



A Quarterly Newsletter for Global Trade,
Transportation, and Logistics Studies
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Awards**GTTL Studies 13th Annual
Conference: "Regional Prosperity,
Sustainability and Global
Competitiveness"**

GTTL's 13th Annual Conference, held June 6, at the UW's Douglas Forum, focused on "Regional Prosperity, Sustainability and Global Competitiveness." The room was filled to capacity, as students, academics, and professionals from global trade and transportation related organizations met to discuss current research and industry trends. Three keynote speakers: **Robert Drewel**, Executive Director, Puget Sound Regional Council; **Dr. Jack Faris**, President, Washington Biotechnology & Biomedical Association; and **Dr. Brian Natrass**, Managing Partner, Sustainability Partners, Inc.; as well as graduate students from GTTL's 502 Spring Seminar course presented discussions related to the conference theme.

Dr. Jack Faris, President of the Washington Biotechnology & Biomedical Association (WBBA), began his keynote presentation by referring to a recent article published in *The New Yorker*. The story, by John Colapinto, discusses some of the cultural and linguistic characteristics of the Piraha people of the Maici River in Brazil. The Piraha tribe speak a language unlike any other ever documented, it has only eight consonants and three vowels, but has a complex array of tones, stresses, and syllable lengths. "Crooked Head" is what the

Piraha call any language other than their own. According to the article, the Piraha have remained monolingual, which is unique among Amazonian societies, and they reject everything from the outside world - even laptops and I-pods. They have resisted efforts by missionaries and government to teach them farming - preferring to live on fish and game. Dr. Faris wondered what the Piraha's perspective on regional prosperity, sustainability and global competitiveness would be. He guessed they might be amused at the concept of global competitiveness.

Dr. Faris, continued with several other alternative perspectives on the conference theme, and illustrated those perspectives with reference to the comprehensive bioscience strategy developed by WBBA for Washington State. First, he suggested that most people relate the word "prosperity" to money and wealth - as exemplified in a 13th century usage of the word by Roger Bacon - "There be three things that make a nation great and prosperous - a fertile soil, busy workshops, easy conveyance for men and goods from place to place." A nineteenth century usage by Victor Hugo expressed a somewhat larger meaning: "Social prosperity means man happy, the citizen free, the nation great." However, Dr. Faris pointed out, if you look at the etymology of the word you find the basis for a broader sense than the purely economic. Prosperity comes from the Latin, "*prosperare*," cause to succeed, render happy, which results from the joining

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of “*pro*”=“for” - with “*sperare*”=“hope.” Prosperity, thus, could also be considered the fulfillment of our hopes. Dr. Faris went on to note that sometimes we use the word “sustainability” as if we are talking about the pursuit of what would ultimately deliver a steady state of equilibrium ~ which is unachievable, and may not even be desirable. He suggested that we consider strategies for sustainability in the context of continuing innovation, adaptation, and the dynamics of change, both planned and unexpected. In regards to the term “global competitiveness,” Dr. Faris noted that in the life sciences, the winning strategy may be NOT to compete, but to adopt the mode of aggressive collaboration instead.

Dr. Faris followed with a discussion of the life sciences in Washington State, and WBBA’s strategy for regional prosperity, sustainability and global competitiveness. According to Dr. Faris many of WBBA’s members are focused on improvements in the quality; effectiveness and efficiency of health care that can help arrest increases in health care spending. He offered several examples of how the life sciences have the potential to help with challenges of sustainability. For example, Lee Hood, Director of the Institute for Systems Biology, predicts a time in the not-distant future when it will be possible to do two thousand measurements, rapidly and inexpensively, on a single droplet of blood to determine what diseases a person is at risk of developing. This could help people take preventive action, know what medicines they can take safely and at what dosage, and know what medicines they should never take. Another example is carbon-neutral bioenergy, which is currently being pursued at the Pacific Northwest National Labs, and may provide some relief to climate change. Dr. Faris referred to a recent *New York Times* feature story that reported on the pursuit of perennial wheat by scientists at Washington State University. These scientists are developing new longer-growing wheat that could replace current annual plowing and planting and thereby reduce fuel use by 75%, cut back on nitrogen run-off, and decrease the loss of topsoil.

According to Dr. Faris, places across the country and around the world are competing for leadership in life sciences, and the Puget Sound region is certainly part of that competition, but, he noted, our most ferocious and implacable competitors are not Massachusetts, California, India or Singapore, they are malaria, tuberculosis, HIV, avian flu, cancer, diabetes, maternal mortality, malnutrition, and excess carbon. A significant element of WBBA’s strategy to compete worldwide is in fact one of aggressive collaboration. In June, Seattle hosted the “*Pacific Health Summit*,” an event that brought together top scientists and policy-makers from around the world to work together on key issues. Dr. Faris reported that this year the focus was on developing effective and equitable responses to pandemics. Earlier this summer, the Gates Foundation announced a Gates Foundation grant for \$105 million to establish the Institute for Health Metrics and Evaluation at the University of Washington. Dr. Faris commented that this is a very big deal, not just for the University and Puget Sound community, but for the ability of global health programs to understand what works well and what doesn’t. He stressed that for him, the spirit of the global health community is captured by the phrase, “Our job is to improve the health of the world.” He also discussed WBBA’s strategy to advance the life sciences sector across the state of Washington. The organization has 35 specific action items that it is working to implement. These fall under the headings of:

- Increased investments in research,
- Improved processes of technology commercialization,
- Increased investment capital,
- Enhanced business climate, and
- Improvements to education, workforce, and public understanding.

With regard to education, Dr. Faris reported that WBBA’s strategy calls for developing a plan and a commitment to make Washington an excellent place for science learning. Currently underway is a campaign to reach all students with a challenge to be part of the sciences ~ exemplified in a poster, which reads “Somebody should stop

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malaria from killing one child every 30 seconds. It could be you. You could be a scientist.” Dr. Faris emphasized that WBBA’s strategy, with all of its nuts and bolts of research investments and expanded sources of enterprise capital, is immensely more powerful by its context of commitment to an over arching objective to deliver better health to people everywhere.

Dr. Faris concluded his discussion by quoting text from a poster created for the first “Governor’s Life Science Summit.” The poster begins with “Together, we can provide better health to people everywhere” and concludes with “We can achieve all this, and secure a future of economic vitality and superb career opportunities for our children and grandchildren, if we continue to work together, make strategic investments in research, innovation and education, and excite the imaginations of children and adults with a vivid sense of possibilities without precedent.”



Robert Drewel, Executive Director of the Puget Sound Regional Council (PSRC), began his keynote presentation with a brief overview of PSRC’s objective. The organization coordinates long-range regional transportation, economic and growth planning for the central Puget Sound region. PSRC also serves as a forum for cities, counties, ports, transit agencies, tribes, and state government to work together on important regional issues, and partner with businesses, civic groups, environmental organizations, and citizens to identify and advocate regional priorities. The council’s major focus is integrating land use, transportation and economic planning.

Mr. Drewel explained that the **PSRC’s Prosperity Partnership** is a coalition of over 200 organizations that have come together in the central Puget Sound region to develop and implement a common economic strategy to boost the region’s competitiveness in the global economy. The coalition’s economic strategy is based on the following six principles:

- A healthy, educated, vigorous and engaged citizenry is vital to a successful economy.

- Good jobs and incomes come from competitive and prosperous enterprises. Policies and regulations should be clear and effective, and flexible enough to create a good business climate.
- The new economic reality means that the Puget Sound region must marshal all of its resources to compete successfully in a global economy. This means historically underdeveloped economic sectors, such as small and minority-owned businesses, must be fully integrated into the region’s economy.
- Over the past decade, the Puget Sound region has focused employment growth into dense, walkable, urban centers. This approach has enabled employees to commute to work through a variety of modes, and has guided the region’s transportation investments. As the region’s economy grows, continuing this focus will provide additional opportunities to further enliven its cities and communities.
- The region’s high quality of life and healthy environment make it a great place to live and raise a family, which is crucial to a healthy and vibrant economy. Diverse housing choices, effective transportation systems, good schools, as well as public parks all contribute to a high quality of life. A healthy environment with clean air and water is at the core of the Puget Sound lifestyle.
- In the increasingly interconnected global economy, we must recognize that the 4 counties and 82 cities of the Puget Sound metropolitan region are a single economic unit. Working together as a region is the Puget Sound’s best chance to guarantee shared economic prosperity for everyone.

Mr. Drewel’s discussion focused primarily on the strengths and weaknesses of the region’s higher education system. He noted that almost 70% of its residents have at least some college; over 35% have a bachelor’s degree, and over half of Seattle’s area residents hold a bachelor’s degree. The Puget Sound region tops the nation in engineers per capita, and is among the top 10 in a number of other categories, including: computer scientists per capita, recent PhD’s per capita, and the percent of our employment in high tech industry codes. However, Mr. Drewel noted that many of our region’s college graduates did not receive their degrees

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from local universities. The region is 36th among the 50 states in producing bachelor's degrees; 38th in producing degrees in science and engineering, and 42nd in graduate student enrollment in science and engineering. Mr. Drewel suggested that our strength at recruiting smart and talented people from around the world has masked this discrepancy over the years. The Puget Sound region is not producing enough bachelor's degrees to meet its needs. According to the State of Washington Employment Security Department, between now and 2012, 48% of the jobs that will become available in our state will require a bachelor's degree in just six fields: computer specialists, engineers, life science researchers, secondary teachers, health technicians, doctors and nurses. He noted that, in contrast, only 14% of the class of 2005 coming out of the region's colleges and universities will hold degrees in these six fields. An obvious mismatch - 48% of the jobs and only 14% of the 2005 graduates from our universities hold degrees that qualify them for those jobs.

Mr. Drewel reported that the Prosperity Partnership is working to change the situation. This year the organization asked the Washington State Legislature to focus on a path that would produce 8,000 more degrees every year by 2010 (an increase of approximately 28% over current levels). First, the organization asked the Legislature to fill capacity in the six high demand fields. Second, they stressed the necessity of studying capital needs beyond current capacity and reporting to the Legislature in 2008. Third, because it is critical that students understand the opportunities that exist in these high-demand fields, the Prosperity Partnership proposed a marketing pilot project to do just that. Fourth, the organization urged the Legislature to look into funding FTE's at the actual cost to institutions (approximately \$15,000/year for high demand degrees), and also adopt outcomes-based management of higher education instead of inputs-based management (i.e. pay for degrees and enter into agreements with the institutions to produce them). And finally, they asked the Legislature to commit to, or codify, a percentage of the State's General Fund Budget as a minimum

higher education investment. Mr. Drewel felt the Prosperity Partnership's efforts have had an impact; and reported that this year Senator Paull Shin, of the Senate Higher Education Committee, championed this cause and sponsored Senate Bill 5731. According to Mr. Drewel, SB 5731 codifies degree goals to increase degree production by 10,000 by 2020. Secondly, the bill charges a task force with:

- Developing a plan to increase Washington's degree production,
- Developing a marketing project to inform students of the opportunities in high-demand fields,
- Finding ways to get students motivated to take more math and science classes, and
- Identifying increased partnerships between education and the business community.

Mr. Drewel noted that the Prosperity Partnership also proposed filling existing capacity in high demand fields by adding capacity for thousands of new students to the Puget Sound's junior colleges and universities. At least 1,600 new students will be added in high demand fields in the region's four year schools and at least 1,500 will be added in two-year schools. This comes close to filling the state's capacity in these degree fields. Next year the organization hopes to meet the rest of its goals and help put the region on the road to adding capacity and achieving educational objectives.

Finally, Mr. Drewel highlighted the Prosperity Partnership's "*Central Puget Sound Regional Competitiveness Indicators Report*." The report compares the Puget Sound region against five peer regions around the U.S. in 20 different areas. This year the report will include seven international regions: Helsinki, Finland; Barcelona, Spain; Munich, Germany; Fukuoka, Japan; Stockholm, Sweden; Melbourne, Australia; and Dublin, Ireland. By measuring the Puget Sound region against its competition, it is possible to see, over time, whether or not the Prosperity Partnership's efforts are making a difference. It will help the organization to fine-tune or adjust its strategy when necessary, and will give an accurate look, over time, at the choices companies make when deciding where to locate.

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Mr. Drewel concluded his presentation by stressing the importance of responding to the changing global business environment in an organized and unified manner ~ by working together as a region to improve our competitive position, strengthen our weaknesses and shore-up our strengths.



The focus of **Dr. Brian Natrass'** keynote discussion was sustainability. As **Managing Partner for Sustainability Partners, Inc.**, Dr. Natrass has had the opportunity to work with numerous organizations interested in integrating more sustainable practices into their operations. In addition, Dr. Natrass and **Mary Altomare** are the authors of *"Dancing with the Tiger: Learning Sustainability Step by Natural Step,"* which was used as a source for this discussion summary.

Dr. Natrass began his presentation by emphasizing the necessity for environmentally sustainable practices, and why it is important for businesses to incorporate them into their operations. He pointed out that natural capital, such as rich topsoil, pure air, and water are being seriously eroded by the very means of success that has brought the modern industrial system to its current position of prosperity. However, few organizations seem aware of this or acknowledge their responsibility in responding to it. According to Dr. Natrass most businesses operating today function on a "take-make-waste" model, and if this model continues, the contamination of our global food, air, and water supplies will result in our own physical destruction. Unfortunately, most organizations, and the individuals within them, are caught up in their own economic survival and have left the actions needed to ensure long-term survival to someone else. Meanwhile, population growth and increasing urbanization are leading to resource depletion and global environmental degradation. Dr. Natrass pointed out that the affects of pollution can already be seen in climate change (ocean warming, Arctic ice cap and glacial melting) and are likely to result in an increase in the number of environmental refugees. He also noted that there is a significant disparity in the way the earth's natural resources are consumed

Of the world's current population, the top 1/5 (coming from industrialized nations) uses 86% of the gross global output per year, while the bottom 1/5 of the population uses only 1.3%. He stressed that this inequity cannot be sustained indefinitely.

Dr. Natrass reported that there are however, an increasing number of organizations concerned with meeting needs AND preserving for the future. Those businesses are aware that the health of global- economic, ecological, and social systems are integrally interconnected and interdependent; and they realize that organizations whose strategy and management decisions ignore the realities of these interconnections and interdependencies do so at their own risk. Starbucks, for example, is very interested in incorporating sustainability practices into their operations. The majority of Starbucks coffee comes from the equatorial region and is grown on relatively small family farms in developing countries. According to Dr. Natrass, the company recognizes the potential for economic and ecological instability in those regions and is working to provide some sustainability by dealing directly with farmers and cooperatives; and by purchasing fair trade, shade grown, and organic coffee at above commodity prices from the same people year after year. Starbucks' mission statement lists contributing positively to communities and the environment as one of their guiding principles.

In *"Dancing with the Tiger,"* Dr. Natrass and Mary Altomare note that one of the challenges to implementing sustainability is that it requires a systems-oriented mode of thinking.

"We are currently taught in school, and elsewhere, to perceive the world primarily in terms of objects that can be individually studied and understood. This approach suggests that in every complex system the behavior of the whole can be understood from the properties of its parts. In contrast, our growing understanding of how systems work reveals that a complex system is a collection of parts, and their interrelationships that interact over some period of time and produce a behavior. This behavior is an emergent property of the system. For example, 'Wellness' can be seen as an emergent property of the healthy relationships among the parts that make up the human body. If a part is not

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healthy, the system is not healthy. If an important relationship among the parts is not functioning, the system is not healthy.” “...An emergent property of the system cannot be found solely in its parts. This means we cannot understand or guess the behavior of the system based exclusively on our understanding of the properties of the individual parts. A system’s emergent properties arise from the pattern of interactions and relationships among the parts; and when you dissect the system, you destroy this pattern of relationships.”

“Systems develop as nested hierarchies (systems within systems, networks within networks) of increasing complexity. For example, the nested hierarchy of living systems can be described as including cells, organs, organisms, groups, organizations, society, and supranational systems.” “...Sustainability...is an emergent property of a nested hierarchy of socioeconomic and ecological systems; just as wellness is an emergent property of a nested hierarchy of cells, organs, and systems within the physical body. In other words, sustainability emerges from the interactions and interrelationships of multiple subsystems in the global socioeconomic-ecological system. This means we need to look at the parts, and the relationships among the parts that make up the global socioeconomic-ecological system to begin to understand sustainability.”

“Although sustainability emerges at the global system level, our sphere of influence, control and action resides in the subsystems that make up the larger system: our households, organizations, and communities. If we want sustainability to be the emergent property of the larger socioeconomic-ecological system, we need to figure out what relationships among the parts are most likely to produce that outcome. We can not create sustainable organizations and communities. We can however, create organizations, communities and interrelationships that contribute more to the possibility of a sustainable global socioeconomic-ecological system outcome than an unsustainable one. In other words, we can make decisions and take actions that increase the probability of a sustainable global society.”

Excerpt from-

Altomare, Mary and Brian Natrass “Dancing with the Tiger: Learning Sustainability Step by Natural Step.” (Gabriola Island, B.C.: New Society Publishers, c2002).

Dr. Natrass concluded his presentation by giving several examples of organizations that are moving away from a “take-make-waste” or “cradle to grave” model, and working toward a more sustainable “cradle to cradle” or “0 waste” model of operating. The ideal model would be, as found in nature, one where everything is used ~ even waste. The Whistler/Blackcomb Resort has instituted a Reduce-Reuse-Recycle program, as well as

sponsoring a Habitat Improvement Team, an Environmental Fund, and an energy conservation program focused on reducing energy consumption by 15-20%. The Resort’s forest, soil, and watershed management program aims to establish recreational designs with the least amount of environmental impact, and the Whistler/Blackcomb community has developed a growth management strategy that limits any development that may cause unacceptable impacts on the community, resort or the environment. Dr. Natrass also highlighted the efforts of CH2MHILL, an engineering firm working to make their own facilities more sustainable by reducing the use of toxic materials, conserving natural resources, and minimizing waste and emissions. In regard to their clients, the firm has committed to make sustainable solutions feasible and practical; the firm has worked with Nike to optimize water usage in Nike footwear sub-contractors’ factory operations and identified opportunities to reduce pollution and save operation costs. CH2MHILL has also worked with the U.S. Marine Corps’ Camp Lejeune in North Carolina to promote environmental sustainability in the day-to-day operations of its bases.

Dr. Natrass emphasized again that to remain competitive in the future, businesses will need to pay attention not only to tangible assets such as the market value of their company’s stocks, but also to intangible assets such as the public’s perception of their organization. This means considering the social, economic, and environmental effects of their operations, and including sustainable practices in their decisions and actions.



2007 GTTL Certificate Recipients

Congratualtions go to the following graduate students who have completed the GTTL Certificate:

- Susan Albrecht**, *Jackson School of International Studies*
- Demian Bailey**, *School of Marine Affairs*
- Chee-Hong Brian Chung**, *Jackson School of International Studies, and the Evans School of Public Affairs*
- Joanna L. Ekrem**, *Jackson School of International Studies, and the Evans School of Public Affairs*
- Peter Franzese**, *School of Marine Affairs*
- Barbara J. Gagnat**, *Jackson School of International Studies, and the Evans School of Public Affairs*
- Tedd Hutley**, *School of Marine Affairs*
- Wendell Bruce Jones**, *Jackson School of International Studies, and the Evans School of Public Affairs*
- David W. Kieninger**, *Civil and Environmental Engineering*
- Justin M. Knowles**, *Industrial Engineering*
- Michael V. Martina**, *School of Marine Affairs*
- Kevin Mizuta**, *Civil and Environmental Engineering*
- Jessica Sanford**, *School of Marine Affairs*
- Daisuke Sasatani**, *Forest Resources*



2007 Undergraduates

GTTL Studies would also like to acknowledge and congratulate the following undergraduate students who have completed the requirements for the GTTL Certificate:

- Mario Burrola, Jr.**, *Department of Geography*
- Amber Gunn**, *Department of Political Science, and Spanish Studies*
- Jeffrey Jonathon Meston**, *Department of Geography*
- Yuan Kai Wang**, *Department of Geography, and Department of Economics*



2007 Global Supply Chain Management Extension Certificate Recipients

GTTL would like to congratulate the following UW Extension students on completing the Global Supply Chain Management Certificate Program:

- Andrew S. Henderson**, *University of Pittsburg*
- Jennifer Matson**
- Meredith McGee**, *Expeditors*
- Victoria Upchurch**, *Expeditors*

The Global Supply Chain Management Certificate Program (GSCM) is offered through the UW's Extension Office. Designed for working professionals, GSCM students enroll in GTTL's graduate level seminars in international trade, and transportation systems (GTTL 501 and 502 courses), and tailor thier final independent study project to their specific interests and background.

For additional information please see the UW Extension web site at <http://www.extension.washington.edu/ext/certificates/glo/glo_gen.asp>.



Alumni News

S. Craig Tulip, *Extension Certificate in Global Supply Chain Management 2004*, recently completed 2 1/2 years of service with Commander, U.S. THIRD (C3F) Fleet Headquarters Staff in San Diego, CA. He was assigned to C3F as an officer in the U. S. Navy (Reserve Component) as a member of the Maritime Homeland Defense / Defense Support of Civil Authorities (MHD/DSCA) Syndicate where he helped design major MHD Exercises involving the ports of LA/LB and Joint Task Force Alaska. In October 2005 he return to active duty and developed the U. S. Navy's Concept of Operations for the Global War on Terrorism Defensive Anti-Terrorism / Force Protection, worked with The State of California's Department of Homeland Security in defining the Navy's supporting role during a natural disaster and supported U.S. NORTHERN Command's in developing and executing the Maritime Venue for Exercise NORTHERN EDGE 07. On October 3rd Craig was promoted to the rank of Captain in the USN (RO).

Boeing/GTTL Academic Achievement Awards

GTTL Studies would like to thank The Boeing Company for generously supporting GTTL's students by contributing to the GTTL/Boeing Student Scholarship Fund. Over the years, The Boeing Company has contributed over \$56,000 to the scholarship fund, which has made it possible for many of GTTL's students to receive awards based on their academic achievements. For the 2006-2007 academic year, the following students received awards:

Ishigh Azarvash, *Health Information Management*
Robert Baggett, *Extension-Global Supply Chain Management Certificate*
Demian Bailey, *School of Marine Affairs*
Heidi Broekemeier, *Evans School of Public Affairs*
Mario Burrola, *Geography*
Chee-Hon Chung, *Jackson School of International Studies/Evans School of Public Affairs*
Brad Clark, *Business Administration*
Eric Conklin, *Extension-Global Supply Chain Management Certificate*
Peter Dane, *Urban Design & Planning-Community, Environment, & Planning*
Joanna Ekrem, *Jackson School of International Studies/Evans School of Public Affairs*
Barbara Gagnat, *Jackson School of International Studies/Evans School of Public Affairs*
Rahel Gebreab, *Technical Communications*
Greg Greenwood, *Business Administration*
Genie Hau, *Urban Design & Planning*
Andrew Henderson, *Extension-Global Supply Chain Management Certificate*
Tedd Hutley, *School of Marine Affairs*
David Kieninger, *Civil & Environmental Engineering*
O Jong Kim, *Extension-Global Supply Chain Management Certificate*
Justin Knowles, *Industrial Engineering*
Matthew Koon, *Jackson School of International Studies*
Michael Kovis, *Business Administration*
Jingwei Ma, *Industrial Engineering*
Jennifer Matson, *Extension-Global Supply Chain Management Certificate*
Jeffrey Meston, *Geography*
Kevin Mizuta, *Civil & Environmental Engineering*
Ashviniku Naik, *Business Administration*
Kazuma Otsuka, *Business Administration*
Kelly Pitera, *Civil & Environmental Engineering*
Quang Huynh, *Extension-Global Supply Chain Management Certificate*
Philip Read, *Business Administration*
Jessica Sanford, *School of Marine Affairs*
Daisuke Sasatani, *School of Forest Resources*
Heather Scott, *Industrial Engineering*
Collin Seabourne, *Industrial Engineering*
Issariya Sirichakwal, *Business Administration*
Anna Soderstrom, *Extension-Global Supply Chain Management Certificate*
Peter Sweeney, *Jackson School of International Studies*
Tam Brine, *Extension-Global Supply Chain Management Certificate*
Thomas Lawson, *Extension-Global Supply Chain Management Certificate*
Amber Thomason, *Spanish/Political Science*
Tsz Ni Ng, *Business Administration*
Hoa Thi Vu, *Extension-Global Supply Chain Management Certificate*
Yuan Kai Wang, *Geography*
Michael Wright, *Urban Design & Planning - Construction Management*
Joseph Zelasney, *School of Marine Affairs*



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GTTL Studies

The aim of the graduate certificate program in Global Trade, Transportation, and Logistics (GTTL) is to enable graduate students to augment their degree programs in preparation for careers that demand the combined knowledge of trade, transportation, and logistics. Particular attention is directed to the study of activities involved in the flow of goods from point of origin to point of consumption on a global scale. The wide range of issues addressed include the management of the intermodal connections among maritime, aviation, and overland modes of transport; environmental and energy concerns; advancements in telecommunications; and the legal, regulatory, and technological infrastructures that facilitate global commerce and transportation.

For more information contact GTTL at 206-616-5778; email gttl@u.washington.edu; or at our web site <http://depts.u.washington.edu/gttl>

