

***Bringing a
Nature-Science College
to
Friday Harbor, San Juan Island***

**Washington Institute of Natural Sciences
(W.I.N.S.)**

School of Acupuncture

School of Herbal Medicine

Community Clinic Center for Integrative Medicine

Public Meeting

Is complementary alternative medicine through the W.I.N.S. integrative Community Clinic an ideal health care model for Islanders in collaboration with Peace Island Medical Center, Island Hospital, San Juan HealthCare, Orcas Medical Center, Orcas Family Health Center and Lopez Island Medical Clinic?

***Vincent W. Shu, MD, FCCP on behalf of
Organization Committee
Washington Institute of Natural Sciences
School of Acupuncture
School of Herbal Medicine
W.I.N.S. Community Clinic Center for Integrative Medicine***

Cancer Patients undergo chemotherapy

- 1. Alternative Medicine to mitigating significant adverse effects associated with chemotherapy;**
- 2. Heart Prevention Program associated with chemotherapy;**

1. Alternative Medicine to mitigating significant adverse effects associated with chemotherapy;

Chinese Herbal Formula Huang Qin Tang (or PHY 906)

- Huang Qin Tang consists of 4 different ingredients:
- 1) Chinese skullcap root (*Scutellaria baicalensis* Geori)
- 2) Chinese Licorice (*Glycyrrhiza uralensis* Fisch)
- 3) Chinese date tree fruit (*Ziziphus jujuba* Mill)
- 4) Chinese peony (*Paeonia lactiflora* Pall)

■ Reference:

- Liu SH, Jiang Z, Cheng YC: A Chinese medicine formulation, PHY-906, can enhance the therapeutic index of CPT-11 and other anticancer drugs against cancer in mice. Proc Am Assoc Cancer Res 42: (abstr 458), 2001.
- Liu SH, Jiang Z, Gao W: PHY906, a Chinese herbal formulation enhances the therapeutic effect of cancer chemotherapy in human colorectal and liver cancer. Proc Am Soc Clin Oncol 22: 864 (abstr 864), 2003.
- Liu SH, Foo A, Jiang Z, et al.: PHY906 as a broad-spectrum enhancer in therapy: clinical and preclinical results in hepatocellular carcinoma. Proc Am Assoc Cancer Res 47: (abstr 2142), 2006.
- Liu SH, Jiang Z, Su TM, et al.: Developing PHY906 as a broad-spectrum modulator of chemotherapeutic agents in cancer therapy. Proc Am Assoc Cancer Res 45: (abstr 557), 2004.
- Liu SH, Jiang Z, Foo A, et al.: PHY906 in hepatocellular carcinoma. Proc Am Assoc Cancer Res 48 (abstr 1841), 2007.
- The Four-Herb Chinese Medicine PHY906 Reduces Chemotherapy-Induced Gastrointestinal Toxicity
Wing Lam Scott Bussom¹, Fulan Guan¹, Zaoli Jiang, Wei Zhang¹, Elizabeth A. Gullen Shwu-Huey Liu and Yung-Chi Cheng, Science Transl Med 18 August 2010: Vol. 2, Issue 45, p. 45ra59 Science. Transl. Med. DOI: 10.1126/scitranslmed.3001270

- Heart Prevention Program for patients undergoing chemotherapy

■ Chinese angelica, dang gui

In animal studies, the polysaccharides extracted from dong quai root showed protective effects against cyclophosphamide-induced toxicity, doxorubicin-induced cardiotoxicity, and radiation-induced pneumonitis. But these effects have not been evaluated in humans.

Reference

- Hui MK, Wu WK, Shin VY, et al. Polysaccharides from the root of *Angelica sinensis* protect bone marrow and gastrointestinal tissues against the cytotoxicity of cyclophosphamide in mice. *Int J Med Sci.* 2006;3(1):1-6.
- Xin YF, Zhou GL, Shen M, et al. *Angelica sinensis*: a novel adjunct to prevent doxorubicin-induced chronic cardiotoxicity. *Basic Clin Pharmacol Toxicol.* Dec 2007;101(6):421-426.
- Xie CH, Zhang MS, Zhou YF, et al. Chinese medicine *Angelica sinensis* suppresses radiation-induced expression of TNF-alpha and TGF-beta1 in mice. *Oncol Rep.* 2006;15(6):1429-1436.

Calendula

- A mouthwash containing calendula against chemotherapy-induced stomatitis
- Reference:
- Oberbaum M, Yaniv I, Ben-Gal Y, et al. A randomized, controlled clinical trial of the homeopathic medication TRAUMEEL S in the treatment of chemotherapy-induced stomatitis in children undergoing stem cell transplantation. *Cancer*. 2001 Aug 1;92(3):684-90.

Ginkgo biloba

Ginkgo biloba against doxorubicin-induced cardiac injury through antioxidant and anti-inflammatory mechanisms in Rats

Reference:

Antioxidant and antiapoptotic effects of proanthocyanidin and **ginkgo biloba** extract against doxorubicin-induced cardiac injury in rats.

Boghdady NA.

- Cell Biochem Funct. 2013 Jun;31(4):344-51.

The future model of medical practice :

A collaborative approach is the best form of medicine. A patient can benefit from the strengths of each (western and eastern) discipline of medicine.

Blending of Western and Eastern Medicines----
Reduced dose of western medication to minimal effective dosage.

- Helpful in Polypharmacy with significant adverse effects

Western Medicine:

Strength: New drug discovery

Weakness: To ignore diversified cofactors which are equally important

- ***Eastern Medicine:***

Strength:

Multiple ingredients;

Weakness:

She said, he said secret
remedy; lack of quotation

- Polypharmacy with significant adverse effects

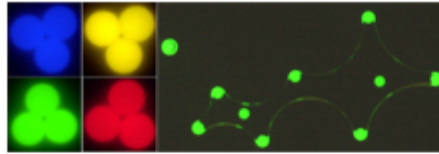
The other issues to be addressed

- There is an unmet need in building a bridge between Eastern and Western Practitioners.
- What is the barrier to discourage our children in developing their careers here? Can we re-shape our future to retain our children by developing local careers engaged in solving growing national issues in healthcare, environment and green energy?
- Can grant sponsored Scholar Farmer Program foster local economy and farming sustainability by growing Chinese Herbal Medicine ?

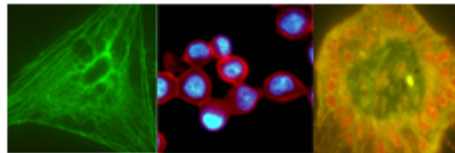
- There is an unmet need in building a bridge between Eastern and Western Practitioners.

Advanced Biology Imaging Technologies

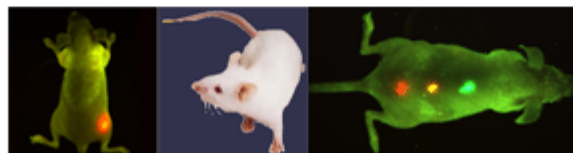
A universal Language to study life science
And to build a bridge



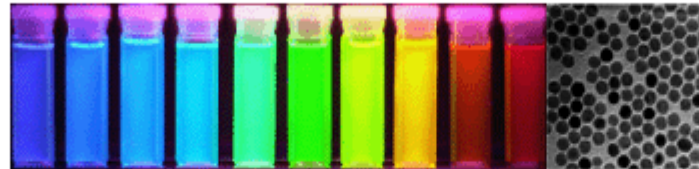
- **Molecular Diagnostics:** It is well known that diseases such as cancer vary both genetically and phenotypically between patients who may have identical type and stage of cancer. Each person's cancer is as unique as his or her fingerprint, which explains unpredictable responses to therapies and poses new technology challenges for tumor characterization on the molecular level. We currently explore the use of multicolor and bioconjugated Qdots for *in situ* quantitative profiling of tumor markers. In correlation with pathology, the results are expected to have major impact on accurate tumor characterization and differentiation as well as on molecular therapeutics.



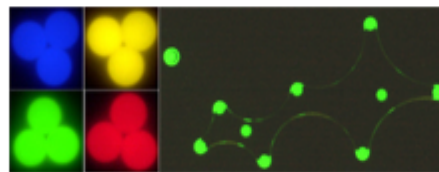
- ***In vivo* Molecular Imaging:** Rapid advances in non-invasive imaging are changing the way we visualize molecular dynamics in living organisms. The high sensitivity of nanoparticle-labeled cells allows detection down to the single-cell level. We are currently interested in engineering multifunctional nanoparticle probes for early detection of cancer and cardiovascular diseases.



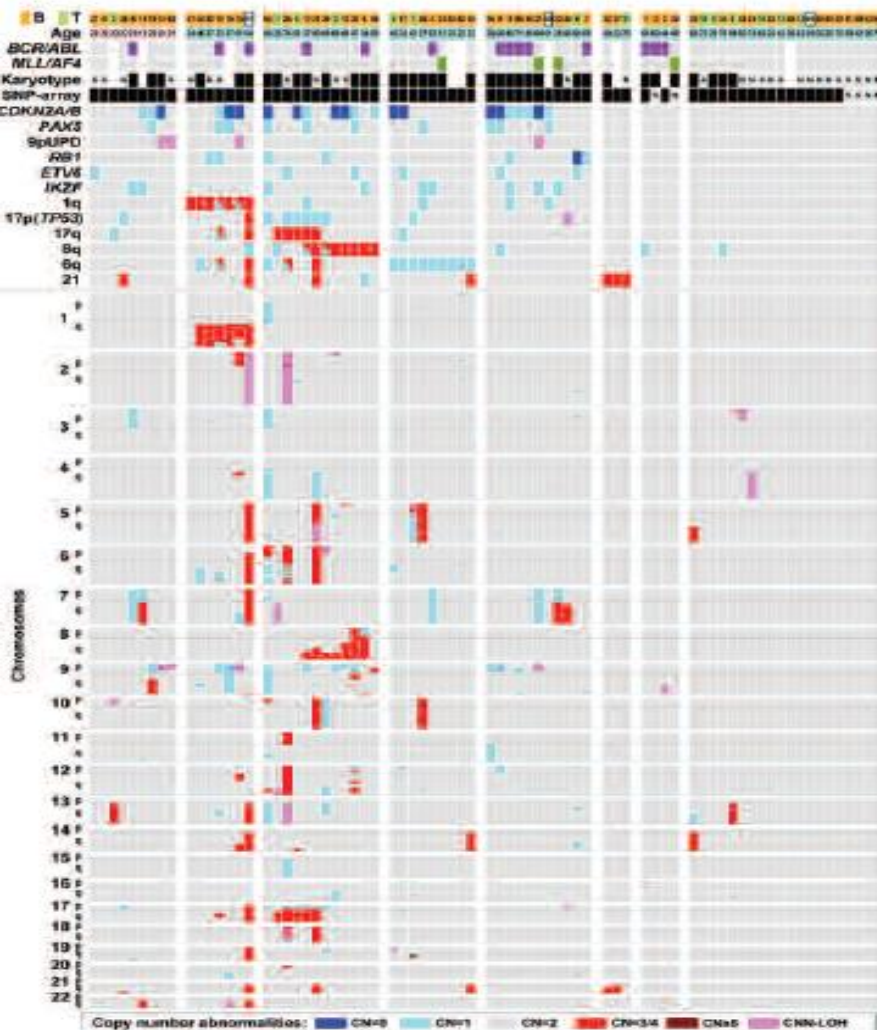
- **Nano Science and Engineering:** We design and make functional materials and structures on the nanometer scale. Examples include multicolor quantum dots (Qdots) for fluorescence imaging, magnetic nanoparticles for MRI, metallic nanoparticles for ultrasensitive detection, and polymeric nanoparticles for targeted drug delivery. Most recently, we are interested in developing multimodality imaging probes by combining different materials into discrete nanostructures in order to utilize the strength of each individual component.



- **Multiplexed Biomolecule Screening & Drug Discovery:** Based on the novel optical properties of Qdots and on our abilities to incorporate them into microbeads at precisely controlled ratios, we have developed an optical barcoding technology for massive parallel and high-throughput analysis of biological molecules. This nano-barcoding approach can produce millions of distinct optical codes for simultaneous analysis of genes, proteins, cells, and small molecule drugs.



Single Nucleotide Polymorphism (SNP)



- *For eastern medicines to gain respects from mainstream medicines, they must demonstrate their therapeutic efficacy at the cellular, molecular and genetic levels and/or Clinical trial.*

- *Multidisciplinary Consultation Teams*

1. Western MD, ND, Acupuncture, Herbal Medicine, Nutrition, Tai-Chi, Yoga, Massage and Meditation
2. One consultation report endorsed by Multidisciplinary Consultation Teams Documented in Electronic Medical Record (HIPAA compliant CHARM-EHR)

Electronic Medical Record

CHARM-HER

- 1. Quality of health care**
- 2. Safety issue of drug interaction**
- 3. Evidenced based Practice**
- 4. To build mutual respect and trust between Eastern and Western Practitioners**

- **What is the barrier to discourage our children in developing their careers here? Can we re-shape our future to retain our children by developing local careers engaged in solving growing national issues in healthcare, environment and green energy?**

- **Can grant sponsored Scholar Farmer Program foster local economy and farming sustainability by growing Chinese Herbal Medicine ?**

- **Acupuncture/ Herbal Research is an essential academic activity in the W.I.N.S. School of Acupuncture and Herbal Medicine.**
- **It is unlikely that third party insurances will pay for Acupuncture and Herbal Medicine if they're not scientifically validated.**

- *A randomized, double-blind, placebo-controlled, crossover study in health subjects by using a common Chinese Herbal Formula--- the studies of flow cytometry and cDNA expression arrays to assess immune functions and gene expression*

- **Locally held research seminars in Herbal Medicine and Acupuncture will attract many people around the world to both work and visit.**

- **The San Juan Islands will over time become a center for organically-grown science-validated medicinal herbs in North America.**
- **VA HealthCare is in the process of investigating and implementing Alternative Medicine----potential buyer of our herbal medicine**
- **Third party insurances will pay for Acupuncture and Herbal Medicine some day if they're scientifically validated.**

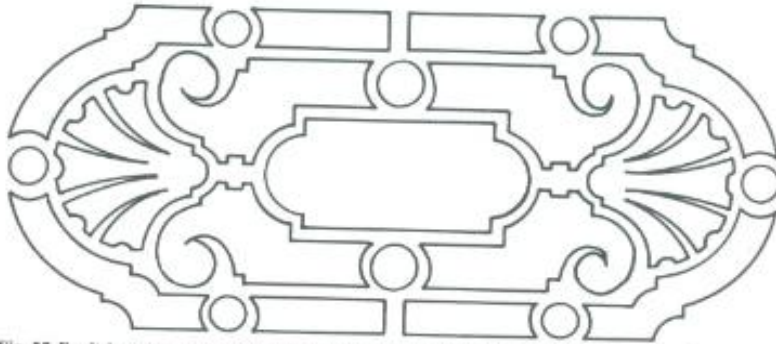


Fig. 25. English parterre: central oval may be either a bowling green or reflecting pool, paths are grass or Roman Camomile and beds of colorful flowers dazzle the eyes from all around as statuary or topiary grace the circled areas.

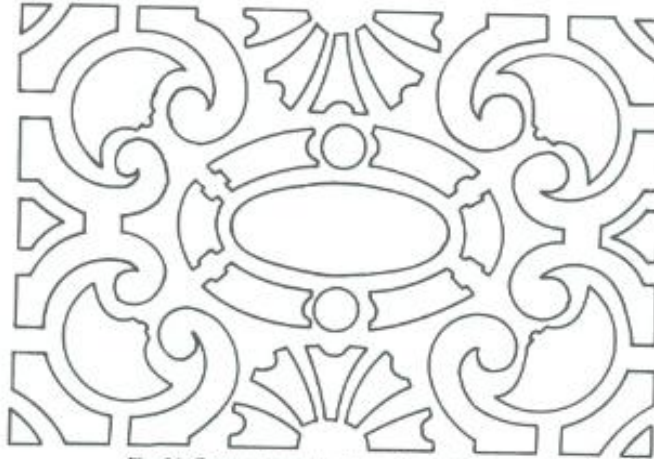
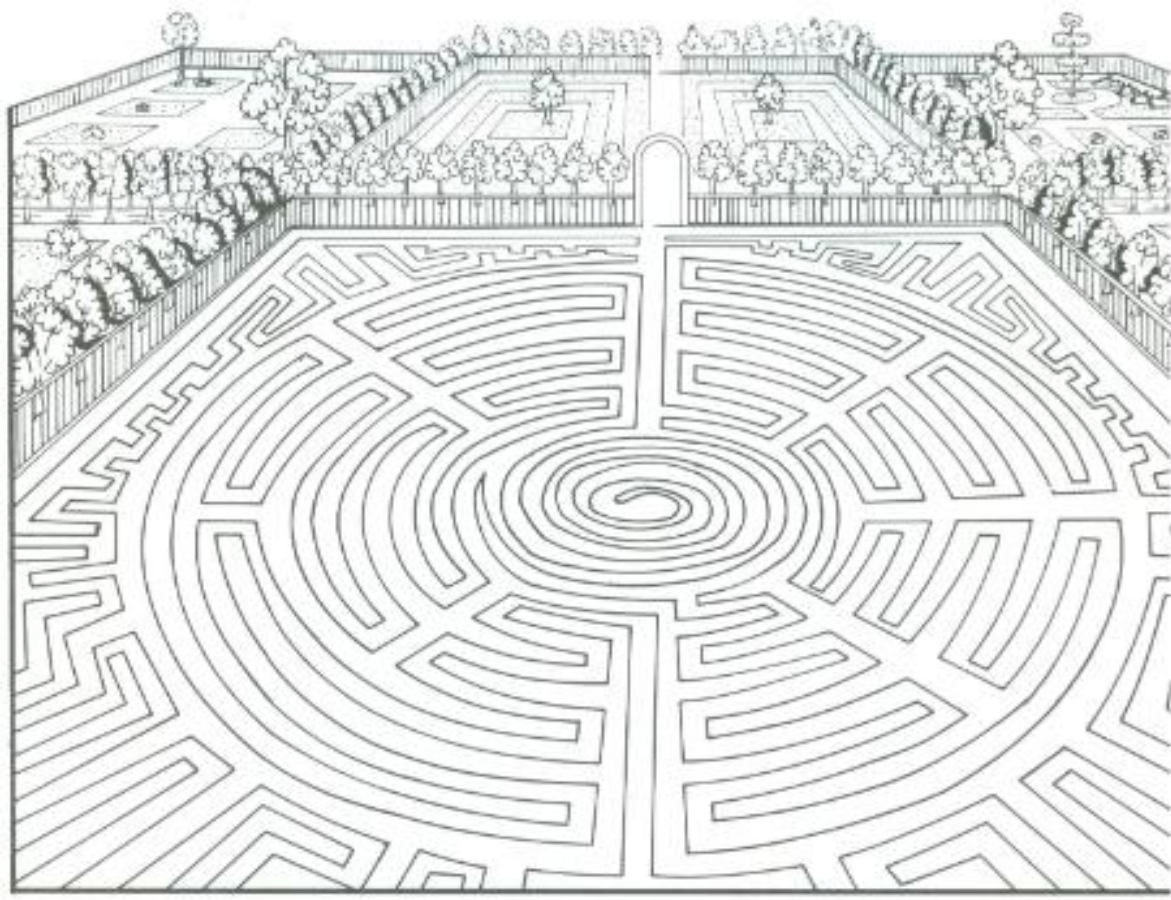


Fig. 26. Compartmented and/or Cutwork parterre.





A dense patch of Wild Marjoram scents this end of the garden, joined by Roman Camomile which grovels at our feet ever desirous of being crushed and smelled.



Tropical Oregano snatches many second glances in this spot sharing the limelight with Italian Santolina and Dwarf Snapdragons.



Indian Borage, *Coleus umbellatus*, (center) is an entertaining herb from the tropics that resembles a thick-leaved Catnip (left-center) but smells exactly like Oregano. Here it is flanked by Greek and Golden Sage.



Bible Leaf (center) has extremely large and fragrant leaves excellent as book marks. Here they drape onto the path where they are likely to be crushed, sending a breath of minty freshness throughout the garden.



Sharing a garden. A frog lounges on a felty Woolly Bosony leaf. Creeping Savory lies to the left.



Using an informal perennial border and kitchen garden behind as transition from lawn to forest. Tall herbaceous herbs and vegetables appear to draw neighboring trees into the picture. The garden of Judy Zugish, Marysville, WA.

Impact Summary

- To promote a long, joyous, healthier life and to provide affordable, compassionate holistic medical care for islanders.
- In the relatively near future, we envision that medical care decision will link with western genetic-based personalized medicine and through this link the better treatment outcome can be predicted and evidenced by either herbal medicines or (reduced dosage of) western medicine or both with accompanying significant healthcare cost savings.
- While working on medicinal herb research projects at W.I.N.S. grant-sponsored scholar gardeners/ farmers will help sustain local economic vitality and meaningful land usage, thereby also helping to fulfill the missions of, for example, San Juan County's Land Bank and Agricultural Guild.
- Nature-Science College Academic Programs will bring in diverse talented professionals in the fields of medicine, herbs, agriculture, green energy and environmental science, helping the San Juan Islands to become renowned for personalized-medicine-based healing, attracting people seeking not only the enjoyment of natural beauty but also a healthy life.

- The San Juan Islands will over time become a center for organically-grown science-validated medicinal herbs in North America. Locally held research seminars in Herbal Medicine and Acupuncture will attract many people around the world to both work and visit.
- The W.I.N.S. will provide significant complementary healthcare services for residents currently receiving western medicine such as chemotherapy and/or others, and further serve as a local clinical center for herbal medicine and acupuncture as well as disciplines such as Tai Chi and Yoga.
- W.I.N.S. will provide a supporting source of academic unbiased data and act as a liaison between the western and eastern practitioners with resultant improved treatment outcome.

Thank You for Your Attention

***Questions? Concerns?
Comments?***