medicine, as well as Forestry. As a result of this development and funding from CFI, the Evans lab was able to acquire a custom-designed plasma reactor which can be used to modify and machine wood.
- Drs Cohen, Kozak and Tannert received new funding from MITACS.
- Drs Cohen, Gaston, Kozak, Lam, Saddler, Sowlati and Tannert received new and ongoing NSERC Strategic Network support.
- Dr Ellis received the Department of Wood Science Top Teacher Award for 2012/13.
- Dr Evans was reappointed as a Visiting Fellow at the Australian National University Department of Applied Mathematics and was also a Guest Lecturer at Kyushu University and a recipient of a Fellowship from the same university. He was a keynote speaker at the International Research Group on Wood Protection Conference in Stockholm Sweden and an invited speaker at the Canadian Wood Preservers Association Conference and the Materials and Complexity Conference held at the Australian National University.
- Dr Evans launched the book, 'Trees of Canberra', published in memory Dr Roger D. Heady, at the Fenner School of Environment and Society (the Australian National University).
- Dr Kozak received new and ongoing SSHRC funding, and continued in his role as Theme Leader for the NSERC Value Chain Optimization Strategic Network. He was nominated for an IUFRO Scientific Achievement Award, which will be awarded in October, 2014.
- Drs Lam, Evans and Tannert received new research funding from the Forest Innovation Investment (FII) Wood First program.
- Dr Lam continued his role as Theme Leader for the NSERC NewBuilds Strategic Network.
- Mr Macdonald received funding from Forestry Innovation Investment, on behalf of CAWP, to support its ongoing and expanding Wood First Program activities, and from the Canadian International Development Agency, on behalf of CAWP, to support a planning forum on forestry-based development in Lesotho.
- Dr Mansfield continued in his role as Theme Leader in the BioFuelNet NCE.
- Drs Mansfield and Kozak continued to receive support from Genome Canada.
- Dr Ruddick was an invited speaker at the American Wood Protection Association Annual Meeting and the Canadian Wood Preservation Association Annual Meeting.
- Dr Saddler continued as co-director of the NSERC Bioconversion Network and received ongoing support from the US Department of Energy and the International Energy Agency. He continued in his role as Western Platform Lead of the BioFuelNet NCE.
- Dr Sowlati served as the Conference Chair for the 55th Canadian Operational Research Society Conference which was held in Vancouver and attended by 270 participants.
- Dr Tannert received new NSERC funding. Dr Evans received new and ongoing NSERC funding. Drs Avramidis, Dai (Adjunct), Lam, Mansfield, Saddler, Smith and Sowlati received ongoing NSERC funding.
- Dr Tannert received new funding from the UBC Teaching and Learning Enhancement Fund and the Early Career Start-Up Research Award from the Peter Wall Institute of Advanced Studies.
- Shaghaygh Akhtari's MSc thesis (supervised by Dr Sowlati) received the Faculty of Forestry Best Master's Thesis prize for 2013.

### PLANS FOR 2014 – 15

- The Department continues to use the recommendations of the 2011 external review to help guide strategic initiatives that will allow us to maintain and grow our position as an internationally renowned academic unit.
- One of the key aims of the Department continues to be increasing our undergraduate enrolment levels. To that end, a committee has been struck to develop and implement a new program in the area of Biomaterials and Energy, with plans to have it approved by 2015. We are also continuing with our 2+2 program, and currently have 41 students from partner universities in China.
- The process of renewal will continue in the Department, with 2 additional searches for Instructors in the field of Wood Processing set to take place in the near-term.
- We will continue to actively pursue funding opportunities from diverse sources, including research agencies, governments, industry, international organizations and through industry extension activities.



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THE CENTRE FOR ADVANCED WOOD PROCESSING (CAWP) is Canada's national centre for education, extension and research for the advanced wood products industries. CAWP provides support to the BSc (Wood Products Processing) (WPP) program and other units such as the School of Architecture and Landscape Architecture (SALA) in the education and training of students with the capacity to lead and drive change in the industry; offers continuing education and lifelong learning programs aimed at enhancing the skills of existing industry employees; provides technical services to improve the product quality and manufacturing efficiency of SMEs; and coordinates interdisciplinary applied research. CAWP is funded through an endowment, the CAWP Industry Partnership Program, Forestry Innovation Investment's Wood First program, various project grants, and cost recovery on services.

CAWP is supported by a large number of industrial equipment and technology suppliers, whose in-kind contributions of software, machinery, supplies, and services significantly enhance our facilities and the training and education experiences that CAWP is able to offer. A number of manufacturing companies also support CAWP through cash contributions to our industry partnership program.

CAWP has an internal Management Committee to allow faculty members in the Department of Wood Science to provide input into the activities of CAWP, and it is active in monitoring our technical and educational activities. CAWP is also linked with many industry associations such as the Wood Manufacturing Council and various provincial and sectoral bodies.

## Educational Programs

The Wood Products Processing program is the largest degree program in wood technology/wood science in North America; there were 128 students registered this year. In 2013-14 there were 66 co-op work terms completed by our students (an increase of 50% over last year). Students worked throughout British Columbia and also in Alberta, Manitoba, Ontario and in Germany and China. The WPP program has seen an increase in the number of applications in 2013-14 compared to the previous year. As of March 2014 there were 170 applicants to the program (an all-time high). CAWP also provided technical assistance and facilities to SALA students taking a studio course on timber shell structures.

## Continuing Education, Communication and Extension

CAWP offers 2 UBC Certificate Programs to industry professionals – the Industrial Finishing Certificate, led by Professor Philip Evans, and the Kiln Drying Certificate. The Industrial Finishing program continues to attract learners from across Canada as well as the United States and other countries. Since 2010 CAWP has offered a 9-module online Management Skills certificate program in partnership with the Wood Manufacturing Council, a national body that represents the skills and training needs of the secondary wood processing industry. The program is taken part-time by entrepreneurs and management-track employees of wood manufacturing businesses over a 6 or 8-week period to acquire key management skills, and attracts over 100 learners per year.

CAWP continues to play a pivotal role in delivering education, training and technical assistance services to architects, industrial designers and manufacturers through the Wood First initiative, with funding from Forestry Innovation Investment, a BC crown corporation. In 2013-14 we worked with 12 BC companies from the Lower Mainland, Vancouver Island and the Kootenay region on 18 separate technical assistance projects. Our skilled technical team is in increasingly high demand, and the value of projects carried out in 2013-4 was the highest in our 5 years of service to Wood First. Our Outside the Box networking group, consisting of design and manufacturing professionals who meet monthly to explore new product development and market opportunities, now has 84 members and has helped spawn many collaborations and partnerships. CAWP also conducts technical mentoring for industrial designers who are interested in applying their creative energies to the wood products industry. In 2013-4 CAWP again partnered with BC Wood Specialties Group to offer the Wood First Forum event to 100 architects in Whistler, BC, and with Wood WORKS! BC to offer the 21st Century Wood Design and Construction Solutions conference to over 200 engineers and architects at Vancouver Convention Centre. CAWP once again ran the popular Wood Building Design Tour to Europe, culminating in attendance of the Holzbau Forum in southern Germany, Europe's largest conference on wood construction, and in 2013 achieved the highest attendance in the tour's history. Finally, a CAWP/Stellenbosch University team travelled to Lesotho to conduct a fact-finding mission and planning forum on poverty alleviation through small scale forest-based business development with key members of Lesotho's government and forestry sector (funded by Canadian International Development Agency).



CAWP's facilities saw significant upgrades in 2013, with the purchase of a Hundegger Robot Drive CNC timber processor, a large-format laser cutter/engraver, and a 3D printer. CAWP also acquired a suite of 3 machines on loan (CNC router, CNC drill press and edgebanders) through a new collaborative agreement with Homag Canada. The latter arrangement has meant the expansion of our high head lab space through the conversion of a storage area to a fully-functioning machine lab, complete with power, air and dust collection upgrades.

## Research

CAWP's role under an integrated structure within the Department of Wood Science is to act as a conduit between the industry and academic communities in order to ensure that applied research activities within the department and CAWP fully reflect industry needs. CAWP is active in helping industry find solutions to current competitive challenges by linking them with researchers who may be able to provide avenues for change.

Several faculty members of the Department of Wood Science received funding in 2013 for research projects through the Wood First initiative. These projects cover themes such as timber structures and connector systems, weathering and durability of wood elements for exterior applications, and hybrid timber-steel building systems.

## PLANS FOR 2014 – 15

- Increase industry support for CAWP activities through our industry partnership program.
- Offer new training and technical assistance utilizing recently acquired new equipment.
- Redesign the UBC Kiln Drying Certificate as a blended learning program.
- Continue to deliver technical support activities to manufacturing companies and industrial designers through the Wood First initiative, with a particular goal in 2014-15 of better-serving companies in northern BC and the Okanagan regions.
- Assist the Lesotho government in the coordination and delivery of research and capacity-building activities related to forestry and wood processing.
- Organise a wood construction technical tour to Scandinavia (September).
- Further develop our capacity in 3D printing with wood and advanced robotic fabrication.

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<b>Scholte, David</b>	Consultant, Canada
<b>Smith, Greg</b>	UBC
<b>Sowlati, Taraneh</b>	UBC
<b>Starling, Norm</b>	Consultant, Canada
<b>Tannert, Thomas</b>	UBC

### Centre for Advanced Wood Processing

Forest Sciences Centre  
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cawp@cawp.ubc.ca  
www.cawp.ubc.ca





**Bruce Larson**  
AB, MFS, PhD  
Chair, Research Forests  
Advisory Committee  
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THE FACULTY OF FORESTRY OPERATES 2 Research Forests: The Malcolm Knapp Research Forest near Maple Ridge on the coast, and the Alex Fraser Research Forest near Williams Lake in the central interior of BC.

The mission of the UBC Research Forests is to support the Faculty of Forestry, other partner universities and research organizations in serving the people of BC through teaching and research. This is accomplished by hosting research from a variety of disciplines in order to create teaching opportunities for students from UBC, other post-secondary institutions and continuing education programs.

The location of the forests, covering 6 diverse biogeoclimatic subzones and 3 tenure systems, offers a variety of research and education opportunities.



## MALCOLM KNAPP FOREST

**Paul Lawson**  
BSF, MBA, RPF  
Director, University Research Forests  
paul.lawson@ubc.ca

**Cheryl Power**  
BSF, RPF  
Resident Forester  
cheryl.power@ubc.ca

## ACHIEVEMENTS IN 2013 – 14

- Initiated 12 new research projects.
- Hired one new permanent staff member - Jeremy Watkins, as Assistant Operations Manager, increasing permanent staff to 4.6 FTE's.
- Employed 2 forestry undergraduate students on 4-month internships and 1.5 forestry graduate students on 8-month internships.
- Hosted Loon Lake facility use of 17,485 overnight stays in 2013 (up 4% from 2012).
- Hosted the Faculty's Spring Field School in April, Conservation Field School and Master's of Sustainable Forest Management Field School in October.
- Hosted over 400 children and 300 volunteers at the 10th annual Canadian Cancer Society Camp Goodtimes held at Loon Lake.
- Submitted and received approval for a Woodlot License Plan for Woodlot 37 adjacent to the Research Forest.
- Milled over 560,000 board feet of lumber at our sawmill facility, an increase of 55% from 2012.
- Constructed 4.7 km of new road and upgraded 10.2 km of existing roads. Included in this was over 7 km of road upgraded as part of the BC Hydro ILM project.
- Completed silviculture surveys on 104 ha, brushing and deer protection installation on 10 ha, and planting of 33,587 trees on 22.6 ha.
- Completed a Carbon Management Strategy for both the Knapp and Fraser Forests.

## PLANS FOR 2014 – 15

- Complete fundraising and design-build process, and begin construction of the Bentley Family Hall – a 600 square meter kitchen-dining hall at Loon Lake on the site of the staff house.
- Increase Loon Lake visitor days by 2%.
- Employ 3 undergraduate and 2 graduate students for 4 month internships.
- Decrease timber harvest levels by 20% to 24,000 m<sup>3</sup>.
- Supervise completion of construction for BC Hydro 500KV power line on 7 km Right-of-Way through the Knapp Forest.
- Complete an update of the Malcolm Knapp Research Forest Management Plan.
- Complete improvements to the silviculture demonstration area – replacement of the 1965 Douglas fir nelder 1 and 1966 mixed conifer Nelder 2 spacing trials.



## ALEX FRASER FOREST

### Ken Day

BScF (Hons), MF, RPF  
Manager  
ken.day@ubc.ca

### Cathy Koot

BSc, RPBio  
Research Coordinator  
cathy.koot@ubc.ca

## ACHIEVEMENTS IN 2013 – 14

- Initiated 8 new research projects.
- Recorded 754 contact days for extension with 385 attendees, including Fall Field School (65 students).
- Provided 10 tours and 5 presentations for researchers, professionals, students, and the public from British Columbia and around the world.
- Planner Mircea Rau, retired after 18 years at UBC and Stephanie Ewen was hired as Planning Forester.
- Employed 3 undergraduate and 2 graduate interns for 4 months who assisted with field work to establish an inventory of standing timber. Hosted a volunteer intern from England and a Commonwealth Forestry Association Young Forester Award winner from Nigeria.
- Prepared for 30-year re-entry into long-term research project studying mule deer habitat and timber harvesting.
- Planted 17,760 trees across 4 cutblocks, totaling 12 ha.
- Conducted Archeological Impacts Assessment of 356 ha, road and landing rehabilitation in one cutblock, and continued a commercial thinning program in Interior Cedar-Hemlock stands.
- Acquired LiDAR coverage for Knife Creek Block. Analysis underway for new Dry-belt Douglas-fir inventory.
- Completed remeasurement of long-term Growth and Yield plots in collaboration with Dr Peter Marshall.
- Developed a wildfire risk management system and interface fire management plan and planned for improvements to demonstration areas at both the Knapp and Fraser Forests.
- Suffered a 6 ha wildfire in the Knife Creek Block.
- Built 3 km of new roads.
- Continued collaboration with the BC Community Forest Association to provide extension services and promote Faculty expertise.
- Maintained recognition for consulting expertise regarding extension, forest management and silviculture.
- Received approval for the Williams Lake Community Forest application in cooperation with the Williams Lake Indian Band and the City of Williams Lake and commenced as forest manager for the new Board of Directors.
- Began revisions to our tenure documents in cooperation with Ministry of Forests, Lands and Natural Resource Operations.
- Participated on boards for the Gavin Lake Forest Education Society, local Invasive Plant Committee, and Williams Lake TSA Silviculture Subcommittee.

## PLANS FOR 2014 – 15

- Work with Ministry of Forests, Land and Natural Resource Operations to complete the revision of our tenure documents.
- Employ 3 undergraduate and 2 graduate interns to refine our riparian inventory, assist with silviculture, and establish an inventory of standing timber ready for harvest.
- Implement the 30-year harvest re-entry into a mule deer winter range harvesting experiment.
- Continue ongoing development of demonstration areas.
- Harvest 25,000 m<sup>3</sup>.
- Expand road network and commercial thinning activities in the SE corner of the Gavin Lake Block.
- Continue work with the BC Community Forest Association to provide extension services and linkages to the Faculty of Forestry for community forests.
- Continue diversifying revenue streams, including sales, services and funded projects.
- Promote research opportunities.

### Research Forests harvesting 2013

		Malcolm Knapp	Alex Fraser	Total
<b>Logging</b>	m <sup>3</sup>	22,007	5,658	<b>27,665</b>
	ha	37.0	37.0	<b>74.0</b>
<b>Commercial Thinning/Partial Cutting</b>	m <sup>3</sup>	1,010	10,923	<b>11,933</b>
	ha	5	138.0	<b>143.0</b>
<b>Road Right-of-Way</b>	m <sup>3</sup>	3,284	2,658	<b>5,942</b>
	ha	2.2	4.5	<b>6.7</b>
<b>Salvage and BC Hydro RWs</b>	m <sup>3</sup>	3,761	0	<b>3,761</b>

### Malcolm Knapp Research Forest

PO Box 21120  
14500 Silver Valley Road  
Maple Ridge, BC V2X 1P7  
Phone: 604.463.8148  
Fax: 604.463.2712

### Alex Fraser Research Forest

72 S 7th Avenue  
Williams Lake, BC V2G 4N5  
Phone: 250.392.2207  
Fax: 250.398.570

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.

## **AITKEN, Sally**

- **Peter Wall Distinguished Scholar in Residence 2014**
- **IUFRO Scientific Achievement Award**
- Associate Editor, Tree Genetics and Genomes
- Member, Forest Genetics Council Genetic Conservation Technical Advisory Cmte
- Member, Forest Genetics Council Coastal Technical Advisory Cmte
- Member, Forest Genetics Council Extension Technical Advisory Cmte
- Member, ConForGen (Pan-Canadian forest genetic conservation organization), Technical Cmte
- Member, INRA France Ecology – Forests Grasslands Freshwater Systems Program Review, Cmte

## **ARCESE, Peter**

- Member, Editorial Board, Journal of Avian Biology
- Board Member, Nature Trust of British Columbia – Reviewer and Member
- Member, Coastal Douglas Fir Conservation Partnership
- Member, Cmte on the Status of Endangered Wildlife in Canada

## **AVRAMIDIS, Stavros**

- Member, SWST Board of Directors
- Department Reviewer/Evaluator, Hellenic Quality Assurance and Accreditation Agency for Universities
- External Evaluator, Hellenic Ministry of Education – Standing APT Cmte

## **BULKAN, Janette**

- Member, Policy and Standards Cmte, Forest Stewardship Council
- Member, Commonwealth Forestry Council

## **CARROLL, Alan**

- Expert, European Food Safety Authority

## **COOPS, Nicholas**

- **Carl Pulfrich Award 2013**
- Canada Research Chair in Remote Sensing
- Editor, Canadian Journal of Remote Sensing

## **DELONG, Deb**

- Member, ABCFP Continuing Competency Cmte
- Member, Festival of Forestry Board of Directors
- Member, High Hopes Board of Directors

## **EI-KASSABY, Yousry**

- Jinshan Scholar, Fujian Agricultural and Forestry University

- Associate Editor, Canadian Journal of Forest Research
- Coordinator, IUFRO Division II

## **EVANS, Phil**

- BC Leadership Chair in Advanced Forest Products Manufacturing Technology
- Visiting Fellow, Australian National University
- Guest Professor, Ecobuild/SP Sweden
- Member, Editorial Board, Korean Journal of Wood Science and Technology
- Member, Editorial Board, Wood Science and Technology
- Member, Editorial Board, International Wood Products Journal
- Member, Editorial Board, Forest Products Journal

## **GERGEL, Sarah**

- Coordinating Editor, Landscape Ecology

## **GRAYSTON, Sue**

- Canada Research Chair in Soil Microbial Ecology
- Member, Sunshine Coast Regional District Natural Resources Advisory Cmte
- Member, Wood Buffalo Environmental Association Terrestrial Environmental Effects Monitoring Cmte

## **GUY, Rob**

- Editor-In-Chief, TREES – Structure & Function
- Communicating Editor, TREES – Structure & Function
- Chair, IPS VI Science Panel
- Member, CSPB Nominating Cmte
- Chair, University of Victoria Forest Biology CREATE Program Cmte
- Member, Forest Genetics Council of BC
- Deputy Coordinator, IUFRO Division II
- Member, 6th IUFRO International Poplar & Willow Symposium Organizing Cmte

## **HAMELIN, Richard**

- **IUFRO Scientific Achievement Award**

## **HINCH, Scott**

- **Certificate of Achievement, American Fisheries Society, BC/WA chapter**
- Member, Steering Cmte International Conference on Biotelemetry
- Member, Science Advisory Council, Canada Ocean Tracking Network

## **INNES, John**

- Minjiang Scholarship, Fujian, China
- Associate Editor, Journal of Environmental Management
- Associate Editor, Environmental Conservation
- Member, Editorial Advisory Board, Dendrochronologia

- Member, Editorial Advisory Board, International Forestry Review Canadian Intermountain Joint Venture Board
- Member, Commonwealth Forestry Association Publications Cmte
- Member, Commonwealth Forestry Association Program Cmte
- Member, Commonwealth Forestry Association Board of Trustees
- Member, IUCN/SSC Sustainable Use Specialist Group
- Member, IUCN Species Survival Commission
- Chair, Association of University Forestry Schools of Canada
- Member, IUFRO Task Force on Forestry Education
- Member, FPInnovations - National Research Advisory Cmte
- Member, FPInnovations - Forest Operations Advisory Cmte
- Member, Genome BC - BC Forestry Sector Steering Group
- Member, Genome Canada - National Forestry Sector Steering Group
- Member, IUFRO Resource Mobilization Cmte
- Member, Forest Education Summit Steering Cmte

## **KOZAK, Rob**

- **IUFRO Scientific Achievement Award**
- **Killam Teaching Prize in Forestry**
- Associate Editor, Canadian Journal of Forest Research
- Associate Editor, Journal of Forest Products Business Research
- Deputy Coordinator, IUFRO Working Group 5.10.00
- President and Director, Wood Products Quality Council
- Member, UN ECE, Team of Specialists on Forest Products Markets and Marketing
- Chair, ABCFP Biometry Academic Standards SubCmte
- Member, NSERC VCO Strategic Network, Scientific Management Cmte

## **KRZIC, Maja**

- **Mentoring Award by the Association for Women**
- Associate Editor, Journal Natural Sciences Education
- Member, University Education Materials Cmte, American Society of Agrono
- Member, Soil Education Ad hoc Cmte with the Canadian Society of Soil Science

## **LAM, Frank**

- Member, CSA Engineered Design in Wood

- Member, China Timber Structures Education and Research Steering Cmte
- Member, Shanghai Code on Design of Engineered Wood Products

## **LARSON, Bruce**

- Member, Editorial Board Annals of Silviculture Research

## **LAVALLEE, Suzie**

- Member, Invertebrates at Risk Recovery Team

## **LYONS, Kevins**

- Member, Editorial Board, International Journal of Forest Engineering
- Chair, ABCFP and APEGBC Joint Practices Board
- Chair, Joint Practices Board Crossings Guidance Taskforce
- Technical Advisor, ABCFP and APEGBC FPB Bridge Review
- Member, Sir William Van Horne Curriculum Planning Cmte

## **MANSFIELD, Shawn**

- Canada Research Chair in Wood and Fibre Quality
- Associate Editor, Biotechnology for Bioenergy
- Member, International Programme Cmte for IUFRO Tree Biotech
- Chair, CSPB Tree Physiologist Award Cmte
- Member, International Advisory Board, Holzforschung
- Member, International Advisory Board, Current Biotechnology
- Member, International Advisory Board, Bioenergy Research
- Member, International Steering Cmte 4th Pan – American Congress on Plants and Bioenergy

## **MARSHALL, Peter**

- Associate Editor, Forestry Chronicle
- Member, ABCFP Academic Appeals Cmte
- Member, ABCFP Complaints Resolution Cmte
- Member, ABCFP Board of Examiners
- Member, Canadian Institute of Forestry Vancouver Section Council
- Chair, Canadian Forestry Accreditation Board
- Member, Canadian Federation of Professional Forestry Associations
- Member, Program Advisory Cmte for FP Innovations
- Member, UNBC Growth and Yield Chair Advisory Cmte

## **MARTIN, Kathy**

- Associate Editor, Avian Conservation and Ecology
- Associate Editor, Frontiers in Ecology and the Environment

- Member, International Ornithological Union – Scientific Program Cmte

## **MITCHELL, Stephen**

- **UK Institute of Chartered Foresters, Silviculture Prize**

## **MOORE, Dan**

- Associate Editor, Water Resources Research
- Associate Editor, Canadian Water Resources Journal
- Member, Editorial Board, Hydrological Processes
- Member, Steering Cmte for Watershed Management Program
- Member, Burns Bog Scientific Advisory Panel
- Member, Steering Cmte, North American Stream Hydrographers

## **NELSON, Harry**

- Deputy Coordinator IUFRO Unit 4.04.08 – Adaptation to climate change
- Member, Task Force on Climate Change, Association of BC Forest Professionals
- Vice President, Western Forest Economists

## **PRESCOTT, Cindy**

- Editor, Forest Ecology and Management

## **RICHARDSON John S**

- Associate Editor, Canadian Journal of Fisheries and Aquatic Sciences
- Co-Chair, South Coast Conservation Program
- Chair, Award of Excellence Cmte, Society for Freshwater Science
- Member, COSEWIC Arthropods Specialist Sub-Cmte

## **RITLAND, Kermit**

- Representative, UBC and Canada, ProCoGen European Conifer Genome grant

## **SADDLER, Jack**

- Secretary General, Scientific Cmte on Problems of the Environment UNESCO
- Member, Scientific Advisory Board Sustained Development Technology Canada
- Member, Scientific Advisory Board VTT Technical Research Centre of Finland
- Member, Scientific Advisory Board Northwest Advanced Renewables Alliance
- Member, Scientific Advisory Board Mascoma
- Member, Scientific Advisory Board Lignol Canada
- Member, Scientific Advisory Board Alberta Innovates

- Co-Chair, Organizing Cmte for International Conference on Biomass Energy & Chemicals, Nanjing China
- Leader, Western Platform, BioFuels Network
- Co-Director, NSERC Bioconversion Network
- Leader, Task 39 International Energy Agency

## **SIMARD, Suzanne**

- Associate Editor, PLOS One
- Member, Editorial Board, Forest Ecology & Management
- Member of Executive, Southern Interior Silviculture Cmte
- Member, Sustainable Canada Initiative
- Advisor, Brinkman Associates

## **SMITH, Greg**

- Editorial Board, Journal of Korean Wood Science and Technology
- Member, ASTM International Technical Cmte D14.30
- Member, ASTM International Technical Cmte D07.03
- Member, Society of Wood Science and Technology Education Cmte
- Session Chair, International Conference on Composites/Nano En - for section 7C
- Member, Wood Based Composites Center an NSF I/UCRC site
- Session Chair, The International Conference on Wood Adhesives

## **SOWLATI, Taraneh**

- Vice President, Canadian Operational Research Society
- Member, Association of Professional Engineers and Geoscientists in British Columbia
- Member, Institute of Operations Research and Management Sciences
- Member, Editorial Board, International Journal of Data Analysis Techniques and Strategies
- Member, Editorial Board, International Journal of Applied Management Science

## **SULLIVAN, Tom**

- Associate Editor, Wildlife Research
- Associate Editor, Canadian Journal of Forest Research

## **TANNERT, Thomas**

- **Early Career Start-Up Research Award, Peter Wall**
- **Teaching Development Scholarship**
- Member, Canadian Standard Association (CSA); CSA O86 "Engineering Design in Wood"

## **TINDALL, David**

- Area Editor, Social Networks, and Microcomputing, ASA TRAILS





**Cindy E Prescott**  
BSc (Hons), MSc, PhD  
Associate Dean  
Graduate Studies and Research  
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## INCOMES

Between April 1, 2013 and March 31, 2014 members of the Faculty of Forestry were awarded a total of \$10.9 million in research funding. This represents a decrease of 2.3% over the previous year and decrease of 5.4% from the average level of research funding in the past 5 years.

Federal funding, which represented almost 60% of our total research funding, was down by 1.9% from the previous year. Tri-Council (NSERC and SSHRC) award amounts (55.1% of our federal research funds) were up by 1.4%. Members of the Faculty held 27 Discovery grants, 30 ongoing NSERC Strategic grants, 5 Collaborative Research grants, 6 Engage grants, 3 Insight Development grants, 1 Partnership Development grant and 1 G8 Research Councils Initiative grant for a total Tri-Council funding of \$3.6 million. The Network of Centres of Excellence provided \$238,000 (through MITACS and BioFuelNet) in support of 7 research projects. This represented an increase in support of 82.4% over the previous year. Canada Research Chair awards (Coops and Grayston) contributed another \$233,333.

Provincial funding in support of research (\$2.27 million) accounted for 20.8% of our overall research funding, marking the lowest percentage of provincial funding experienced by the Faculty in more than 20 years. Research awards through Genome BC (10 projects totaling \$818,490) provided 36% of our provincial support, while Genome Quebec provided an additional \$127,463 in support of 2 research projects. The British Columbia Ministry of Forests, Lands and Natural Resource Operations supported 4 projects for a total of \$210,054, a decrease of 31.8% over funds received in 2012/13. Forestry Innovation Investment funds supported 4 projects for a total of \$313,328, an increase of 23.8% over funds received in 2012/13.

Private funding support (\$924,717) for research was down by 16.4% over monies received in 2012/13. These funds supported a total of 31 projects. The largest industry supporters were the Cumulative Environmental Management Association who funded 1 project (Welham) and Foothills Research Institute who funded 1 project (Coops).

International funds in support of research more than doubled for a total of \$1,197,150 backing 12 projects. Our largest international supporters were the US Department of Energy, the Asia-Pacific Network for Sustainable Forest Management and Rehabilitation, and the International Energy Agency.

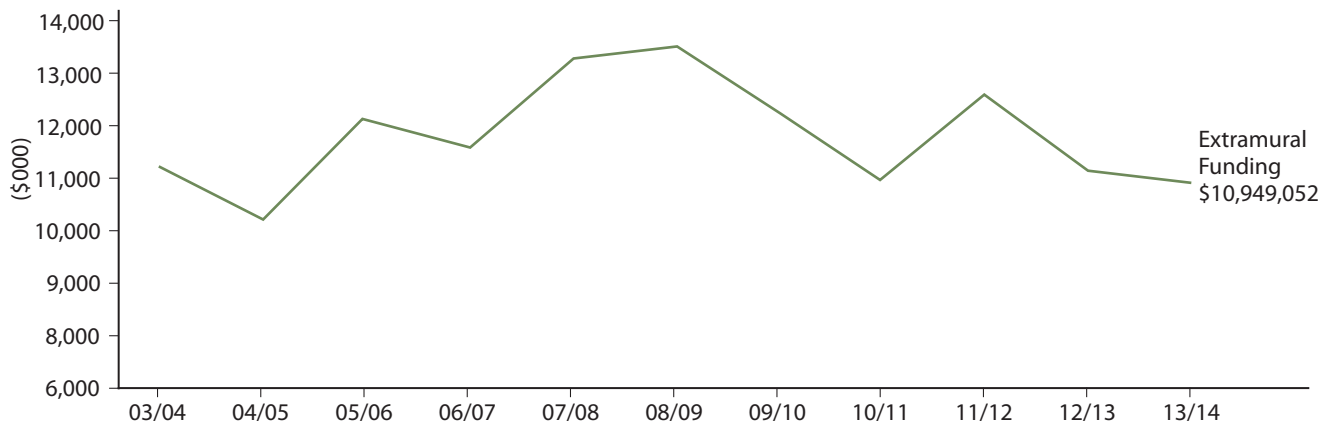
We also received endowment income of \$ 1.1 million (up slightly from the previous year). This funding is provided by endowments originally set up by Forest Renewal BC, as well as from private sectors.

## Extramural funding sources 2013 – 14\*

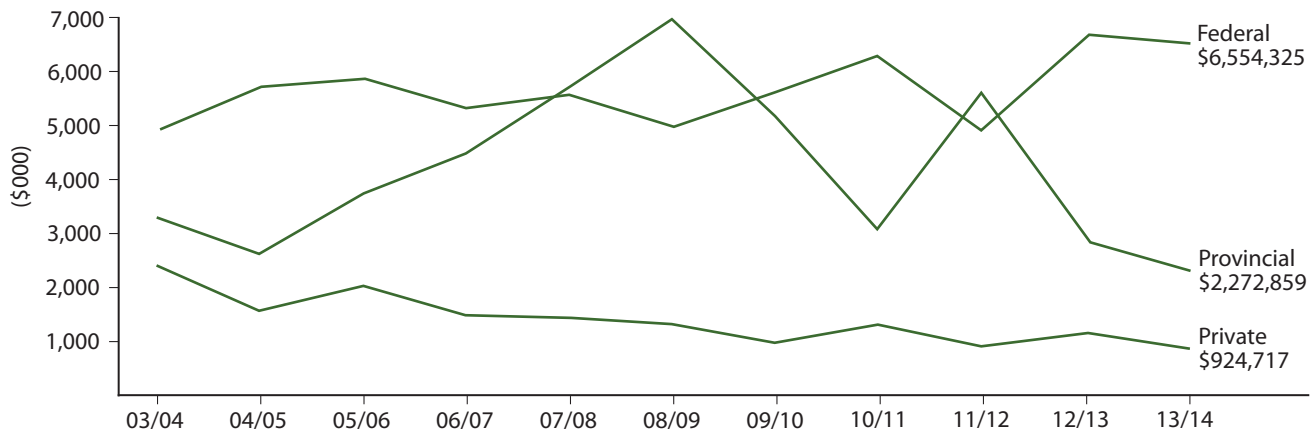
Source	(\$)	Count	%
<b>Federal</b>			
Tri-Council	3,610,646	73	33.0
Genome Canada	1,636,980	10	15.0
Canada Foundation for Innovation	351,015	7	3.2
Natural Resources Canada	268,651	7	2.5
Network Centres of Excellence	238,000	7	2.2
Canada Research Chairs	233,333	2	2.1
Other	215,701	10	2.0
<i>Subtotal</i>	<i>6,554,325</i>	<i>116</i>	<i>59.9</i>
<b>Provincial</b>			
Genome BC	818,490	10	7.5
BC Hydro	418,375	2	3.8
Forestry Innovation Investment	313,328	4	2.9
BC Ministry of Forests, Lands & Natural Resource Operations	210,054	4	1.9
BC KDF	196,661	2	1.8
Genome Quebec	127,463	2	1.2
Other	188,488	12	1.7
<i>Subtotal</i>	<i>2,272,859</i>	<i>36</i>	<i>20.8</i>
<b>Private</b>			
Industry	695,183	19	6.3
Other	229,534	12	2.1
<i>Subtotal</i>	<i>924,717</i>	<i>31</i>	<i>8.4</i>
<b>International</b>	1,197,150	12	10.9
<b>Total</b>	<b>10,949,052</b>	<b>195</b>	<b>100</b>

\* Excluding endowments.





Extramural funding 2003/04 – 2013/14



Extramural funding trends 2003/04 – 2013/14

## OUTCOMES

In the past year faculty members authored 200 articles in 122 peer-reviewed journals and reviewed 891 journal articles for publication in 161 different journals. Drs Coops, Guy, and Prescott served as senior editors for 3 international peer-reviewed journals (Canadian Journal of Remote Sensing, TREES – Structure and Function, and Forest Ecology and Management). As well, 13 faculty members served as associate editors of 18 different journals and 7 individuals served on editorial boards of 13 journals across the spectrum of forest-related journals. Faculty members also reviewed about 77 research grant proposals for close to 30 research funding agencies around the world, including Chile, US, Switzerland and Norway, Italy, Portugal, and Canada.

Faculty members made presentations at 83 scientific conferences outside Canada including (Austria, Brazil, France, Guatemala,

South Korea, Spain, USA, Sweden, Switzerland, Taiwan, Italy, China, Portugal, Slovenia, Japan, South Africa, Germany, Australia, and the UK. Thirty-five talks were given to professional groups within Canada.

During the past year 23 faculty members welcomed 42 visiting researchers from 17 countries. Twenty one faculty members hosted a total of 48 post-doctoral fellows from 19 countries.

From April 1 2013 to March 31, 2014, researchers in the Faculty of Forestry were cited 65 times in the media. These research stories included topics such as forestry education, new robotic technology, pipelines and energy policy, wildfires, flooding, tree genetics, and the mountain pine beetle.

The following list reflects research funding obtained between April 1, 2013 and March 31, 2014.

## AITKEN, Sally

- Proposal to establish a Centre for Forest Gene Conservation at the University of British Columbia (**British Columbia Ministry of Forests \$147,701**)
- Assessing The Adaptive Portfolio of Reforestation Stocks for Future Climate: Common Garden Experiments (**BCMof&R \$47,393**)
- Adaptree: Assessing the adaptive portfolio of reforestation stocks for future climates (**Genome Canada \$1,108,246**)
- High-Resolution forecasts of biome shifts due to climate change (**NRC \$8,000**)
- Predicting the capacity of conifer populations to adapt to new climates using ecologically relevant genetic markers (**NSERC \$44,000**)
- Chances and risks of Douglas fir in Austria: utilizing the intraspecific variation in climate response for successful plantations (**Austrian Climate and Energy Fund \$14,416**)

## ALILA, Younes

- From chronology to frequency pairing: a paradigm shift in the science of forests and floods (**NSERC \$19,000**)

## ARCESE, Peter

- Phenotypic, genetic and demographic responses to environmental variation and inbreeding in the song sparrow (**NSERC \$101,000**)

## AVRAMIDIS, Stavros

- Synergistic wood drying modeling based on multiple-scale anatomical and physical attributes (**NSERC \$25,000**)

## BOHLMANN, JOERG C

- Smartforest: Spruce Marker Technologies for Sustainable Forest (**Genome Canada, Genome BC \$770,243**)

## BULL, Gary

- Sustainable development of forest resources: (**Nuxalk Development Corp, Province of BC, Western Economic Diversification \$98,333**)
- Smartforest Spruce marker technologies for sustainable forests (**Genome BC \$29,658**)
- Optimizing logistics of logging debris supply for bioenergy production (**Province of British Columbia, Ledcor Resources & Transport \$7,500**)
- Biochar carbon protocol development (**Province of British Columbia, Haliburton Forest & Wildlife Reserve Ltd, Industry Canada \$17,500**)
- Integrating aboriginal perspectives into health, safety and environmental compliance systems (**Province of British Columbia, MITACS – NCE \$60,000**)
- Smartforest: Spruce marker technologies for sustainable forest (**Genome BC \$51,726**)
- Market feasibility of seasoning logging debris piles for use in bioenergy production (**BC Innovation Council \$7,500**)
- Integrating aboriginal perspectives into health, safety and environmental compliance systems (**Comply Works \$20,000**)

- Optimizing logistics of logging debris supply for bioenergy production (**Western Economic Diversification Canada, Province of British Columbia, Ledcor Resources and Transport \$15,000**)
- Value chain optimization (**NSERC \$5,000**)
- Logistics and operations simulation of logging debris supply for bioenergy generation (**NSERC \$5,000**)
- Optimal procurement strategy for the transport and logging debris for bioenergy generation (**NSERC \$10,000**)
- Expanding Forest Stewardship Council Certification at Landscape Level through Incorporating Additional Ecosystem Services (**Centre for International Forestry Research \$38,375**)

## CARROLL, Allan

- The efficacy of fall and burn operations on the eradication of mountain pine beetle (*Dendroctonus ponderosae*) in Alberta (**Spectrum Resource Group Inc, BCMoAE, MITACS – NCE \$15,000**)
- Assessing the effectiveness of Alberta's forest management strategies against the mountain pine beetle (**Foothills Research Institute \$51,150**)
- The NSERC TRIA network: Turning risk into action for the mountain pine beetle epidemic; theme 3 - sub-themes 3.1, 3.3 & 3.5 (**NSERC \$68,185**)
- The mountain pine beetle in novel habitats: predicting impacts to northern forests in a warming environment (**Government of the Yukon \$48,500**)

## CHANWAY, Chris

- Nitrogen fixation in pine: Direct confirmation and location of the diazotrophic population (**NSERC \$15,950**)

## COHEN, Dave

- Business transformation of firms in the Canadian forest sector (**Forestry Innovation Investment Ltd, Province of British Columbia, Conifex Timber Inc, Western Economic Diversification Canada \$27,500**)
- Transfer project: Business transformation along the value chain (project 2) (**NSERC \$10,000**)
- NSERC strategic network grant on value chain optimization: International internship: Business transformation - impacts along the forest value chain (**NSERC \$7,000**)

## COOPS, Nicholas

- Canada Research Chair in Remote Sensing (**CRC \$200,000**)
- Mountain Pine Beetle infestation and its hydrological effects in the North Beach Creek Catchment, Burns Lake (**BCMof&R \$5,000**)
- Image analysis to support grizzly bear/mountain pine beetle research (**Foothills Research Institute \$115,000**)
- Remote sensing for forest carbon accumulation and assessment of ecosystem condition (**British Columbia Knowledge Development Fund, CFI \$143,322**)
- Assessing species importance for volume calculations and site index estimation from LIDAR data (**NRC \$90,000**)
- A data assimilation and modelling approach for producing annual land cover and change products for Saskatchewan (**NRC \$40,000**)

- Forest structural characteristics over Canada's boreal (**NRC \$20,000**)
- Multi-scalar analyses of the historical cumulative disturbance patterns on three boreal Alberta landscapes (**NSERC \$17,997**)
- Algorithmic development and verification of a remote-sensing driven global forest monitoring system over British Columbian focus areas (**NSERC \$30,000**)
- Remote sensing of forest carbon accumulation (**NSERC \$122,000**)
- Tools for managing forest productivity and biodiversity in relation to ecosystem function in boreal mixedwood forests (**NSERC \$45,000**)
- Assessment of advanced remote sensing data for urban tree detection and condition assessment (**NSERC \$24,000**)
- Multi-scale assessments of forest disturbance regimes for carbon budget modelling (**Commission for Environmental Cooperation \$32,529**)

## DANIELS, Lori

- Fire regimes in mountain landscapes and global environmental change: Top-down versus bottom-up (**NSERC \$24,000**)
- Ecosystem restoration mapping project (**Rocky Mountain Trench Society, BC MoFLNRO \$17,000**)

## EL-KASSABY, Yousry

- Applied forest genetics and biotechnology (**SelectSeed Co Ltd \$55,000**)
- *In Situ* wood quality assessment (**FPIInnovations \$55,000**)
- Popcan: Genetic improvement of poplar trees as a Canadian bioenergy feedstock (**Genome BC \$51,123**)
- Genomics-based breeding in forest trees (**NSERC \$40,000**)

## EVANS, Phil

- Explaining, exploiting and controlling the staining of wood by UV tolerant fungi (**NSERC \$25,000**)

## GASTON, Christopher

- NSERC strategic network grant on value chain optimization - collaboration on book chapter (**NSERC \$10,000**)
- 2-3.26 Fostering innovation along the solid wood chain: wood product/market development in Canada (**NSERC \$82,417**)
- 2-3.26 (MSc) Matching market signals to the Canadian wood products value chain: a disaggregated trade-model approach (**NSERC \$20,145**)

## GERGEL, Sarah

- Identifying landscape drivers of change and proposing indicators of aquatic ecosystem health (**Environment Canada \$23,750**)
- NSERC Canadian Network for Aquatic Ecosystem Services – PI Project II-3 (**co-investigator**) (**NSERC \$24,000**)
- Linking life cycle assessments and geomatics to improve assessment of sustainable forest products (**NSERC \$24,295**)
- The new agrarian change? Exploring the dynamic interplay between food security, commodity production, and land use in tropical forest landscapes (**co-investigator**) (**Centre for International Forestry Research \$61,018**)

## GRAYSTON, Sue

- Canada Research Chair in Soil Microbial Ecology (**CRC \$33,333**)
- Evaluation of sulfur-enhanced fertilizers and mounding to increase forest growth and related carbon storage and reduce greenhouse gas emissions (**Western Forest Products Inc, NSERC CRD \$12,959**)
- Microbial diversity and function in forest soils and the influence of rhizosphere carbon flow (**NSERC \$71,000**)
- Carbon and nitrogen fluxes in reconstructed oil sands soils (**NSERC \$55,188**)
- The potential of retention trees to mitigate post-harvest soil carbon loss through reduction of root and soil organic matter decomposition mediated by the fungal community (**NSERC \$125,704**)

## GUY, Rob

- Popcan: Genetic improvement of poplar trees as a Canadian bioenergy feedstock (**Genome BC \$265,000**)
- Comparative physiology of plant adaptation: Resource acquisition and constraints of growing season length in balsam poplar from temperate, boreal and arctic environments (**NSERC \$42,000**)
- Integrated mosquito management plan database: A tool for modeling mosquito population dynamics (**NSERC \$25,000**)

## HAMELIN, Richard

- Risk assessment of *Septoria musiva* (**BCMof&R \$9,960**)
- Popcan: Genetic improvement of poplar trees as a Canadian bioenergy feedstock (**Genome BC \$66,000**)
- Genomics-based forest health diagnostics and monitoring (**Genome BC \$628,471**)
- Elucidation of rust life-cycle using molecular approaches (**NSERC \$20,000**)
- The NSERC TRIA network: Turning risk into action for the mountain pine beetle epidemic; theme 2 - sub-theme 2.4 (**NSERC \$32,825**)
- Tree aggressors identification using genomic approaches (**co-investigator**) (**GenomeBC \$10,000**)

## HINCH, Scott

- Effectiveness of Cayoosh Creek flow dilution, dam operation, and fishway passage on delay and survival of upstream migrating Pacific salmon in the Seton-Anderson Watershed. (**British Columbia Hydro and Power Authority \$418,375**)
- Understanding species movements, interactions, and environmental variability across Canada's three oceans (**NSERC \$268,250**)
- Behavioural physiology and fitness of anadromous migrating fish (**NSERC \$40,000**)
- Climate warming, pathogen expression, and capture locale: Recent and emerging challenges for managing pacific salmon fisheries (**NSERC \$195,025**)

## INNES, John

- Adoption or rejection of sustainability technologies in small communities in the Canadian arctic: exploring underlying criteria, processes and risks (**SSHRC \$28,500**)
- Adaptation of Asia-Pacific forests to climate change (**Asia-Pacific Network for Sustainable Forest Management and Rehabilitation \$229,113**)

- Low-carbon development for medium and small cities in China (**China Green Carbon Foundation \$90,000**)
- The new agrarian change? Exploring the dynamic interplay between food security, commodity production, and land use in tropical forest landscapes (**co-investigator**) (**Centre for International Forestry Research \$61,018**)

## KOZAK, Robert

- Investigating the potential of a Vancouver island model forest – a qualitative stakeholder analysis (**Western Economic Diversification Canada, Ecotrust Canada, Province of British Columbia, MITACS Accelerate \$15,000**)
- Adaptree: Assessing the adaptive portfolio of reforestation stocks for future climates (**co-investigator**) (**Genome BC \$79,230**)
- Fostering community forest enterprises with a multilateral funding mechanism for mitigating climate change: examining REDD+ and the roles of social capital, gender and institutional legitimacy (**SSHRC \$13,800**)
- Rethinking sustainable supply chains: A case study of paper and digital media (**NSERC, VCO Strategic Network \$14,313**)

## KRZIC, Maja

- Terrestrial research on ecosystems and world-wide education and broadcast (**co-investigator**) (**NSERC \$300,000**)
- Improving on-farm woody habitat management in the lower Fraser River Delta (**co-investigator**) (**BC Agricultural Research & Development Corporation \$28,000**)

## LAM, Frank

- Application of analysis tools from NEWBuildS research network in design of a high-rise wood building (**Forestry Innovation Investment Ltd \$9,000**)
- High performance post and beam wall systems (**Coast Forest Products Association \$45,000**)
- NSERC Strategic Network on Innovative Wood Products and Building Systems (NEWBuildS) Project T1-5-C2: Modeling seismic response of mid-rise CLT building (**NSERC \$79,000**)
- NSERC Strategic Network on Innovative Wood Products and Building Systems (NEWBuildS) Project T1-9-C3: Stability of CLT Wall Panels Subjected to In-Plane Gravity Loading (**NSERC \$26,000**)
- NSERC Strategic Network on Innovative Wood Products and Building Systems (NEWBuildS) Project T1-10-C4 Innovative post-tensioned CLT walls (**NSERC \$77,500**)
- NSERC Strategic Network on Innovative Wood Products and Building Systems (NEWBuildS) Project T1-3-C1 Innovative CLT Building Systems – Localized Rolling Shear Reinforcement (**NSERC \$24,500**)
- NSERC Strategic Network on Innovative Wood Products and Building Systems: NEWBuildS project T1-6-C1 Influence of manufacturing parameters on CLT plate to resist out-of-plane loading (**NSERC \$65,500**)
- Performance of SWG ASSY Self Tapping Wood Screws (**SWG Schraubenwerk Gaisbach GmbH \$83,925**)

## LARSON, Bruce

- A forest fertilization trial in a Mildred Lake jack pine stand (**Syncrude Canada Ltd \$50,000**)

## MACDONALD, Iain

- Wood First Proposal – Demand side (**Forestry Innovation Investment Ltd \$168,081**)
- Wood First Proposal – Supply Side (**Forestry Innovation Investment Ltd \$131,247**)
- Agroforestry and Wood Processing in Lesotho (**Canadian International Development Agency \$28,250**)

## MANSFIELD, Shawn

- Assessment of bioplastics derived from renewable materials (**Solegear Bioplastics Inc \$32,000**)
- Popcan: Genetic improvement of poplar trees as a Canadian bioenergy feedstock (**Genome BC \$239,000**)
- Laboratory for wood cell wall characterization (**CFI \$6,471**)
- Artificial sweetener? A functional genomics interrogation of the impact of soluble carbohydrate metabolism on poplar cell wall biosynthesis (**NSERC \$56,000**)
- TREES: Tools for remediation and efficient energy supply (**BioFuelNet – NCE \$50,000**)
- National theme leader (feedstock) for biofuelnet (**BioFuelNet – NCE \$15,000**)
- Great Lakes Bioenergy Research Centre (**US Department of Energy \$302,386**)
- The dual effect of tubulin manipulation on populus wood formation and drought tolerance (**US Department of Energy \$1,500**)
- WOW: Working on Walls (**co-investigator**) (**NSERC \$300,000**)

## MARTIN, Kathy

- Priority forest and alpine bird ecosystem research in BC (**Environment Canada \$60,000**)
- Ecology and life history of alpine birds (**NSERC \$54,000**)
- Northern alpine avian ecology and climate variation (**NSERC \$15,000**)

## McFARLANE, Paul

- Carbon storage and emissions from harvested wood products from Canadian forests (**NRC \$12,500**)

## MEITNER, Michael

- Integrated modelling and assessment of forest harvest patterns (**NSERC \$24,000**)
- Alternative techniques for capture, analysis and display of online survey data (**NSERC \$25,000**)

## NELSON, Harry

- Capacity building for competitiveness in Aboriginal forestry (**Province of British Columbia \$43,125**)
- Assessing the effectiveness of Alberta's forest management strategies against the mountain pine beetle (**Foothills Research Institute \$30,800**)
- Economic instruments to advance adaptation in natural resource management (**NRC \$37,835**)
- Aboriginal business and collaboration(abc) in forestry (**SSHRC \$79,400**)
- Tree aggressors identification using genomic approaches (**co-investigator**) (**GenomeBC \$10,000**)



#### **PRESCOTT, Cindy**

- Litter decomposition and nitrogen cycling in forest soils: Influences of tree species and site factors (**NSERC \$38,000**)

#### **RICHARDSON, John**

- CFI Infrastructure Operating Fund (**CFI \$3,107**)
- NSERC Canadian Network for Aquatic Ecosystem Services: Project 2.2 (**NSERC \$34,792**)
- Population and community consequences of cross-ecosystem resource subsidies (**NSERC \$33,000**)
- NSERC Canadian Network for Aquatic Ecosystem Services – PI Project II-3 (**co-investigator**) (**NSERC \$24,000**)

#### **RITLAND, Kermit**

- Smartforest: Spruce marker technologies for sustainable forest (**Genome Quebec, Genome BC \$178,753**)
- Canadian pollination initiative (**NSERC \$23,000**)
- Population genomics of plants (**NSERC \$54,000**)

#### **RUDDICK, John**

- Wood preservation (**Timber Specialties \$57,200**)

#### **SADDLER, Jack**

- CFI Infrastructure Operating Funds – Bioprocessing Centre for Sustainable Fuels – Operations (**CFI \$4,120**)
- Using biomass as way to evolve from hydrocarbon based economy to a sustainable carbohydrate based society (**International Development Research Centre \$13,284**)
- Elucidating the substrate and enzyme factors that control the hydrolysis of lignocellulose (**NSERC \$28,870**)
- Conversion of lignocellulosic biomass to biofuels and chemicals (**NSERC \$275,385**)
- Improved fractionation and pretreatment of biomass for fuels and bioproducts (**BioFuelNet – NCE \$147,500**)
- IEA Bioconversion Task (**International Energy Agency (US) \$204,527**)
- A Bio-refinery approach to obtaining maximum chemical/biofuel value from Canadian biomass (**Korea Institute of Science and Technology \$50,000**)
- Hybrid pretreatment technology for woody biomass (**Korea Institute of Energy Research \$82,907**)

#### **SHEPPARD, Stephen**

- Innovative tools for enhanced energy and climate change community planning (**Metro Vancouver \$30,000**)
- Future delta 2.0: Community-based game design and evaluation for local climate change action (**SSHRC \$129,100**)

#### **SIMARD, Suzanne**

- The role of mycorrhizae and mycorrhizal networks in tree species range shifts with climate change and disturbance (**NSERC \$50,000**)
- Carbon cycling by forest soil microbial communities in a time of climate change (**NSERC \$75,000**)
- Terrestrial research on ecosystems & world-wide education & broadcast (**NSERC \$300,000**)

#### **SMITH, Gregory**

- Development of discrete element models for continuous rotary drum drying and blending for OSB (**NSERC \$20,000**)
- Structural bamboo products (**NSERC \$136,770**)
- Resin blending and modeling (**National Science Foundation (US) \$38,984**)

#### **SOWLATI, Taraneh**

- Optimization of forest biomass supply chain - incorporating uncertainties (**NSERC \$24,000**)
- NSERC strategic network grant on value chain optimization: Transfer project: Analysis of forest biomass supply chains (project 4) (**NSERC \$10,000**)
- NSERC strategic network grant on value chain optimization: 2-3.24 Economic and environmental optimization of forest biomass value chain in British Columbia (**NSERC \$48,340**)
- NSERC Strategic Network grant on value chain optimization - Project 2-3.12 Evaluating potential partnership in forest products value chains (**NSERC \$13,715**)

#### **SULLIVAN, Tom**

- Long term responses of tree growth and stand structure to innovative silvicultural treatments (**Tolko Industries, Gorman Brother's Lumber Limited, NSERC \$25,993**)
- Cattle forage production in intensively managed forests of young lodgepole pine (**British Columbia Cattlemen's Association \$2,000**)

#### **TANNERT, Thomas**

- Computer-numerically-controlled timber processor (**British Columbia Knowledge Development Fund, CFI \$389,063**)
- NSERC Strategic Network on Innovative Wood Products and Building Systems (NEWBuildS) Project T2-14-C4 'Analysis of FFTT timber-steel-hybrid system' (**NSERC \$24,500**)
- Probabilistic design of timber joints (**NSERC \$24,000**)
- Performance of timber rivets in laminated veneer lumber (**NSERC \$25,000**)
- Ductile glued timber connections (**NSERC \$25,000**)
- Master service contract (**My TiCon Timber Connectors Inc \$9,200**)
- Design guidance for cross-laminated timber structures using self-tapping screws (**BCMoAE, MITACS – NCE, My TiCon Timber Connectors Inc \$30,000**)
- Wood First framework: Seismic analysis of novel timber-steel-hybrid systems (**FII \$40,000**)

#### **TINDALL, David**

- Social networks and climate change discourse, and the role of environmental movements in climate change policy networks: An international comparison (**SSHRC \$45,500**)
- Climate justice: Paths to an equitable and sustainable BC economy (**co-investigator**) (**SSHRC \$200,000**)



THIS LIST INCLUDES documents published between April 1, 2013 and March 31, 2014. Names appearing in **bold-face** type are those of UBC Forestry Faculty members. For further information on any of these publications (many of which are available in libraries or online), please contact the appropriate Faculty member directly.

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The Forestry Development and Alumni program continued to gain momentum in 2013/14 with yet another record breaking year, with more funds raised than ever before and more alumni engaging in the Faculty and the University than in the past. A heartfelt thank you to all those who have chosen to support the Faculty over the past year with either a gift of time, talent or treasure - the Faculty is truly stronger for it.

The Faculty's 2013-2014 fundraising goal was \$3M and we set ourselves a target of having 1100 alumni connect back with the Faculty over the course of the year. We are pleased to report that a record \$4.1M was raised and 1332 alumni engaged in the life of the Faculty over the year. Through the generosity and commitment of our alumni and donors we are now over 90% towards the Faculty's Start an Evolution campaign goal of raising \$22M and met our campaign goal of more than doubling the number of alumni engaged in the Faculty on an annual basis a year-ahead of schedule. See [www.startanevolution.ca](http://www.startanevolution.ca) or <http://getinvolved.forestry.ubc.ca> for more details.

On the personnel front, on April 1st, 2013 Debbie McPherson joined the team as the new Development Coordinator taking over from Janna Kellett who moved into the Alumni Relations Officer role. Deepti Mathew Iype, Development Officer, moved to join Professor Stephen Sheppard's Collaborative for Advanced Landscape Planning (CALP) group at the end of February 2014. We thank Deepti for her hard work and service over the past 2-years and wish her well in her new role within the Faculty.

## HIGHLIGHTS IN 2013 – 14

### Development

- Thanks to increased levels of support the Faculty is able to provide more students with scholarships, awards, bursaries and fellowships; offer enriched educational experiences for students and support new programming; undertake new areas of research and make infrastructure improvements.
- The Faculty's Centre for Advanced Wood Processing (CAWP) is now home to North America's first Hundegger Robot Drive thanks to generous donor support.

- Through increased support towards the Faculty's capital project at the Loon Lake Research and Education Centre (new dining hall and renovation to create accommodation and meeting space) we received UBC Board approval to begin ground-breaking on this priority project.
- Two new videos were created to assist in the recruitment of increased numbers of Aboriginal students in the Faculty and a comprehensive Aboriginal Community Outreach program was launched.
- The Faculty was able to undertake several research projects in Asia focused on climate change mitigation and sustainable forest management thanks to support from grant-making foundations.
- Graduate students had the opportunity to have hands-on work experience through an Internship Program for 4 months at the Faculty's Research Forests.
- Undergraduate students were supported to work at the Faculty's Research Forests under co-op placements for 4 months.
- Four groups of Forestry undergraduate students in the Forestry 424 – Sustainable Forest Management course were funded to visit and conduct studies at community forests. In addition, funding was available to place students in communities over the summer to work with the forest managers to advance their community forest plans. In addition, a new visualization course was launched and GIS software purchased.
- The cumulative effects of donor support are truly transformative across all aspects of the Faculty and helps ensure the Faculty remains one of the world's leading places for forestry education and research.

## Alumni

- The Alumni and Friends BBQ at Loon Lake was held on April 25, 2013 in conjunction with the annual undergraduate Spring Camp. Attendees enjoyed a tour of the forest with 2 stops: To hear Dr Bruce Larson and students speak about the thinning project and Jason Leach's, PhD candidate, research. A reception hosted by the Dean and a barbeque dinner followed.
- Forestry Alumnus, Russ Clinton, BSF'67, donned regalia and joined the Faculty representatives on the Chan Centre stage for the spring convocation ceremony. Mr Clinton volunteered his time to congratulate Forestry students with a UBC alumni pin and welcome them into the alumni community.
- Alumni Weekend fell on May 25, 2013 and the Faculty organized a booth at the SUB, right in the middle of the festivities, where examples of research taking place in the Faculty were displayed. As part of the events held that day, Adjunct Professor Hosny El-Lakany gave a talk on "Why should we care about the world's forests?" In the afternoon, graduate students Natalie Sopinka and Graham Raby held "Salmon, eggs and fry, oh my!" lab tours.
- The Alumni and Friends BBQ at the Alex Fraser Research Forest was held on August 27, 2013 in conjunction with the annual student undergraduate field camp. Students, alumni and friends toured the research forest, and then enjoyed a reception and barbeque dinner. The evening was finished with a panel discussion on work/life balance in the different areas of the forestry profession.
- On August 30, 2013, alumni and friends gathered in Nelson to hear a special presentation by students of the Master of Sustainable Forest Management program who had just completed a one week field camp. This was followed by an alumni reception hosted by Associate Dean, Cindy Prescott.
- On October 24, 2013, in partnership with the SAF 2013 National Convention in North Charleston, South Carolina, the Dean hosted an alumni reception, our first such event in the region and with the Society of American Foresters.
- For the fall convocation, Forestry Alumnus, Harald Mischke, BSF'69, joined the Faculty representatives on the Chan Centre stage. Mr Mischke volunteered his time to congratulate Forestry students with a UBC A-card and welcome them into the alumni community.
- In partnership with the annual ABCFP Conference and AGM in Kelowna, the Dean hosted an alumni networking reception on February 13, 2014. Alumni and friends came together to enjoy appetizers, drinks and hear an update on the Faculty.
- This past year saw 4 different graduation classes celebrate milestone reunions. The classes of 1953, 1963, 1973 and 1983 had volunteer committees of alumni organize each respective reunion.
- Alumni were also invited to attend other Faculty events such as the annual CIF Chili Night in November, the "BC Coast forest and forestry: What's the vision?" panel discussion in January, the CAWP Open House in January, and the CIF Silver Ring Ceremony in March.
- The Forestry alumni e-newsletter was sent out 12 times over the past year (to all Forestry alumni with email addresses). The newsletter contains information about events, Faculty and UBC news and highlights, programs, alumni news and job postings.
- The Forestry Alumni LinkedIn group has increased once again from 273 to 374 members over the last year and continues to attract new members every month.
- A Forestry Alumni Survey was sent out in October to all alumni with email addresses and we received 528 responses. Thank you to all of those who responded.

## PLANS FOR 2014 – 2015

- As we enter the final year of UBC's historic Start An Evolution Campaign our focus will be on continuing to drive forward the Faculty's priority projects to assist the Faculty in reaching its goals as laid out in the Strategic Plan.
- The majority of the Faculty's priority projects fall within the themes of Enhancing Student Learning; Expanding Research Capacity and Building Community Engagement. In the coming year we will continue to seek leadership support to bring these projects to fruition and will continue to highlight projects in Branchlines and through the Faculty's website; the campaign website; events and extensive proactive outreach.
- We will continue to work with a broad range of alumni and community partners on meaningful opportunities to become further involved and engaged in the Faculty through events and volunteer opportunities, and will incorporate new activities into the Alumni program as a direct result of the feedback received in the 2013 alumni survey.
- Once again, on behalf of the students, faculty and staff, thank you to all those who have contributed their time, expertise and financial support for the Faculty throughout the last year. We look forward to working with you again in 2014/15.



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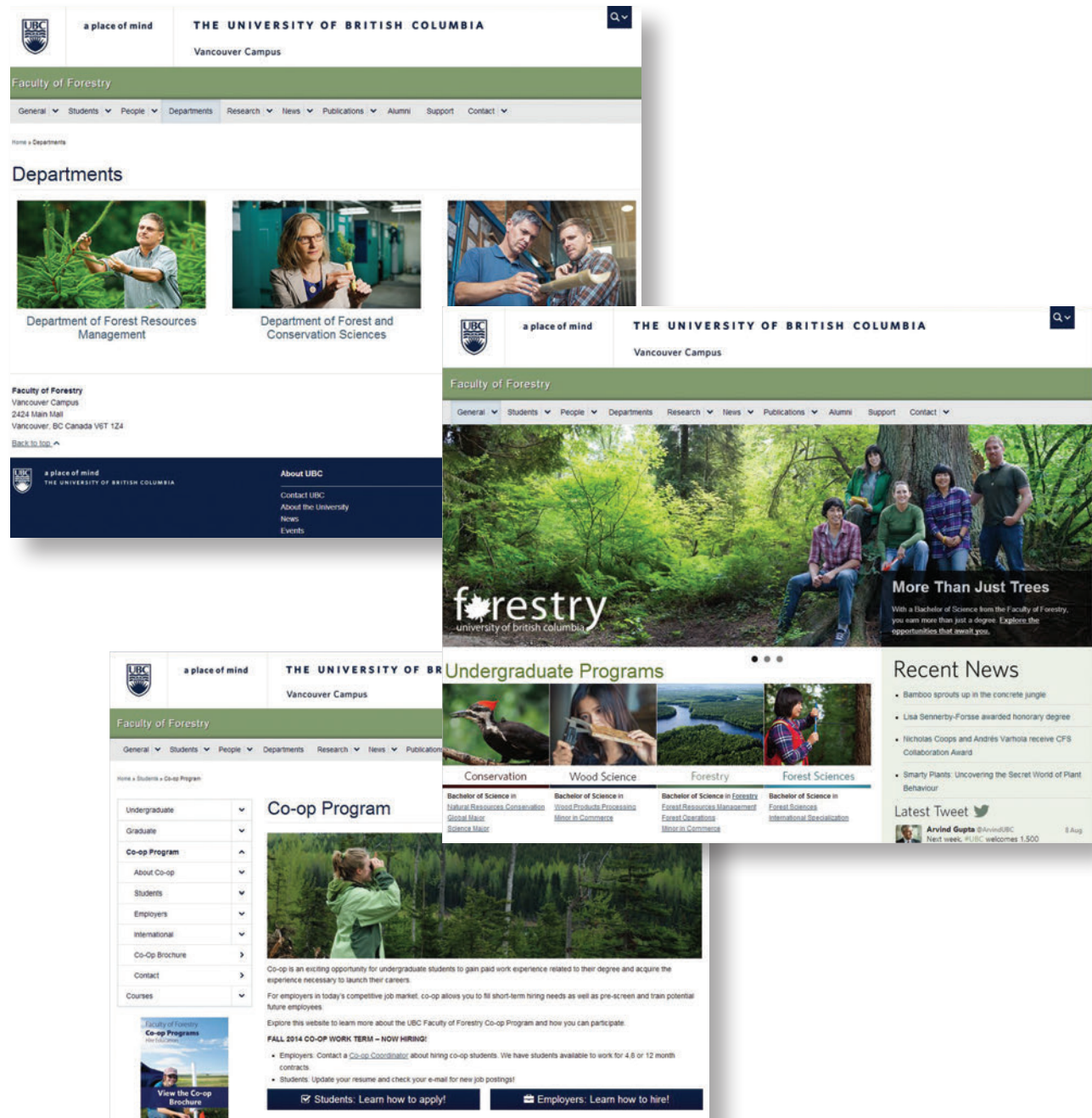
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# UBC Faculty of Forestry website

www.forestry.ubc.ca



## The Faculty of Forestry web site features:

- academic program outlines and registration guides;
- profiles of Faculty members;
- department and allied program descriptions;
- Faculty newsletters, Annual Reports and special event announcements;
- course materials and educational multimedia;
- general interest articles and web feature presentations.

Any comments or suggestions about our web site can be addressed to our Education and Web Technology Coordinator at 604.822.0024.





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